

POSTER SESSIONS

MONDAY

1	Extension Survey of Wyoming Ranchers Reveals Insight for Predator-Livestock Interactions	Barton Stam
2	Wild Horses: Values and Attitudes Towards Management Methods	Elena Dosamantes
3	Evaluating Knowledge, Attitudes, and Perceptions of Ranchers and BLM Managers or Specialists	Calee L. Garn
4	Public Land Grazing and Nepa: A Multimedia Educational Program for Arizona Cooperative Extension and Beyond	Aaron M. Lien
5	Re-Interpretation of Robinson Et Al. 2019: Patterns of Rangeland Productivity and Land Ownership: Implications for Conservation and Management. Ecological Applications, 29(3), E01862.	Robert Washington-Allen
6	Wildish: Mustang of the American West	Anna B. Coburn
7	Range Reseeding and Pastoralists Resilience to Climate Variability	Diana W. Githu
8	Addressing Barriers to Proactive Restoration for At-Risk Sagebrush Communities: A Causal Layered Analysis	Carmen Calzado
9	Improving Drought Preparedness for Utah Range Livestock Systems	D. Layne Coppock
10	The Global Effort to Designate A Un International Year of Rangelands and Pastoralists	Barbara Hutchinson
11	Using First Foods to Guide Ecosystem Management	Bryan A. Endress
12	Drought Adaptation for Rangeland Livestock Producers: Lessons from California's Historic Drought	Grace E. Woodmansee
13	Management of Herbage Allowance Leads to Diverse Result of Stocking Rate, But Improve Animal Productivity	Martin Do Carmo
14	Changing Identities and Livelihoods of Northeastern Colorado Livestock Producers: A Grounded Theory Study	Jasmine E. Bruno
15	Ecological Intensification in Cow-Calf Systems Based on Natural Grasslands in Uruguay: Results of A Co-Innovation Process	Ignacio Paparamborda
16	The Central Role of Grass Cover in Sustainability and Resilience in Social and Natural Systems in the Nebraska Sandhills	Mary Ann Vinton
17	Rangeland Resilience Through Carbon Sequestration: Community Needs Directing Research	Alexia Cooper
18	Outreach on Grazing Lands to Enhance Economic Analyses (Cost Benefits) for Conservation Changes	Kim Stine/ Pat Pfeil

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19	Passing on the Grit: Women's Stories on the Range	Amanda Botsford
20	Scaling Big Data on Rangelands: Advances in Real-Time Assessment of Livestock Foraging Behavior	Edward J. Raynor
21	A Comparison of Cattle Grazing Diverse, Shortgrass Pastures Using Two Different Grazing Strategies	Larry D. Fritzler
22	Developing A Technique to Estimate Who Grazed What	Brandon K. Mayer
23	Grazing Behavior of Cattle in Upland Sandhills and Sub-Irrigated Meadow Environments	Travis M. Millikan
24	The Effects of Forage Type, Storage Method and Time on Nutrient Composition	Michelle Fitterer
25	The Grazing Behaviors of Heifers on Rangeland Are Not Affected By Feed Efficiency	Nolan Craun
26	Comparison of Diet Selection of Ranged Raramuri Criollo Cows, Heifers and Steers During Five Seasons	Flavie Audoin
27	Grazing Behavior of Ranged Raramuri Criollo Bulls During Five Seasons	Flavie Audoin
28	Influence of Rainfall Events on Drinker Visitation Patterns By Beef Cows on Desert Rangeland	Shelemia Nyamuryekunge
29	Late-Fall Landscape Use By Heritage Vs Conventional Beef Cattle on Colorado Plateau Rangelands: A Case Study	Danielle M. Duni
30	The Piosphere, Predicting Cattle Distributions Across A Landscape	Mike T. Anderson
31	Humbled By Nature: A Rancher's Mental-Model of Adaptation in the Great Plains	Jim Sturrock
32	Improving Access to Species Habitat Information on US Grazing Lands Through the Phone App Landpks	Tegan May
33	Changing Grazing Management Through Reciprocal Watershed Agreements in the Rio Grande-Valles Cruceños of Bolivia	Will Munger
34	Finding Needles in Haystacks: A Software Tool to Improve the Accessibility of Range Management Information	Sean F. Di Stefano
35	The Humboldt Ranch Story	Eric D. Sant
36	Mitigating Wolf Livestock Depredation	Donald J. Kaleta

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37	Developmental Morphology of Six Grasses of North America	Carlos Villalobos
38	Season and Intensity of Defoliation in Biomass Production of Short, Mid and Tall Grasses	Carlos Villalobos
39	Herbivory During the Seedling Phase May Increase Survival in Some Perennial Grasses	Elsie M. Denton
40	Effect of Grazing on Production and Quality of Pasture in the Southeast of Coahuila, Mexico	Eliseo Suarez
41	Grazing and Environment Change Can Affect Purple Prairie Clover Frequency: Evidence from North America Pasture	Tianqi Zhao
42	Above and Below Biomass Allocation in Short, Mid and Tall Grass Species During Different Phenological States	Carlos Villalobos
43	Evaluation of Cutting Frequency on Yield and Nutritional Quality of Herbaceous Forage Species in Enclosure of Borana Rangelands, Southern Ethiopia	Bikila N. Gilo
44	Autumn Bcs and Postpartum Herbage Allowance on Productive and Reproductive Responses of Primiparous Spring Calving Beef Cows Grazing Native Grasslands	Martin Claramunt
45	Sheep Grazing for the Conservation of Biodiversity in Dry Grasslands in the Italian Alps	Alessandra Gorlier
46	Supplementation Strategies to Enhance Intake of Romerillo (<i>Chilotrichum diffusum</i>) By Sheep in Southern Patagonia	Juan J. Villalba
47	Analysis of In-Season Regrowth on California Annual Rangeland Vegetation for Livestock Carrying Capacity	Alan R. Bower
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49	Usfs Vacant Allotment Case Study: Emerson Allotment, Warner Mountain Ranger District California	Laura K. Snell
50	Vegetation and Arthropod Community Response to Long-Term Grazing Exclusion and Deferred Grazing in South Brazil	Bianca O. Andrade
51	Effect of Grazing Strategies on Botanical Composition in the Nebraska Sandhills	Cheryl Dunn
52	Fine Fuels Management to Improve Wyoming Big Sagebrush Plant Communities Using Dormant Season Grazing	William J. Price
53	Quantifying the Benefits of Collaborative Adaptive Management in Rangeland Systems	Justin D. Derner

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55	Targeting the Soil Seedbank of Invasive Broadleaf Weeds Facilitates Long-Term Rangeland Restoration	Shannon L. Clark
56	A Study of the Allelepathic Effects of Two Species of Old World Bluestem	Dean A. Stramel
57	Buffelgrass (<i>Cenchrus ciliaris</i> L.) Invasion Pathways Across Texas	Juan G. Garcia-Cancel
58	The Impact of Non-Native Perennial Grasses on Grassland Diversity and Forage Production	Lisa J. Rew
59	Microbiomes of Grass Rhizospheres As Potential Mechanisms of Invasion	Scout M. Harrison
60	Evaluating the Efficacy of Various Herbicides on Bulbous Bluegrass Control	Jordan L. Skovgard
61	Mesquite Control in the Southwest	Kert Young
62	Duracor: Introduction of A New Herbicide for Use in Rangeland, Pastures, and Non-Crop Sites	Byron Sleugh
63	Initial Efficacy of Indazaflam on Cheatgrass Rangelands	Charlie D. Clements
64	Medusahead Silicon, Constraining Factors of Control, and Research Needs	Casey Spackman
65	Timing of Glyphosate Application to Increase Cattle Consumption of Medusahead	Casey Spackman
66	Efficacy of Duracor and Terravue Herbicides on Noxious and Invasive Species in Rangeland and Non-Crop	William Hatler
67	Integrated Cheatgrass (<i>Bromus tectorum</i>) Management With Herbicide and Sheep	Erik A. Lehnhoff
68	Targeted Cheatgrass Grazing - Predicting Animal Selectivity in the Western Great Plains	Dana M. Blumenthal
69	Evaluating Native Plant Community Response Using Prescribed Burning and Chemical Control in Areas Invaded By Downy Brome	Rachel Seedorf
70	Prescribed Fire Is Effective for Reducing Annual Bromes in Mixed-Grass Prairie At Lower Invasion Levels	Amy J. Symstad

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72	Using 30-M, Cloud-Free Remotely Sensed Data to Develop Early Estimates of Annual Invasive Herbaceous Cover in Sagebrush Ecosystems	Stephen P. Boyte
73	Impacts on Herpetofauna in the Presence of Old World Bluestems (<i>Bothriochloa</i> Spp.)	Colton Zink
74	Impacts of Simulted Trampling on Total Nonstructural Carbohydrates in Yellow-Flag Iris (<i>Iris pseudacorus</i> L.)	Alex L. Stoneburner
75	Wildlife Browse Species Respose to Cheatgrass Control With Indaziflam	Jim Sebastian
76	Pollinator Community and Floral Resource Response to Cheatgrass Control With Esplanade	Jim Sebastian
77	Remote Sensing of Invasive Annual Plants Around Energy Developments	Miguel L. Villarreal
78	Changes in Vegetative Community Composition Following Two-Lined Spittle Bug (<i>Prosapia bicincta</i>) Infestations in Hawaii Rangelands	Mark Thorne
79	Capturing Long-Term Change Through Repeat Photography: Historic Photos from Southeastern Utah	Jessica D. Mikenas
80	Long-Term Trajectories Suggest Divergent Responses of Native and Non-Native Perennials and Annuals to Management Treatment	Stella M. Copeland
81	Soil Seed Banks and Fire: Broad Recovery Patterns Across Four North American Desert Systems	Rachel K. Hosna
82	Impact of Large Herbivore Use in Meadows on Lentic Function, Wetland Extent, and Vegetation Hydric Status	Sabrina McCue
83	Ac Saltlander Green Wheatgrass and Smooth Bromegrass Performance Under Waterlogging, Salinity and Combined Conditions	Alan Iwaasa
84	Developing Conservation Measures to Restore and Rehabilitate Rangelands on Degraded Sage-Grouse Habitat in Southeastern Oregon	Noah Poulin
85	Competitive Release of A Dominant Warm Season Grass in Response to Selective Mortality	Sean L. Hoy-Skubik
86	What Is Ecological Drought in Rangelands? A Quantitative Definition from A Burned Sagebrush Steppe	Rory C. OConnor
87	Western Juniper Water Uptake and Soil Moisture Relationships: Paired-Watershed Study in Central Oregon, Usa	Mohamed A. Abdallah

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88	Perennial Grass Suppression of Cheatgrass: Comparison Among Two Natives One Exotic	Charlie D. Clements
89	Timing to Germination By Functional Plant Groups Across Four Different Deserts	Trenda L. Roper
90	Impact of Defoliation on Axillary Bud Activity in Smooth Brome (<i>Bromus inermis leyss.</i>)	Andrew Carrlson
91	Completion and Analysis of A Time-Series of Fractional Component Cover Across Western U.s. Rangelands	Matthew B. Rigge
92	Monitoring Plant Community Change At the Jornada Experimental Range: 100 Years of Quadrat Sampling	Erica Christensen
93	Exploring Utilities of Spectral Diversity for Representing Plant Diversity and Its Spatial Pattern After Prescribed Fires in the Edwards Plateau	Xavier A. Jaime
94	Predicting Woody Plant Encroachment Risk on Sonoran Desert Rangelands	William A. Rutherford
95	Spectrally-Derived Community Leaf Dry Matter Content Links Compositional Shifts to Change in Grassland Production	Wayne Polley
96	Features of Development of the <i>Salsola Arbuscula</i> Pall. in Conditions of the Desert Karnabchu	Khislal K. Khaydarov
97	Post-Fire Ecological Resilience Across Five Southwestern US Deserts	Akasha M. Faist
98	The Purple Plague: Effects of Grazing Post Fire on Purple Threeawn and Prairie Dog Responses	Justin P. Roemer
99	Influence of Grazer-Type on Flower and Pollinator Abundance in Former-Crp Fields Managed With Patch-Burn Grazing	Jasmine A. Cutter
100	Indirect Relationships Between Invasive Grasses and Bee Communities in the Northern Great Plains	Chyna K. Pei
101	Forage for Bees: Exploring How Size, Seed Mix and Surrounding Landscape of Pollinator Plantings Support Bees in Minnesota Tallgrass Prairie	Christina Herron-Sweet
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103	Comparing Gps Position and Fecal Density Counts As Methods for Tracking Livestock Space Use	Megan R. Wanchuk
104	Vegetation Selection of Heritage Vs. Conventional Beef Cows Grazing Chihuauan Desert Rangeland	Shelemia Nyamuryekunge
105	Near Infrared Spectroscopy of Liver Tissue from Goats Differing in Genetic Propensity to Consume Juniper	Douglas R. Tolleson

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107	75-Years of No Burning or Grazing in the Southern Plains: Effects on the Vegetation and Soil	Corey A. Moffet
108	Spring Ephemerals: the Ecology of Native Perennial Forbs of the Pacific Northwest Bunchgrass Prairie	Josh P. Averrett
109	Understory Plant Community and Structure in Warm-Dry, Mixed-Conifer Forests	Doug Cram
110	Forage Biomass Reduction By Eastern Red Cedar Trees in Grasslands of Southcentral South Dakota	Alexander J. Smart
111	One Seed Juniper Sapling Control: Effects of Simulated Browsing on Soil-Plant Water Dynamics in Relation to Sapling Size and Density	Yasser M. Almalki
112	Current Condition and Use of Pastures of Foothill Districts of Uzbekistan	Tolibjon K. Mukimov
113	Animal and Plant Factors Which Affect Larkspur Toxicity: Sex, Age, Breed, and Plant Chemotype	Daniel Cook
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115	Do Plant Secondary Metabolite-Containing Forages Influence Soil Dynamics in Pasture Systems?	Andrea Clemensen
116	Landpks Soilid: A Smartphone-Based Soil Identification Tool for Rangeland Management	Jonathan J. Maynard
117	Bison Grazing and Fire Impacts Tallgrass Prairie Soil Microbial Diversity and Distribution As Well Carbon and Nitrogen Cycling Potentials	Jaide H. Allenbrand
118	Soil Responses to Eastern Red Cedar Encroachment and Prescribed Fire in South-Central South Dakota	Robby J. Schaefer
119	Land Resource Units As Soil Systems	Hunter B. Winsor
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121	Cross Comparison of Soil Microbial Community in Three Rangelands Across Continental United States	Brekke Munks
122	Soil Carbon Under Different Grazing Management Across the Northern Great Plains	Clare Kazanski
123	Streamlined Process of Map Unit Component Evaluation & Assessment for Provisional Ecological Site Concept Development	Dave Evans
124	Predicting Soil Carbon Stocks Using Nir Spectroscopy in Saskatchewan Native Mixed Grasslands	Ashly Dyck

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125	Soil Nutrients and Microbial Communities on Patch-Burn Grazing Pastures in the Northern Great Plains	Jonathan W. Spiess
126	Habitat Differences for Native Ground-Nesting Bees Between Reseeded Old Fields and Native Prairie in the Pacific Northwest Bunchgrass Prairie	Kaylee M. Littlefield
127	Evolution of Conservation Easements in California's Sierra Valley	Tracy Schohr
128	Private Lands Stewardship: A Model for Landscape-Level Conservation in the West	Jennifer Perkins
129	Using Remote Sensing to Predict Sage Grouse Conservation Credits	Timothy M. Bateman
130	Landscape Impacts of Unmaintained Soil and Water Conservation Structures	Mary Nichols
131	Field Establishment of Little Bluestem in A Drought Year	Tim Springer
132	Bullets, Bison and Big Bluestem. Joining Archeology and Range Sciences to Reconstruct A Historic Ecosystem	Kyrsten Wolterstorff
133	Enhancing Irrigated Pasture for Multiple Ecosystem Benefits	Danny J. Eastburn
134	Artificial Floating Islands As A Tool to Improve Water Quality for Livestock	Jennifer M. Muscha
135	Soil Water Content and Water Potential Interaction of Four Representative Plants from A Conservation Wetland	Fevziye Aslan
136	Proper Functioning Condition Assessment of the North Tamir River, Mongolia	Rentsenkhand Munkhbat
137	Bringing Rangeland Taxonomy Into the 21st Century	Austin R. Kelly
138	Geographical and Seasonal Variation in Water Hemlock (<i>Cicuta maculata</i>) Toxins	Clint Stonecipher
139	Using Areal Composition of Riparian Vegetation Communities to Identify Thresholds in Prairie Streams	Miranda A. Meehan
140	Comparison of Unmanaged Wild Horse and Managed Cattle Grazing on Two Riparian Springs	Selby L. Boerman
141	Duration and Intensity of Lentic Meadow Use By Feral Horses, Livestock and Wildlife Across Nevada	Sebastian A. Tsocanos
142	Wild Horse and Cattle Use of Nevada Spring Meadows: Hydrologic Gradients Drive Vegetation Response	Jacob M. Burdick

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143	Grazing of Free-Roaming Horses on Aquatic Macrophytes in the Salt River, Arizona	Thomas M. Krebs
144	Harmful Cyanobacteria Blooms and the Role of Nutrients on Des Lacs National Wildlife Refuge, Nd	Laurie Richardson
145	Valuing U.s. Cattle Ranching Based Ecosystem Services	Anna T. Maher
146	Economic Sustainability of A Perennial Grass System Grazed By Stocker Cattle	Elizabeth K. Widder
147	The Water Footprint of Beef Cattle Raised on New Mexico Rangeland	Andres F. Cibils
148	Development and Changing Policies Transforming the Face of Rangelands in Bhutan	Kuenga Namgay
149	Profitable Grazing Systems for Improved Landscape Condition and Sustainability Reporting	Mick J. Taylor
150	What Is the Future for Mongolia's Rangelands?	Daniel J. Miller

Excellence in Range Management (ERM) Section

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1	Using Technology to Help Quantify Calf Loss in Rangeland Cattle: An International Effort	Raoul K. Boughton
2	Biomass Estimation Using Unmanned Aerial Vehicles Technology	Alexandria Dimaggio
3	A Test of Lora Wan Real-Time Gps Tracking on Beef Cattle in Desert Pastures	Matthew M. McIntosh
4	Gps Vs Accelerometers: the Battle Between Technology to Monitor Cattle Behavior and Welfare	Colin T. Tobin
5	Characterizing Cattle Behavior in the Rugged Rangeland of Southeastern Oregon Using Low-Cost Gps Collars	Angela N. Malliaras
6	Correction Algorithm to Reduce Bias in Daily Travel Distance Estimated From Gps Collars	Jameson R. Brennan
7	The Rangelands Partnership: Your Source For Reliable Science-Based Information on Rangeland Ecology & Management	Amber Dalke
8	Optimization of Multi-Model Ensemble Seasonal Forecasts For Rangeland Management Applications in the Western United States	Merilynn Schantz
9	Sagedat: Data and Tools to Support Collaborative Sagebrush Ecosystem Conservation and Management	Steven E. Hanser
10	Results of Studying the Norms of Seeding Sorgo & Orange 160 After Growing Rye (<i>Secale cereale</i>)	Eldorbek U. Mirzayev
11	Indicators of Growth, Development and Productivity of Triticale Culture By Watering in the Desert Kyzylkum	Orzu K. Mamedov
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13	Evaluating Mesquite Distribution Using Uavs and Other Geospatial Methodologies	Michael T. Page
14	Morphological Ontogenesis Structure (<i>Lycium barbarum L.</i>) in the Conditions of Samarkand Region	Nodira S. Nurullaeva
15	Results of Studying the Development and Efficiency of the Secale Cereale in Kizilkum Desert	Erach F. Mamedov
16	A Rapid Assessment of Drought Induced Forage Reductions to Aid Rehabilitation	Matt C. Reeves
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19	Effects of Fire Intensity on Resprouting Vigor of Mesquite (<i>Prosopis glandulosa</i>)	Heath D. Starns

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20	Evaluating Grazing Effects on Ponderosa Pine Habitat Types Following a Large Summer Wildfire	Amanda R. Williams
21	Prescribed Fall Fires Decrease Annual Brome and Sagebrush Abundance in the Thunder Basin Ecoregion in Northeastern Wyoming	Catherine E. Estep
22	Establishing Fuel Breaks to Protect Sage-Grouse Habitat in Nw Utah	William J. Price
23	Silver Sagebrush Fire Response	Marcus A. Comfort
24	Ecological and Economic Impact of Patch-Burn Grazing in Subtropical Humid Grasslands	Elizabeth H. Boughton
25	The Visual Impact of Fire Scars, Effect of Fire Recovery Treatments, and Next Steps	Sabrina Mccue
26	Season of Burn Effects on Forage Production and Composition of Gulf Cordgrass Communities	Silverio Avila
27	Sparks At the Campfire: Participant Aspirations and Motivations Towards Forming the Wyoming Prescribed Fire Council	Ryan Wilbur
28	Effect of Fire and Season of Defoliation on Total Non-Structural Carbohydrates Concentration and Surviving of Purple Threeawn (<i>Aristida purpurea</i>)	Carlos Villalobos
29	Forb Community Response to Invasive Species, Grazing, and Prescribed Burns in the Pacific Northwest Bunchgrass Prairie	Brogan L. Watson
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31	Accurately Mapping Residual Dry Matter (RDM) Across 50,000 Acres of Nevada Rangelands	Timothy M. Bateman
32	Plant-Biocrust-Fire Interactions Across Five Southwestern Deserts	Ellie Mccann
33	Effect of Early-Season Burning and Grazing on Sub-Irrigated Meadow Hay Production	Tara M. Harms
34	Examining the Impact of Patch Burning on Livestock Grazing Patterns in Edwards Plateau, Texas	Weiqian Gao
35	Prioritizing Vegetation Management Practices on Private Working Landscapes to Reduce Catastrophic Events	Stephanie R. Larson-Praplan
36	Long Term Responses of Tanglehead to Prescribed Patch Burning and Cattle Grazing	Rider Combs
37	Hydrologic and Biologic Responses of Anthropogenically Altered Springs to Restoration in the Great Basin	Steve Petersen

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38	Using the NVC to Develop Functional-Based Seed Mixes For Restoration of Sagebrush Habitat	Scott B. Franklin
39	Understory Vegetation Response to Thinning Pinon-Juniper Woodlands	Yasser M. Almalki
40	Topo-Edaphic Constraints on Woody Plant Cover Change in a Semi-Arid Grassland	Scott A. Jones
41	Sagebrush Field of Dreams: Early Structural Advantage of Transplants For Building Greater Sage-Grouse Habitat	David A. Pyke
42	Longterm Impacts of Pinyon-Juniper Removal on Vegetation and Hydrologic Properties	Cameron S. Burleson
43	Not All Fuel Reduction Treatments Degrade Biocrusts: Herbicides Show Positive Effects on Cover of Biocrusts	Lea A. Condon
44	Effects of Biocrust Development on Establishment of Native Plants in a Salt Desert System	Kari E. Veblen
45	Biotic Causes of Seedling Mortality For <i>Elymus Elymoides</i> (Raf.) Swezey in a Drill-Seeded Rangeland Environment	Jesse R. Morris
46	Comparing Establishment Methods Among Difficult-To-Produce Native Plant Materials	Jaycie N. Arndt
47	Strip-Seeding, Targeted Grazing, and Prescribed Fire: Restoration and Invasive Species Management in California Grasslands	Julea A. Shaw
48	Success of Installing Native Plant Plugs in Cheatgrass (<i>Bromus tectorum</i>) Dominated Landscapes	Steven O. Link
49	Controlling Yellow Starthistle to Enhance Water Resources: Response of Multiple Ecosystem Services At the Watershed Scale	Danny J. Eastburn
50	Cattle Removal in Saguaro National Park and the Compositional Changes From Associated Succession	Ryan J. Summers
51	Native and Introduced Seed Mix Performance on Cheatgrass Rangelands	Charlie D. Clements
52	Documenting the Plant Evaluation Process For Commercial Release Purposes in West Texas	Hagen D. Meyer
53	Ecological Restoration of Native Plant Communities in Forests and Woodlands on the Navajo Nation.	Bryan Neztosie
54	Strategic Placement of Salt Supplements to Restore Shrub-Encroached Pastures: a Case Study From Italian Alps	Ginevra Nota
55	Collaborative Reclamation Experiments on Oil and Gas Well Pads in the Uintah Basin: Approach and Early Results	Rebecca Mann

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56	A Review of Oil and Gas Reclamation Practices, Monitoring, and Standards: Improving Reclamation Success on Western Public Lands	Michael C. Duniway
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58	Microtopography Selection For Reseeding Techniques Using Uavs in the Chihuahuan Desert, Brewster County, Texas	Carolina Medina-Nava
59	Restoration of Native Grasses on Abandoned Center Pivots in Sandy Sage Prairie of Southwest Kansas	Alonso Barragan-Martinez
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61	Mezavue Herbicide: the New Standard in Pricklypear Control and So Much More	D Chad Cummings
62	Hotspots For Post-Fire Sagebrush Recovery: Burned and Surviving Individuals Play a Role	Robert S. Arkle
63	Burning, Seeding, and Herbicide Productiveness in Relation to Rangeland Restoration in Southeastern North Dakota	Shawn Dekeyser
64	Establishment of Native Plants in Salt-Impacted Soil	Abigail P. Blanchard
65	Brush Management of a Whitethorn Acacia-Encroached Grassland Enhances Resource-Conserving Shrub Islands	Justin C. Johnson
66	Response of One Introduced and Three Native Sagebrush Steppe Plants to Arbuscular Mycorrhizal Fungi Inoculum	David E. Prado-Tarango
67	Perceptions of Wild Horse and Burro Management on Public Lands of Western Us	Marissa N. Humphreys
68	Examining the Effects of Mammalian Herbivores on Recruitment and Stand Structure of Quaking Aspen	Elizabeth Reikowski
69	Mesic Meadow Habitat Responses to Variation in Grazing Management: Balancing Sage-Grouse Habitat With Livestock Production	Kenneth J. Randall
70	Response of Sagebrush Habitat Characteristics to Feral Horse Grazing	Jacob D. Hennig
71	Determination of Species and Sex in Deer Via Near Infrared Spectroscopy of Liver Tissue	Douglas R. Tolleson
72	Blank	
73	Disruption Or Displacement: How Do Livestock Guardian Dogs Prevent Depredation?	Daniel K. Macon
74	Raramuri Criollo Cattle As Livestock Guardian Against Predators	Kelly J. Koriakin

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75	Mesocarnivore Occupancy in a Sagebrush-Juniper Landscape and Associated Effects on Greater Sage-Grouse Nest Failure	Sarah E. McIntire
76	Small Mammals and Grassland Restoration: Long Term Monitoring of the Sternberg Natural Area	Hunter R. Bohn
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79	Landcart: Landscape Cover Analysis and Reporting Tools	Bo Zhou
80	Sample Size For Accurate Estimation of Mean Herbage Mass in Campos Grasslands	Martin Do Carmo
81	Determining Appropriate Utilization Measurements For Multiscale Spatial Analysis of Greater Sage-Grouse Habitat in Southern Idaho	Alexander Laurence-Traynor
82	Landpks App For Planning and Monitoring Outcome-Based Grazing: New Features	Jeffrey Herrick
83	Blank	
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85	Using Lidar to Estimate Aboveground Grassland Biomass and the Effect of Grazing on Spatial Heterogeneity	Vincent S. Jansen
86	Improving a Brush Management Assessment Tool Using Drone Technology and Enhanced Landsat Image Processing	Chandra Holifield Collins
87	Gauging Floral Resources For Pollinators Using High Resolution Drone Imagery	Nicholas V. Anderson
88	Spatial Prediction of Ecosystem State Transitions on the Taos Plateau	Alexandra Heller
89	Ubetubes: a New Runoff Monitoring Methodology For Rangelands	Jeremy W. Schallner
90	Nutritional Differences of Pronghorn-Preferred Forage and a Carrying Capacity Estimation Between the Marathon and Marfa Grasslands in Trans-Pecos, Texas	Katherine E. Haile
91	A Synthetic-Control Approach For Assessing Landscape Treatment Effectiveness: Pinyon-Juniper Thinning in Western Drylands	Stephen E. Fick
92	A Web Interface For Creating Random, Spatially Balanced Landscape Monitoring Designs	Nelson G. Stauffer
93	Ndvi Relationship of Depth to Groundwater and Precipitation in a Mesic Pasture Area	Lucas A. Phipps

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94	Semi-Automated Tree Segmentation and Quantitative Structure Models of Trees From Terrestrial Laser Scanning Point Clouds in Miombo Woodlands of the Niassa National Reserve, Mozambique	Tracy L. Shane
95	Monitoring Accuracy: Getting the Right Indicators, in the Right Places, At the Right Scale	Kurt O. Reinhart
96	Us National Vegetation Classification (NVC) - Communication Tool For Ecological Site Work	Gene A. Fults
97	Reconciling Sage Grouse Habitat Monitoring Outcomes	Mike T. Anderson
98	Soil Erosion Effects Under Climate Change Scenarios in Northern Mexico	Federico Villarreal Guerrero
99	Electronic and Field Versions of Interpreting Indicators of Rangeland Health (IIRH) Forms (Version 5)	Bob Gillaspay
100	Ecological Site Group Development and Predictive Mapping For the Upper Colorado River Basin	Samuel S. Burch
101	Rangeland Management Policy Effects on Riparian Vegetation	Wayne Smith
102	Uses and Applications of Version 5 of the Interpreting Indicators of Rangeland Health Technical Reference	Mike L. Pellant
103	Uncovering Traits and Recovering Grasslands: a Functional Assessment of Oil and Gas Well Pad Reclamation	Randi C. Lupardus
104	Bioassays: the Role of Seed Bank Monitoring in Range Management	Dan Harmon
105	Impoundment Salinity in Northwest South Dakota	Patrick Kozak
106	Impacts of Commercial Honeybees on Native Butterflies in High-Elevation Meadows in Utah	Jacqueline E. Kunzelman
107	Blank	
108	Blank	