AMERICA'S GRASSLANDS CONFERENCE

GRASSLANDS ACROSS GENERATIONS

PROCEEDINGS OF THE SEVENTH BIENNIAL CONFERENCE ON THE CONSERVATION OF AMERICA'S GRASSLANDS

JUNE 24-26, 2025 | KEARNEY, NEBRASKA

AMERICA'S GRASSLANDS CONFERENCE: GRASSLANDS ACROSS GENERATIONS

PROCEEDINGS OF THE SEVENTH BIENNIAL CONFERENCE ON THE CONSERVATION OF AMERICA'S GRASSLANDS

June 24-26, 2025
Kearney, Nebraska

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Cover photo: Mariah Lundgren/Platte Basin Timelapse

National Wildlife Federation
1200 G Street, NW, Suite 900
Washington, D.C. 20005
www.nwf.org

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The 7th Biennial Conference on the Conservation of America's Grasslands - June 24-26, 2025, Kearney, Nebraska

INTRODUCTION TO THE PROCEEDINGS

This past June we welcomed over 350 attendees, to Kearney, Nebraska, for the seventh biennial America's Grasslands Conference. We had over 350 attendees participate in three days of field trips, presentations, roundtable discussions, and networking. In a time of uncertainty for many of the issues we work on, the large attendance exceeded our expectations and is evidence of the continued impact and significance of this biennial event. Many attendees noted how valuable this time together was and how uplifting it was to see so many working towards complementary goals for grasslands conservation despite ongoing challenges. We are grateful to our 2025 co-hosts, the Nebraska Grazing Lands Coalition and the University of Nebraska-Lincoln, whose contributions and dedication were vital to the success of the conference.

As with our conferences in the past, one of the continued highlights remains the breadth of diversity in our conference attendees and their expertise. We had individuals from thirty-three states, the District of Columbia, as well as Canada, and Mexico join us in Kearney. Participants included ranchers and producers, academics from universities and several other research institutions, numerous non-profit organizations, state and regional wildlife agencies, Indigenous community members, joint ventures, local and federal agency representatives, and multiple other entities ranging from conservation districts to native seed companies and consulting groups.

This seventh conference included a theme of "Grasslands Across Generations" highlighting the changes in our grassland landscape over time and the future of grassland conservation. This helped focus participants on looking toward the future and paving the way for the next generations to move this important work forward and we highlighted the theme in various ways throughout the conference. One way was through a panel discussion with ranchers about generational transfer, passing down knowledge, and the challenges facing young and beginning ranchers. In addition, there were presentation tracks focused on strategic planning and novel partnerships looking toward the future, and a display of historical photos documenting the transformation of Nebraska's grasslands. Throughout the conference, a strong spirit of collaboration and connection was evident. The engagement at this biennial gathering continues to inspire hope, thanks to the network of individuals who come together with a shared commitment to protect grasslands and the wildlife that depend on them.

The first day of the conference set a great tone for the days to come as participants embarked on field trips across Nebraska. Participants got to visit the incredible Nebraska Sandhills or took a trip to Loess Canyons, while others stayed closer to Kearney and visited the Crane Trust and The Nature Conservancy's Platte River Prairies. New for this year, we were excited to offer two workshop opportunities on the first day as well. The remainder of the conference was spent in breakout sessions, roundtable discussions, and poster sessions. Attendees had the opportunity to choose from over 30 presentations with wide-ranging topics including woody plant encroachment, partnerships for grasslands conservation, grassland mapping, perspectives on sustainable livelihoods, grasslands policy, and many more. We were also fortunate to have our highest number of poster presentations this year, providing further

opportunities for learning and networking.

Putting together a successful conference is very much a group effort and we want to extend our gratitude to the conference organizing committee and numerous partners in Nebraska and beyond that assisted in planning the conference and contributing to its success. We are thankful for the continued support of this conference over the years, and the many important partnerships formed or strengthened through this convening. As always, heartfelt thanks to our many conference sponsors for their generous contributions, many of whom have supported the conference for years, and we recognize their fundamental role in helping to make the America's Grasslands Conference possible.

Lekha Knuffman
National Wildlife Federation

Aleta Dam
National Wildlife Federation

Crane Trust/Gloria Tom

Organizing Committee

Kelly Beevers, The Nature Conservancy

Steve Fairbairn, U.S. Fish and Wildlife Service

Ann Dvorak, World Wildlife Fund

Mike Crosley, Santee Sioux Nation

Thomas Walker, Nebraska Game and Parks Commission

Shelly Kelly, Sandhills Task Force

David Borre Gonzalez, U.S. Forest Service, Northern Mexico

Maggie Hanna, Central Grasslands Roadmap – Bird Conservancy of the Rockies

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Aleta Dam, National Wildlife Federation

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NEBRASKA Grazing Lands Coalition

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KEYNOTE AND PLENARY SPEAKERS

Keynote Address

Kyle Lybarger, Native Habitat Project
Ethan Freese, Platte Basin Timelapse

Plenary Speakers

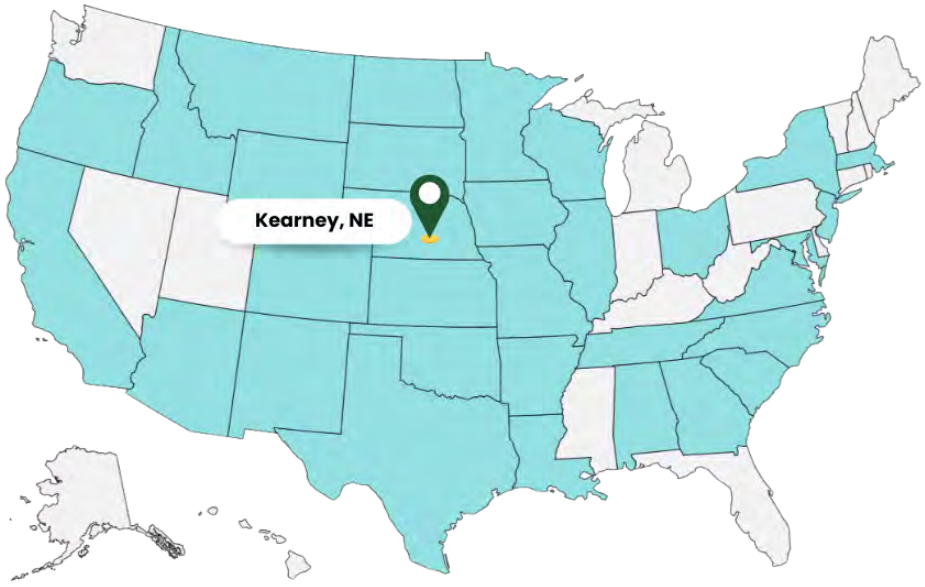
Bethany Johnston, University of Nebraska-Lincoln
Josephine Marcotty and Dave Hage, Authors, "Sea of Grass"

Closing Plenary/Aleta Dam

ACROSS THE MAP: REGIONAL REPRESENTATION OF ATTENDEES

33 States

We had participants from thirty-three states, the District of Columbia, Canada, and Mexico.



PRESENTATIONS

1. COLLABORATIVE GRASSLANDS CONSERVATION

Presentations

- Collaborative Adaptive Rangeland management: A decade of razing management on the shortgrass steppe, Angela Dwyer
- Developing collaborative adaptive management research at the UNL Barta Brothers Ranch, Mitch Stephenson
- Coupling durable protection and stewardship in southern high plains generational grasslands, Matthew Bain
- Building state-level collaborations on the foundation of the central grasslands roadmap*, Laura Kahler and Laura Nelson

COLLABORATIVE ADAPTIVE RANGELAND MANAGEMENT: A DECADE OF GRAZING MANAGEMENT ON THE SHORTGRASS STEPPE

Angela Dwyer, American Birds Conservancy

Other Authors: Justin Derner, David Augustine, Lauren Porensky, Ted Toombs, CARM Stakeholder Group

Rangeland management for livestock, birds, and vegetation is complex. Understanding how to balance tradeoffs is a challenge. In 2014, scientists and stakeholders developed a 10 year-long experiment at the Central Plains Experimental Range in Eastern Colorado called "Collaborative Adaptive Rangeland Management" (CARM). One goal was to study if adaptive, collaborative decision-making through rotational grazing could accomplish objectives vs continuous grazing. CARM grazing achieved some goals (e.g., cool season veg. heterogeneity, bird habitat), but not others (e.g., cattle production). CARM is one of the longest running experiments of its kind and serves as a model for rangeland management, collaboration and decision-making on grasslands

DEVELOPING COLLABORATIVE ADAPTIVE MANAGEMENT

*Abstract omitted, contact author for more information

RESEARCH AT THE UNL BARTA BROTHERS RANCH

Mitch Stephenson, University of Nebraska-Lincoln

Other Authors: Dana Uden, Danu Uden, Gwendwr Meredith, Ryan Benjamin, Jacob Harvey, Craig Allen, Jerry Volesky, Jay Parson, Bethany Johnston: University of Nebraska – Lincoln

Collaborative Adaptive Management (CAM) is an approach to grassland management that follows a structured loop of identifying goals and objectives, developing hypotheses, implementing management, monitoring results, and shifting management based off these evaluations within a group of engaged stakeholders. The University of Nebraska-Lincoln Barta Brothers Ranch assembled a CAM stakeholder group in 2021 to identify key challenges faced in the region and develop a case study using patch-burn grazing for specific management objectives. This presentation will highlight preliminary research results, lessons learned in the first three years of the project, and opportunities moving forward for further application of CAM in conservation planning.

COUPLING DURABLE PROTECTION AND STEWARDSHIP IN SOUTHERN HIGH PLAINS GENERATIONAL GRASSLANDS

Matthew Bain, The Nature Conservancy

Other Authors: Galen Guerrero-Murphy, The Nature Conservancy

Grassland conservation can no longer afford to take either a short-term or shotgun approach. The Generational Grassland strategy couples and spatially focuses land protection with effective management in remaining grassland cores. Partners are addressing barriers to conservation practices, adding producer assistance, and expanding opportunities for conservation easements. These serve as foundations to build-out conservation to outpace threats of conversion, invasives, and drought, and address limiting factors of habitat. Results in two lesser prairie-chicken landscapes represent progress, but highlight significant gaps in capacity, metrics, and scalable monitoring necessary to support ranchers and their legacy of ecosystem services.

Participants at Sandhills Field Trip/ Duane Hovorka

2. GRASSLANDS CONSERVATION SOCIAL SCIENCE

Presentations

- Exploring community-based ecological restoration through participatory network mapping, John Canfield
- Motivations, concerns, and success in accessing private land sites for native seed harvest, Rita Cunha
- Trends in grasslands management and irrational economic behavior, John Pattison-Williams
- Collaboration for grasslands conservation on private lands*, Kyle Schumacher

EXPLORING COMMUNITY-BASED ECOLOGICAL RESTORATION THROUGH PARTICIPATORY NETWORK MAPPING

John Canfield, University of Wisconsin-Madison

Montana's Northern Great Plains contains one of the world's last remaining intact grasslands and has been the site of significant place-based conservation initiatives. American Prairie has acquired private land to create a rewilded privately protected area. The Ranchers Stewardship Alliance and Winnett ACES promote working lands conservation. On the Fort Belknap Reservation, Indigenous-led organizations, such as the Aaniiih Nakoda College, advance Indigenous ecological restoration efforts, taking a biocultural approach based on traditional ecological knowledge that incorporates elements of rewilding and working lands conservation. Additionally, the conservation agendas of national and international governmental and nongovernmental organizations intersect with these organizations' local efforts. Despite these groups' shared goals of protecting the landscape, conflicts have emerged surrounding the different conservation approaches promoted by these organizations.

Social scientists have documented these regional conflicts and contextualized them within competing social and ecological narratives of what the landscape should look like (Davenport, 2018; Canfield, 2024). However, less scholarship has examined regional conservation as a broader social field, where socioecological relationships drive multistakeholder conservation efforts. To address these limitations, my research explores social interaction within regional collaborative conservation networks.

Abstract omitted, contact author for more information

I study the sociology of collaborative land management, and my dissertation examines multistakeholder conservation in Montana's Northern Great Plains. I identify actors involved in these efforts, determine which are the most influential, and explore how they shape environmental decision-making.

NET-MAPPING AND SOCIAL NETWORK ANALYSIS

Social network analysis has emerged as a method for studying the social structure of multistakeholder conservation. This method allows researchers to quantify, map, and analyze the relationships driving conservation initiatives (Buckingham, et al. 2018; Prell et al., 2009). Social network analysis locates the conservation actors (nodes) in the network's structure and allows researchers to examine the relationships (ties) among them. When collecting the data for social network analysis, researchers commonly draw on name generator surveys or secondary data (such as public reports) to uncover the actors and relationships. However, this approach may not address the more nuanced interorganizational dynamics involved in collaborative conservation. Moreover, some of these approaches do not allow the participants to co-produce data and play an active role in the collection process.

As a community-engaged scholar, I prioritized collaboration in collecting these data with community partners. I drew on Eva Schiffer's (2007) Net-Map Toolbox, which was developed to document the social networks influencing community-based natural resource management. Net-Mapping helps illuminate multistakeholder conservation's social networks by documenting resource and knowledge sharing, organizational goals, and ways that actors are influential in the network.

Net-Mapping entails drawing networks on large sheets of paper using Post-it notes and markers, measuring the different types of connections between the region's actors, and collecting quantitative and qualitative data on how these specific actors are influential (Figure 1). While I followed the Net-Map Toolbox's general data collection framework, I modified this method to accommodate the social context of collecting data in small rural communities where conservation issues are frequently contentious.

Figure 1. Example group Net-map

I collected these data during the summer of 2024. I began by leading group Net-Mapping activities with four regional partner organizations: The Ranchers Stewardship Alliance, American Prairie, Winnett ACES, and the Charles M. Russell National Wildlife Refuge Working Group. As these groups were multistakeholder conservation organizations, I collected data from a wide range of actors, including agricultural producers, local and national environmental NGO employees, and governmental employees. After these group Net-Mapping activities, I also conducted 21 individual Net-Mapping interviews with members of my community partner organizations. During these one-on-one interviews, we mapped individual and organizational networks and discussed the nature of the connections described. This process allowed us to explore their personal networks and how they fit within the broader

conservation landscape. These Net-Mapping interviews illustrated how informal actors, who may not be official conservation agencies, influenced environmental decision-making. To ensure that these networks included all regional actors, I also collected data that were coded from semi-structured interviews with Indigenous participants who had not been able to attend the Net-Map activities but had discussed multistakeholder collaboration.

To map and analyze this network-level dataset, I created a spreadsheet to document the nodes and ties I identified in Net-Mapping sessions and semi-structured interviews. This combined spreadsheet created an inter-organizational dataset that examined these networks at a regional scale, including actors who used different conservation approaches. After uploading these data to RStudio, I cleaned them by merging similar nodes (such as adding employees to organizations), dropping repetitive ties to avoid biasing results, and deleting orphan nodes with no ties. I found that the network had a total of 317 nodes (organizations or individual actors) and 917 ties (connections between nodes). This large dataset reflects a wide range of organizational actors active in the region, including local conservation groups, national and international NGOs, federal, state, and local governmental actors, agricultural producers, and tribal and nontribal educational institutions.

Using centrality measures, I identified the key actors within the network. One common measurement for influence is degree centrality, which reflects the top actors in terms of overall connections (Prell et al., 2009). The actors with the highest degree centrality are the ones with the most connections to other actors within the region—a common measure of popularity in network analysis theory. Being the most popular organizations helps them shape conservation practices (Figure 2).

In these findings, the local conservation organization Winnett ACES had the highest degree centrality with 87 ties, followed by the World Wildlife Fund (84 ties), the Ranchers Stewardship Alliance (64), American Prairie (63), The Nature Conservancy (53), the Aaniiih Nakoda College (44), the Bureau of Land Management (39), local Conservation Districts (38), the USDA's Natural Resources Conservation Service (NRCS) (37), and the Charles M. Russell National Wildlife Refuge (CMR)

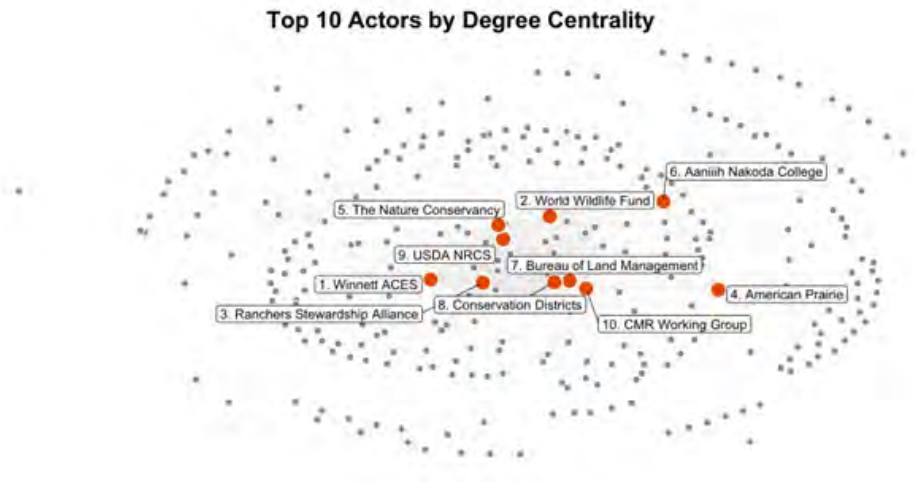


Figure 2. The top ten actors by degree centrality (number of ties) in orange; other actors in gray

Community Working Group (37). These findings illustrate that nongovernmental organizations were the most popular in terms of overall ties.

The top six organizations revealed two key findings. First, they included at least one group that supported each conservation approach—working lands conservation (Winnett ACES and the Ranchers Stewardship Alliance), rewilding (American Prairie), and Indigenous ecological restoration (the Aaniiih Nakoda College). Second, large NGOs (the World Wildlife Fund and The Nature Conservancy) were also highly connected through their work with different organizations in the network. While these top six actors are NGOs, degree centrality also shows the importance of local and federal governmental organizations, four of which (the federal Bureau of Land Management and the USDA's NRCS, and the local Conservation Districts and the CMR Community Working Group) rounded out the top ten actors in this conservation network.

IMPLICATIONS FOR CONSERVATION PRACTICE

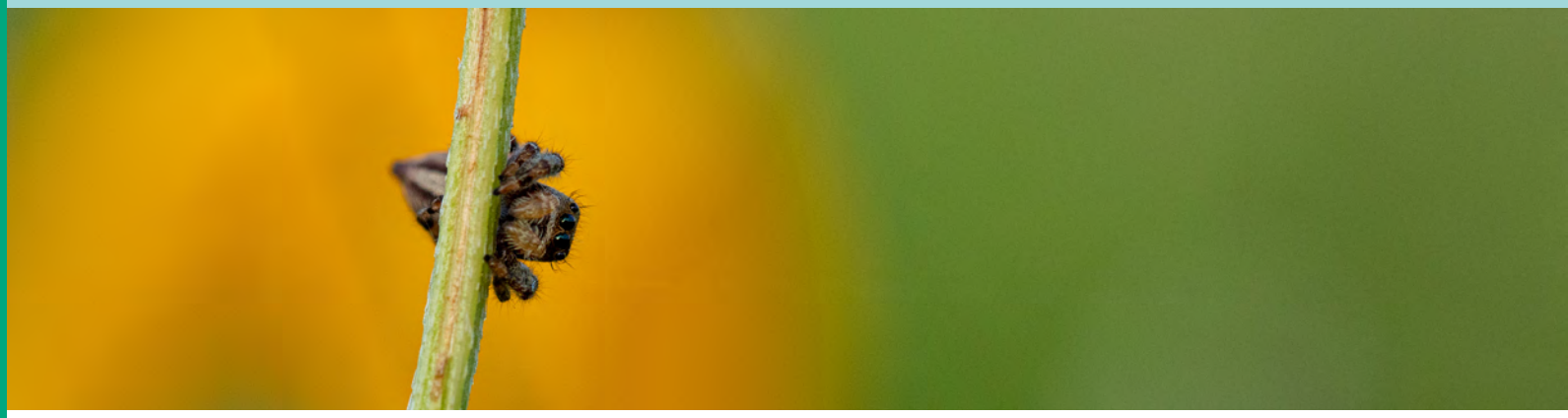
As practitioners continue to promote multi-stakeholder conservation initiatives, addressing the social dimensions of environmental conservation is crucial. Beyond traditional economic measurements, social network analysis can help practitioners illustrate the sociological impact of their conservation efforts. Social network analysis allows practitioners to map the wide range of actors with whom they engage and better understand how network relationships can shape conservation practices. Likewise, social network analysis can illuminate the potential redundancies in a practitioner's conservation network and highlight areas for future collaborations. Importantly, mapping broader regional and interorganizational networks encourages practitioners to move beyond their individual connections and view their organizations as part of a large and powerful whole.

Collaborative data collection methods such as Net-Mapping can serve as an interactive participatory strategy for individuals and groups. While beyond the focus of my research, group-level Net-Mapping, even without the formal social network analysis, can serve as an effective tool for community and organizational resilience building while also fostering collaborative group-level discussions (Buckingham et al., 2018). Moreover, Net-Mapping represents a low-cost, low-tech strategy for collecting social network data on multistakeholder conservation, making it applicable for practitioners and organizations of all sizes. Net-Mapping yields a rich and complex social network dataset. The discussions from these Net-Mapping activities are also valuable sources of insight into socioecological relationships. Finally, although formally visualizing and measuring the data does require technical software skills in coding, many online resources can help overcome these barriers. Relevant software, such as R and Gephi, is open source.

The data presented here are part of a broader research paper that will be submitted to an academic journal. The future paper examines influence and power and will incorporate more robust network-level metrics and qualitative interview data.

CONCLUSION

Ecologically sound environmental approaches can be undermined when people are unable to work together to conserve the land. Net-Mapping and social network analysis are valuable tools for thinking sociologically about ecological restoration. They encourage scholars and practitioners to think relationally about socioecological systems and highlight actors' interdependence within a conservation network.



Prairie Corridor/Ethan Freese

ACKNOWLEDGMENTS

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MOTIVATIONS, CONCERNS, AND SUCCESS IN ACCESSING PRIVATE LAND SITES FOR NATIVE SEED HARVEST

Rita Cunha, Conservation Blueprint

Increasing native seed production is crucial to successful ecological restorations in the Great Plains. Yet, one obstacle is accessing large wild populations of target species to sustainably harvest seed. To overcome these hurdles, suppliers work with local landowners to

access harvestable sites. This presentation will focus on three case studies representative of these partnerships. Through interviews with three central Nebraska landowners (recreational, multi-generational farmer, politician/businessman), the author will explore landowner motivations, concerns, and successful conservation communication strategies. The presentation centers producer perspectives, while also showcasing field photos and plant distributions maps.

TRENDS IN GRASSLANDS MANAGEMENT AND IRRATIONAL ECONOMIC BEHAVIOR

John Pattison-Williams, University of Alberta, Canada

Grassland ecosystems are in decline across the continent of North America. Understanding the drivers of this loss is essential but requires more knowledge than spatial or even economic values. The underlying environmental attitudes and social perspectives of producers can unlock the conditions where producers exhibit "irrational economic" behavior and can assist in the development of market and non-market conservation programs and grassland policy. This presentation explores perspectives of 100 producers in the Canadian Prairies and provides insights into conservation and management programs in both Canada and the United States. Developing programs and initiatives in Canada will also be explored to highlight application.

The last day at breakfast, there were two ranchers sitting at my table talking about the conference. Rancher 1 says to Rancher 2 "I thought this was going to be more about grazing. I always thought it was us against the conservationists but they're really working for us. It's been a good conference." ~ Conference Attendee

Loess Canyons/Julie Sibbing

Grasshopper sparrow/Ethan Freese

3. CONNECTIVITY AND WILDLIFE MOVEMENTS

Presentations

- The Path of Pipit #43535, Kelly Beever

THE PATH OF PIPIT #43535

Kelly Beever, The Nature Conservancy

Other Authors: Sheila Walsh, Rancher in Philips County MT on Fort Belknap Reservation; Matt Bain, The Nature Conservancy; and Aaron Clausen, World Wildlife Fund

Meet Pipit #43535. Traveling great distances in search of ideal habitat, this bird loves areas where people make their living and raise their families on grasslands. The Smithsonian moderated panel will follow the data-specific path of #43535 from Mexico to Canada featuring the grazing management of three ranchers. It will also include a biologist to share about pipits as indicators. The panel will show that ranching has created a desirable home for this declining bird species. Already this single tenacious bird whose story has yet to be told has captured interest of USFWS, WWF, NFWF, Bezos Earth Fund, the Roadmap, JV8, TNC, Smithsonian, and ranchers who have shared a home with #43535 during its tremendous migration across the continent.

4. LARGE LANDSCAPE CONSERVATION PLANNING

Presentations

- New strategies for rangeland health, Steve Riley
- Wildlife and grazing compatibility on Great Plains grasslands, Jennifer Prenosil
- Moving from the project boundary to landscape scale monitoring and reporting: engaging partners, tracking metrics, and leveraging funding, Patrick Lendrum and Kim Ballare
- The National Bobwhite and grassland Initiative's Coordinated Implementation Program landscape scale monitoring program: Conservation delivery, land cover, and birds, Jared Elmore

NEW STRATEGIES FOR RANGELAND HEALTH

Steve Riley, American Bird Conservancy

Other Authors: Dr. Terry Riley, Jim Giocomo, and Matt Bain

INTRODUCTION

North America's grasslands are in a state of crisis. Once vast and vibrant ecosystems, they now are among the most threatened landscapes on the planet. Since 1970, populations of grassland birds have plummeted, with more than 720 million birds lost—over 53% of their total numbers. Today, 70 species are considered to be at a tipping point. These declines are driven primarily by widespread habitat loss, fragmentation and degradation. The tallgrass prairie has lost over 80% of its area, the mixed-grass prairie over 70%, and more than half of both the shortgrass prairie and sagebrush-grasslands have been converted or degraded. Despite these alarming trends, conservation efforts for grasslands have lagged behind those for forests and other ecosystems.

WHY GRASSLANDS MATTER

The ecological and economic value of grasslands is often overlooked. While forest loss sparks public outcry, the plowing of native prairie usually passes unnoticed. Yet grasslands provide vital ecosystem services: they absorb water efficiently, reduce runoff, replenish aquifers, and capture snow. For livestock producers, healthy grasslands offer drought contingency, rotational use, and stockpiled forage—lowering feed costs and buffering market swings.

Diverse plant communities with deep roots withstand drought, recover quickly, and support grazing operations by boosting forage, improving livestock perfor-

mance, and reducing erosion. Prescribed fire helps maintain grassland health and curb woody encroachment. Intact grasslands also enhance biodiversity, provide wildlife habitat, and sustain rural economies.

BARRIERS TO GRASSLAND CONSERVATION

Despite their importance, grasslands receive less policy attention and funding than croplands. Incentives to maintain rangeland health are scarce, and many systems lack support for rest periods—crucial for plant recovery, forage productivity, and wildlife habitat. Without rest, grazing pressure degrades the plant community and reduces both productivity and ecological function.

UNDERSTANDING GRAZING SYSTEMS

Balancing forage with livestock demand is central to any grazing plan. Season-long grazing often overuses pastures, leading to lower productivity, soil degradation, and invasive species. Properly stocked rotational grazing distributes pressure, maintains cover, and improves ecosystem health. Rest periods, mimicking historical herbivore patterns, rebuild plant vigor, foster diversity, and increase resilience—yet leave a more appropriate proportion of the plants.

THE GREAT PLAINS: A REGION AT RISK

The Great Plains illustrate grassland decline: only 53% remain intact, with 42% converted to cropland. Not surprisingly, most intact acres sit on poor soils, unsuitable for crops. Conditions are especially troubling in the Southern Plains, where poorer soils and scant rainfall lead to rangelands in urgent need of restoration. Controlled grazing, prescribed fire, and selective herbicide use are critical tools for sustaining these landscapes.

THE GRASSLAND CONSERVATION RESERVE PROGRAM (G-CRP)

The Grassland Conservation Reserve Program (G-CRP) is a voluntary, federally funded initiative designed to help producers protect environmentally sensitive agricultural lands while continuing to use them for grazing. Unlike other types of CRP, G-CRP allows landowners to maintain grazing activity during the contract period; it is a "working lands program." However, G-CRP has traditionally lacked leverage that would lead to the implementation of enhanced conservation actions, such as rest-rotational grazing. As a result, while G-CRP maintains lands in production, it has yet to fully realize its potential as a tool for advancing rangeland health. Concerns about G-CRP often center on fears of reduced agricultural output or economic impacts on rural communities. Additionally, there are questions about how well the program aligns with wildlife conservation objectives, and what happens to ecosystem health after contracts expire, also known as program durability. To truly succeed, G-CRP must be modified such that it provides adequate opportunities to address these needs.

THE MISSING PIECE: CYCLIC GRAZING AND RECOVERY

One of the most significant missed opportunities in current grassland conservation is the degree to which recovery-focused grazing systems are used. Rest periods within a rotational grazing system are a low-cost but high-value practice that can improve range-

land health, drought resilience, livestock productivity, wildlife habitat, and recreational values. They improve these functions by:

- Capturing more water—traps snow in winter, reduces run-off and recharges local aquifers.
- Building drought contingency—the ability to rotate into stockpiles of grass reduces feed bills, and decreases the risk of having to sell livestock in a low market or buy in a high market.
- Improving drought resilience—diverse plant communities with healthy roots persist longer and recover more rapidly from environmental disturbances, like drought;
- Improving forage production—healthy rangelands offer a means for achieving greater livestock weight gains, and higher conception rates;
- Providing fuel for prescribed fire—rest can provide a means for achieving desired levels of fine fuels to help manage woody expansion through prescribed burning.

These practices not only offer environmental benefits, they also allow producers to build long-term familiarity with sustainable systems over the course of a typical 10- to 15-year G-CRP contract. When properly incentivized, such approaches can take root and persist beyond the contract period.

THE GRASSLAND CRP DURABILITY ACT

This Congressional bill seeks to strengthen G-CRP by prioritizing applications that include approved rest-rotational grazing with recovery periods. Successful applicants would receive additional CRP Program Incentive Payments (PIP) for each acre and year of rest outlined in their qualifying plan. By rewarding stewardship and sustainability, the act elevates ecological benefits while maintaining economic viability. Participation would remain entirely voluntary.

LEGISLATIVE PATH FORWARD

The Grassland CRP Durability Act is expected to be introduced in the House as a "marker bill," intended for integration into the next Farm Bill or other legislation. Several members of Congress have expressed interest, signaling growing recognition of the urgent need to revitalize grasslands.

A PRODUCER'S PERSPECTIVE: AJ MUNGER

AJ Munger, a South Dakota rancher, offers a powerful example of the kind of leadership needed to steward grasslands into the future. Operating on a 15,000-acre family ranch near Highmore, where approximately 60% is cropland and 40% is grassland, AJ combines a background in business and agribusiness with a deep commitment to land stewardship. After working in beef market analysis, he returned to the ranch and now helps manage a long-standing cattle seedstock operation with his family.

As a board member of the South Dakota Grassland Coalition and a contributor to the South Dakota Grassland Initiative's conservation strategy workgroup, AJ is focused on maintaining profitability without sacrificing the ecological integrity of the land. He has maintained grassland that could otherwise be plowed and farmed and he has incorporated rest in his grazing system. His perspective underscores the importance of equipping producers with the tools and support they need to succeed as both ranchers and conservationists. He regards the G-CRP Durability Act as an important step forward.

CONCLUSION

The Grassland CRP Durability Act represents an important opportunity to improve how we care for some of our nation's most imperiled ecosystems and the producers who maintain them. By embedding recovery-focused grazing into the structure of the G-CRP and rewarding producers who adopt these practices, the legislation provides a pathway toward more resilient grasslands, healthier livestock operations, and thriving rural communities. With strong legislative support and strategic policy changes, we can ensure that grasslands—and the people and species who depend on them—have a fighting chance for generations to come.

WILDLIFE AND GRAZING COMPATIBILITY

Jennifer Prenosil, Nebraska Game & Parks Commission

Other Authors: Jennifer Prenosil, Jacob Harvey, Ryan Benjamin, Kyle Schumacher

Privately owned grassland management decisions are often made that maximize security of anthropogenic needs. Other demands like sustained biodiversity often get viewed as a competing interest to livestock grazing. This is usually due to both perceived & realized modifications required that break the norms of grazing & rangeland management practices taught & implemented over the past 100 years. This session will provide an overview of the habitat needs of grassland wildlife, explore case studies from the Sandhills challenging presumptions that wildlife & livestock performance are competing interests, compare financial data for implementing wildlife-friendly grazing systems, concluding with a discussion.

MOVING FROM THE PROJECT BOUNDARY TO LANDSCAPE SCALE MONITORING AND REPORTING: ENGAGING PARTNERS, TRACKING METRICS, AND LEVERAGING FUNDING

Patrick Lendrum and Kim Ballare, World Wildlife Fund Great Plains Program

BACKGROUND: WORKING TOGETHER FOR HEALTHY LANDS AND COMMUNITIES

Landscape scale approaches bring multiple interested parties together in a defined geography to address prioritized sustainability challenges, such as livelihoods, reduction of intact grassland, and biodiversity loss, through a collaborative strategy to drive intervention in the highest potential areas for people and nature.

Demonstrating positive impact from interventions at the landscape scale can appear to be impossible. Existing efforts that focus on one-field-at-a-time and measure progress in a per-acre approach are a viable option; however, this approach can fail to capture the full potential of interventions as social and natural systems are not defined by these same boundaries. If we can collectively identify the most impactful areas of a landscape, we can drive intervention in those areas, measure impact, and ultimately, we can more effectively target future investment in the landscape.

Figure 1: The landscape project area, where our focus is grasslands and the beef supply chain. Interventions in this landscape will be focused on how to provide maximum impact for people and nature.

OBJECTIVES

The aim of this work is to demonstrate the potential for a landscape initiative using the LandScale Platform (landscale.org), an online assessment framework and methodology that provides an enabling mechanism for validation and claim-setting which can incentivize landscape investment. Our geographic footprint is 63 million acres in Montana, located in the Northern Great Plains ecoregion (Figure 1). The outcomes of our interventions will lead to greater intact grassland protection, more resilient grass-based economies, and improved well-being of communities that support this system.

By using the LandScale platform assessment framework, we will be able to showcase landscape initiative maturity by working within a collective monitoring and reporting framework, which is crucial to an effective landscape initiative (ISEAL, 2024). Within this framework, we will develop a key set of indicators that are most informative in this landscape and at this scale (e.g., Ahlering et al. 2021).

PROJECT GOALS

To demonstrate success in this project, we will:

- **Identify critical areas for intervention** across the landscape through multi-stakeholder engagement.
- **Measure progress and impact** across the landscape through the LandScale platform.
- **Drive investment** into the landscape initiative to catalyze action in the landscape.
- **Catalyze corporate action** in the landscape for resilient supply chains, transforming common supply sheds.
- **Commit to data sovereignty** and privacy, as well as equitable and collaborative fundraising

NEXT STEPS

This project is being initiated over the next two years, where we are working to launch our collective landscape efforts. We are very interested in connecting with diverse stakeholders including NGO's, Native Nations, ranchers, government agencies, and businesses to share our work and learn from these groups as we begin this effort. Please get in touch with Kim Ballare (Kimberly.ballare@wwfus.org) to learn more or get involved.

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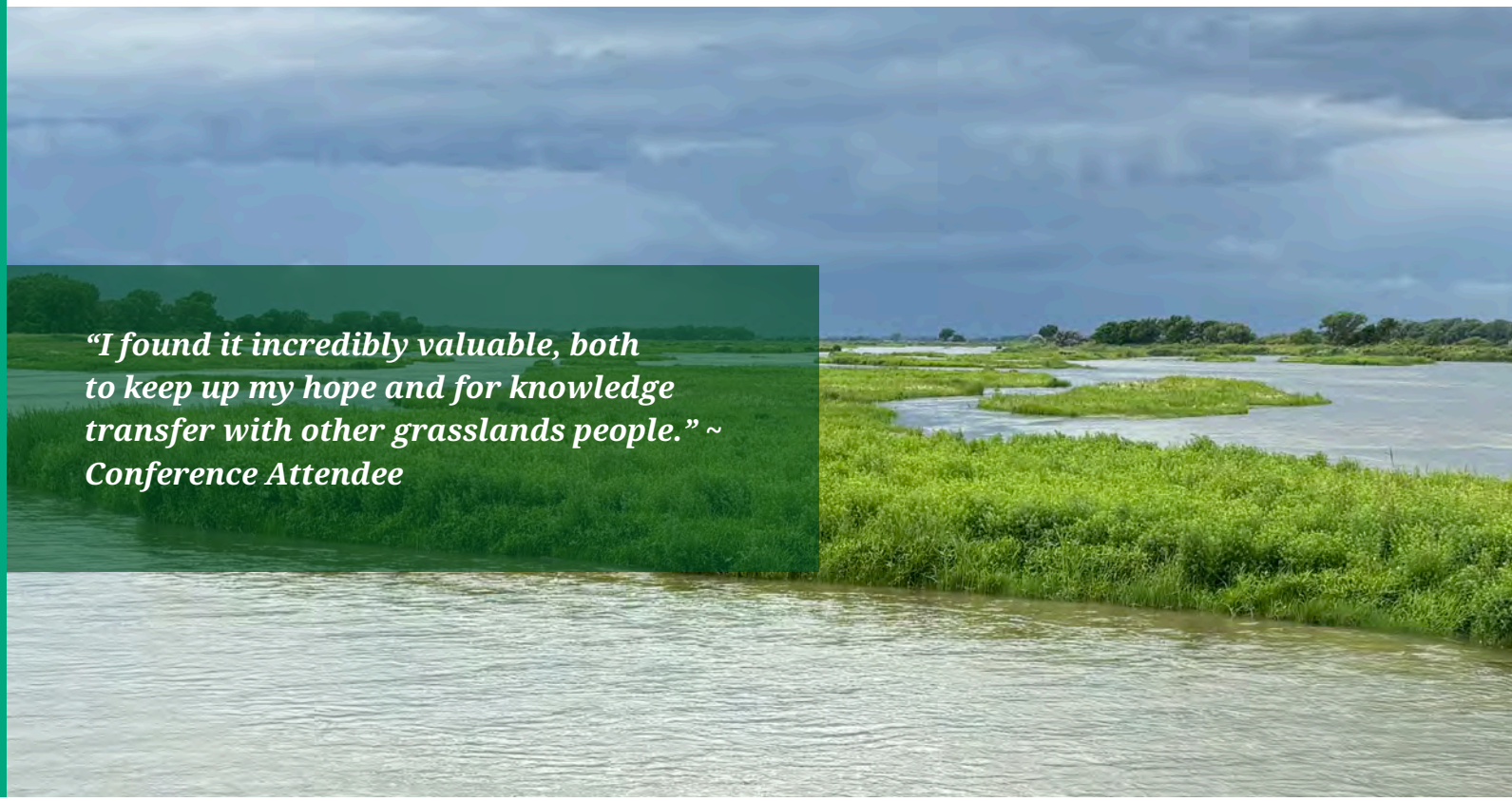
THE NATIONAL BOBWHITE AND GRASSLAND INITIATIVE'S CO-ORDINATED IMPLEMENTATION PROGRAM LANDSCAPE SCALE MONITORING PROGRAM: CONSERVATION DELIVERY, LAND COVER, AND BIRDS

Jared Elmore, National Bobwhite and Grassland Initiative, Forestry and Environmental Conservation, Clemson University

Other Authors: Allison Dawn; Forestry and Environmental Conservation, Clemson University; Percival Marshall; Forestry and Environmental Conservation, Clemson University

The National Bobwhite and Grassland Initiative's Coordinated Implementation Program is a strategic restoration framework, focusing on habitat conservation across three spatial scales: focal areas, landscapes, and regions. Recent USDA RCPP funding supports the landscape scale, which emphasizes private lands conservation and habitat connectivity. Recently developed protocols for this tier were developed and are being implemented across four states: Missouri, Ohio, Mississippi, and Georgia. We are evaluating conservation delivery effectiveness, landcover, and bird populations, using monitoring systems like citizen science data, ARUs, and GIS models. The goal is to enhance conservation delivery, landscape health, and bird populations.



Rowe Sanctuary/Aleta Dam

5. INNOVATIVE GRASSLANDS CONSERVATION TOOLS

Presentations

- Term conservation easements in Saskatchewan, Mindy Anderson
- Realizing the potential of grassland carbon credits: A Montana case study, Travis Croft
- Innovative ways to improve land stewardship, Shelly Kelly and Cody Trump
- Establishing a federal transferable tax credit to accelerate grassland conservation, Maggie Hanna

TERM CONSERVATION EASEMENTS IN SASKATCHEWAN

Mindy Anderson, Saskatchewan Stock Growers Foundation

The Saskatchewan Stock Growers Foundation is the first to offer Term Conservation Easements in Canada. Allowing landowners to have the option to put land under easement for a specific term and still allow for flexibility in the future. Our Term CE's have term lengths of a minimum 25 years but will extend up to 30, 35, 40 and 50 years. Ranchers are most successful when they utilize adaptive management during uncertain times and through volatile markets, making a perpetual easement daunting. We have had interest that encompasses over 160,000 acres reach out to enroll in our program one term length at a time. Collaboration with flexibility for the future with ranch viability in the fore front.

REALIZING THE POTENTIAL OF GRASSLAND CARBON CREDITS: A MONTANA CASE STUDY

Travis Croft, The Climate Trust

Since 2017, The Climate Trust has partnered directly with ranchers and Land Trusts across the Great Plains to implement Avoided Conversion of Grasslands carbon projects providing an innovative source of funding for no-till conservation easements. To date TCT has deployed over $2.5 million in upfront funding for grassland conservation easements and $475,000 in payments supporting on-going management and stewardship activities. A recent case study will showcase how strategic collaboration has catalyzed the use of carbon finance to achieve shared conservation goals. Attendees will leave the session understanding "how and why" grassland carbon credits are an actionable tool for continuing to advance grassland conservation initiatives.

INNOVATIVE WAYS TO IMPROVE LAND STEWARDSHIP

Shelly Kelly and Cody Trump, Sandhills Task Force

Other Authors: KyLee Kime, Sandhills Task Force

The Sandhills Task Force has recently launched two programs designed to improve stewardship of the Nebraska Sandhills. This presentation will share information about both of those and discuss how the programs were built so they can be replicated. The Sandhills Stewards program aims to educate and connect ranchers through formal workshops, semi-formal "Rancher Night Out" events that pair networking with information transfer among ranchers, one-on-one consultations that help with goal setting, a storytelling podcast, and more. The Sandhills Ranch Internship Program is entering its 3rd year of placing interns on ranches in the Sandhills. The educational opportunities provided with this program help both mentors and interns.

ESTABLISHING A FEDERAL TRANSFERABLE TAX CREDIT TO ACCELERATE GRASSLAND CONSERVATION

Maggie Hanna, Central Grasslands Roadmap

This presentation introduces a groundbreaking initiative to establish a federal transferable tax credit designed to incentivize grassland conservation. Building on successful models in Colorado and Virginia, where similar credit programs have been implemented. The proposed tax credit would create a new federal incentive to encourage landowners to donate conservation easements, directly addressing habitat fragmentation and ensuring the long-term preservation of grasslands. Attendees will learn about the basic framework for a transferrable federal tax credit, the goals of the initiative, and the initiative's timeline.

Kyle Lybarger Opening Plenary/Aleta Dam

6. INDIGENOUS AND COMMUNITY BASED STEWARDSHIP

Presentations

- Term Buffalo rematriation across generations, Bill Snow and Francisco Munoz-Arriola
- The tribal buffalo lifeways collaboration, Monica Rattling Hawk
- Grassland restoration on the Santee Sioux Nation*, Mike Crosley
- Empowering tribal grassland stewardship through data*, Mauryn Morfitt

BUFFALO REMATRIATION ACROSS GENERATIONS

Paulette Fox and Bill Snow

The Indigenous Kinship Circle from the Central Grasslands Roadmap will bring together a group of Indigenous people from diverse Nations to share their perspectives on the rematriation of buffalo (bison) to grasslands. To us, returning buffalo to their homelands is more than a pathway to revitalizing grasslands. It is a reclamation of our lifeways and a movement rooted in healing – healing of the land, the buffalo, and Indigenous communities; it is also an essential part of reconciliation and we will explore each of these facets as we aim to inspire broader partnerships that honor the buffalo, the land, and future generations.

THE TRIBAL BUFFALO LIFEWAYS COLLABORATION

Monica Rattling Hawk, World Wildlife Fund

Other Authors: The Nature Conservancy, The InterTribal Buffalo Council, and Native Americans in Philanthropy

The Tribal Buffalo Lifeways Collaboration is a new alliance to stabilize, establish, and expand Tribal-led buffalo restoration for cultural, spiritual, ecological, and economic revitalization within Native communities. Together, the InterTribal Buffalo Council, Native Americans in Philanthropy, The Nature Conservancy and World Wildlife Fund are working with the US DOI and USDA to build on momentum of Indigenous leaders to bring lasting structural change and return buffalo to Tribal lands at an unprecedented scale. The Collaboration supports Tribal communities with resources to ensure the success of buffalo rematriation. This includes infrastructure, food systems, and land through co-stewardship, leasing, and acquisition.

Abstract omitted, contact author for more information

7. HOW CREATIVE AG LENDING SUPPORTS DURABLE GRASSLAND CONSERVATION

Moderated Panel

- How creative Ag lending supports durable grassland conservation

MODERATOR:

Nancy Labbe

PANEL:

- **Ben Gotschall, Holt Creek Jerseys, Nebraska**
- **Ryan Sexson, Sexson Ranch, Nebraska**
- **Jeff Kranger, President First State Bank Nebraska**

A rancher's ability to make changes to better manage or restore grasslands within and across generations is often enabled by or significantly hindered by their lender. All the science and good education that could be provided to ranchers stands to not be applied without the understanding of the ag debt industry and the lens of profitability. In financially complicated situations like generational transfer, it is increasingly important for a lender to be a partner in the greater grassland goals of a rancher. This panel will feature bankers from NE and ND who work closely with ranchers and two ranching families, one from NE and one from SD, who are in the midst of these transfers, moderated by Nancy Labbe from TNC, who is working with banks.

Northern harrier/Ethan Freese

8. STRATEGIC PLANNING/NOVEL PARTNERSHIPS

Presentations

- Midwest Grasslands Summit: Charting a future for conservation in working landscapes, Kelly VanBeek and Tyler Harms
- Sustainable Grazing Network: Conservation and management of the Chihuahuan grasslands, Alicia Juarez Perez
- Expanded opportunities for conserving Nebraska's grasslands and wetlands, Andy Bishop
- Dream big to save E.O. Wilson's southern grassland biome*, Dwayne Estes

MIDWEST GRASSLANDS SUMMIT: CHARTING A FUTURE FOR CONSERVATION IN WORKING LANDSCAPE

Kelly Vanbeek, USFWS

Other Authors: Tyler Harms, Iowa Department of Natural Resources; Doug Gorby, Upper Mississippi/ Great Lakes Joint Venture, US Fish & Wildlife Service; Bill Moritz, Wildlife Management Institute; Alex Wright, John Carlson, Kelley Myers Tymeson; US Fish & Wildlife Service

Stakeholders desire a collaborative approach to grasslands conservation. The Midwest Grasslands Summit was held in 2024 to chart a partner-focused path forward. The Summit engaged government agencies, Native Nations, NGOs, industry/agricultural organizations, and landowners to explore a vision and collaborative actions to advance grassland conservation. The accomplishments of the Summit include: explored individual and shared interests for Midwest grasslands, identified barriers and opportunities for enhancing grassland conservation activities inclusive of diverse values, and discussed activities that could deliver short to long-term impacts. The Summit was seen as a launching point for a new era in grassland conservation in the Midwest.

SUSTAINABLE GRAZING NETWORK: CONSERVATION AND MANAGEMENT OF THE CHIHUAHUAN GRASSLANDS

Alicia Juarez Perez, Executive Director EIRHA

*Abstract omitted, contact author for more information

Other Authors: Eduardo Sánchez Murrieta, Gilberto Pérez Arzate, Adriana Mendoza, Manuel Osvaldo Tarango Ponce, EIRHA, Arvind O. Panjabi, BCR

The Sustainable Grazing Network started in 2012 to protect and improve grassland bird habitat in northern Mexico in the face of rapid land-use change by engaging landowners in grassland management. In exchange for conservation commitments, SGN landowners receive technical and cost-share assistance to develop a management plan. Currently, 33 ranches encompassing 254,535 ha in 4 Grassland Priority Conservation Areas are participating and 357 range and habitat projects have been completed, impacting 211,124 ha through grazing improvements and 2,973 ha through grassland restoration. Annual bird and vegetation monitoring on SGN properties helps us to assess progress and impact and target future steps.

EXPANDED OPPORTUNITIES FOR CONSERVING NEBRASKA'S GRASSLANDS AND WETLANDS

Andy Bishop, Rainwater Basin Joint Venture

Other Authors: Brad Thornton, Rainwater Basin Joint Venture

The Rainwater Basin Joint Venture and its partners have expanded private lands conservation opportunities in Nebraska to achieve ambitious biome-scale grassland conservation goals. Through two Regional Conservation Partnership Programs (RCPP), partners will conserve more than 300,000 acres of grasslands and 400 acres of playa wetlands. Programs include minimally restrictive easements to support working farm operations as well as the sustainable treatment of woody encroachment with follow-up treatments of prescribed fire and/or integrated pest management. Landcover datasets and grassland bird distribution models will be used to help partners target management and evaluate the economic and biological outcomes.

Platte River at Rowe Sanctuary/Aleta Dam

9. CONSERVATION STRATEGIES FOR GRASSLAND WILDLIFE

Presentations

- Advancing grassland bird conservation: Recognizing keystone effects of prairie dogs
- Rangeland can support more milkweeds and monarch butterflies
- Herds and birds: Quantifying the impacts of Audubon's Conservation Ranching Initiative on grassland birds
- Passing the torch: A legacy in prairie wildlife conservation (black-footed ferret recovery)

ADVANCING GRASSLAND BIRD CONSERVATION: RECOGNIZING KEYSTONE EFFECTS OF PRAIRIE DOGS

Andrew Dreelin, Northern Illinois University and Smithsonian Great Plains Science

Other Authors: Dr. Holly Jones, Northern Illinois University; Dr. Andy Boyce, Smithsonian's National Zoo and Conservation Biology Institute

Grassland bird management & conservation has evolved substantially over generations. Promoting heterogeneity via disturbance is now a key tool to support grassland birds. Most research & management efforts have focused on how cattle, bison, and prescribed burns promote heterogeneity for birds. Prairie dogs also create heterogeneity, but how they affect birds is less well known. We reviewed the literature to test ideas & identify knowledge gaps. We also studied how prairie dogs shape breeding biology of grassland bird species in Montana. We discuss the management significance of our findings. Studying prairie dog effects on birds and addressing management conflict is an opportunity for this generation to advance grassland bird conservation.

RANGELAND CAN SUPPORT MORE MILKWEEDS AND MONARCH BUTTERFLIES

Timothy Dickson, University of Nebraska

Other Authors: Brittany Poynor, John Brennan, Grace Thomas, University of Nebraska

Monarch butterfly populations are decreasing, and most monarch conservation efforts have focused on planting milkweeds on land not used for food production. Few monarch conservation efforts have focused on the 1/3 of the continental U.S. grazed by livestock. We compared grazed and nearby ungrazed grasslands in Nebraska, Kansas, Missouri, and Iowa. We found that cattle and bison regularly graze most species of milkweeds without apparent harm, and we found that monarch eggs are significantly less abundant in grazed grasslands than ungrazed grasslands. We think rangelands can support more monarch butterflies by halting milkweed herbicide control and by waiting to graze some grassland units until after milkweeds have seeded (e.g. August).

HERDS AND BIRDS: QUANTIFYING THE IMPACTS OF AUDUBON'S CONSERVATION RANCHING INITIATIVE ON GRASSLAND BIRDS

Nicole Michel, National Audubon Society

Other Authors: Timothy Meehan, Grayson Haynes, Chad Wilsey, National Audubon Society

Grasslands and the birds that rely on them have declined by -53% since 1970. Audubon's Conservation Ranching (ACR) program is a market-based approach to improve grassland quality on private lands to benefit birds and ranchers. Since 2016, >100 ranches spanning ~3 million acres across 15 states have been "Audubon certified" for their bird-friendly management practices. ACR ranches supported more healthier grassland bird communities than nearby rangelands and bird-friendliness improved >63% over 8 years. An engaging audience Q&A will show how the Bird-Friendliness Index (BFI) can communicate the benefits of ranchers' conservation efforts and support the expansion of NRCS and other Farm Bill programs to protect birds and benefit ranchers.

PASSING THE TORCH: A LEGACY IN PRAIRIE WILDLIFE CONSERVATION (BLACK-FOOTED FERRET RECOVERY)

Max Haverfield, Smokey Hill Ranches

Other Authors: Chamois Andersen, Defenders of Wildlife and Mary Pfaffko, Defenders of Wildlife

Agricultural producers are instrumental in managing resilient grasslands. Along with generational transfer of ranches must be an upholding of values in support of livelihoods and wildlife. The Haverfield's ranches manage for cattle and wildlife and are known for US beef production. They host one of the most successful private lands recovery sites under the FWS Black-footed Ferret Recovery Program and participate in CRP. Fourth generation rancher Max Haverfield discusses what it means to keep the ranch in the family and keep their operations compatible with prairie dog conservation. Defenders of Wildlife explores challenges and opportunities presented by the Farm Bill to chart a course for the next generation.

10. GRASSLANDS POLICY

Presentations

- The Conservation Reserve Program: Threats and opportunities for grasslands, Duane Hovorka
- The North American Grasslands Conservation Act, a bipartisan bill to conserve and restore America's grasslands*, Aviva Glaser
- Using data to advance grassland conservation legislation, Wenfei Tong
- From regulation to reward: An incentive-based approach to conserving America's grasslands, Shaleas Harrison

THE CONSERVATION RESERVE PROGRAM: THREATS AND OPPORTUNITIES FOR GRASSLANDS

Duane Hovorka, National Wildlife Federation

The Conservation Reserve Program (CRP), created by Congress in the 1985 Farm Bill (PL 99-198, Title XII Conservation) , helps farmland owners convert marginal cropland to grassland or woodland, or protect grassland vulnerable to development, through 10-15 year contracts. USDA was originally authorized to enroll up to 40 million acres in CRP contracts, but that acreage limit has changed over the years. Today USDA is authorized to enroll up to 27 million acres in the program, which costs about $2.2 billion per year for rental, cost-share, and incentive payments to farmers and technical assistance provided by the US Department of Agriculture (USDA) (Congressional Budget Office, 2025).

EVOLUTION OF THE PROGRAM

Actions by Congress and USDA have changed the program considerably over the past four decades, and those changes are important to understanding the threats and opportunities the CRP presents for grasslands. The kind of lands enrolled in the program have also evolved.

When the CRP was created, whole field enrollments were the principle option, and farmers 'bid' on a contract with an offer that included the land they wanted to enroll, the conservation cover they were willing to plant, and the rental price they would accept. USDA used that information to award General CRP contracts to the applicants based on the environmental benefits provided.

The 1996 Farm Bill authorized USDA to use a Continuous Enrollment strategy to avoid the bidding process

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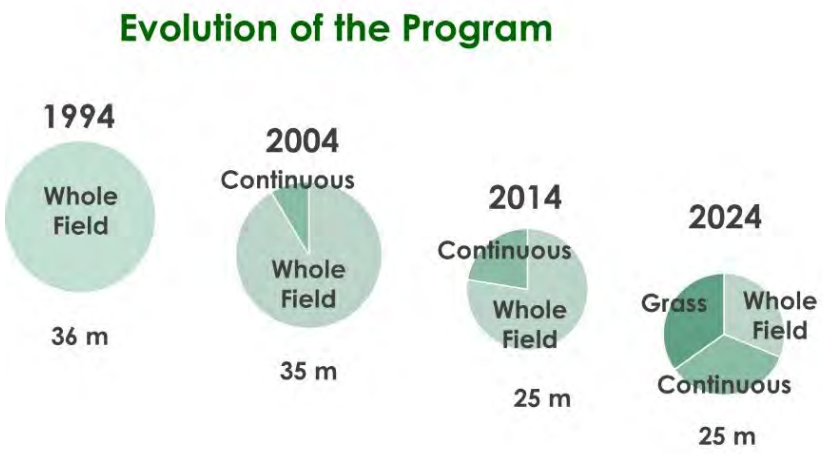

and award CRP contracts to applicants who offered to put in place high-value practices that would likely have been awarded anyway. That included practices like buffer strips along streams, filter strips, restored wetlands, windbreaks, and diverse native prairie, and these were often small, partial-field contracts. By 2004 about 8% of CRP acres were Continuous CRP (USDA Farm Service Agency, 2004).

The first Conservation Reserve Enhancement Program agreement was signed in 1997 with the state of Maryland, which used federal CRP contracts combined with state-funded incentives to enroll farmers in riparian buffers and wetland restoration to benefit the Chesapeake bay (USDA News: Questions & Answers, 1997). Enrollment under CREP agreements is done though the Continuous CRP process.

Grassland CRP was authorized in the 2014 Farm Bill to allow USDA to enroll up to 2 million acres of CRP contracts on land that was already in grass but was vulnerable to conversion or development, with an initial focus on expiring CRP acres. The program was subsequently expanded and after rapid recent growth, in 2024 Grassland CRP represented the largest portion of CRP acres (USDA Farm Service Agency, 2024).

THREATS AND OPPORTUNITIES FOR GRASSLANDS

Emergency Haying and Grazing: The 2018 Farm Bill removed previous statutory limits on haying (50% of acres) and grazing (75% utilization). Restoring those historic limits could benefit wildlife that use CRP acres by ensuring that emergency haying or grazing leaves at least some habitat intact.

Landowner Interest: The 2018 Farm Bill capped rental rates and reduced contract incentives, and subsequent USDA changes reduced incentives even more. Some landowners lost interest in the program given the reduced payments available. Boosting rental and incentive rates would help maintain landowner interest in the program.

Reduced Wildlife Benefits: Proposals to change the CRP include further reducing the number of whole-field enrollments, and moving to a state allocation formula that could shift acres out of the Great Plains. Either or both could reduce the benefits provided by the program for birds and other wildlife that prefer large blocks of grassland, including prairie chickens

and sage grouse.

Grassland Preservation: We are losing grassland at an alarming rate, and the CRP can do more to make it more likely that land coming out of CRP contracts stays in grass rather than going back into row crop production. The CRP Transition Incentives Program provides incentives for landowners with expiring CRP contracts to sell or lease-to-sell the land to a beginning or underserved farmer, and that program could be focused on farmers who intend to keep the land in grass-based production. By providing cost-share through CRP, EQIP, CSP, or RCPP to install fencing and water to allow managed rotational grazing during and after a CRP contract, the program could better ensure the land remains in profitable grass-based agriculture. Grassland CRP contracts can also be used to support grass-based agriculture on expiring General or Continuous CRP contracts.

Pollinators: The program could do much more to support pollinators like bees and butterflies on Grassland, Continuous, and General CRP, by providing incentives to landowners to use pollinator-friendly seeds in establishing cover, over-seed with pollinator-friendly plants in mid-contract management or management of Grassland CRP acres, and establishing a preference for pollinator-friendly plants in awarding contracts. Providing a preference for, or at least encouragement for, the use of diverse native plants in CRP plantings and management would also benefit native pollinators and other wildlife.

Wildlife Corridors: Creation or preservation of wildlife corridors could be an additional selection criteria for awarding contracts, and USDA could offer incentives for using wildlife-friendly fence including virtual fencing, or establishing cover that benefits migratory species. Congress could allow for the stacking of program funding, such as allowing the Environmental Quality Incentives Program or Regional Conservation Partnership Program to help fund wildlife-friendly fences or habitat work on Grassland CRP acres.

Improved Management: There are many opportunities to improve grassland management on CRP acres, including grazing management plans on Grassland CRP and other contracts that allow for grazing, restoring cost-share for mid-contract management practices like prescribed fire, and cost-share for the installation of fencing and water that will allow for adaptive rotational grazing both during CRP contracts and after they expire.

CONTINUING THE TRADITION

As the CRP turns 40, Farm Bill legislation represents an opportunity to address some of the biggest threats and opportunities. Most 2018 Farm Bill provisions first expired in September, 2023, and have been subject to annual extensions by Congress. When Congress writes a new Farm Bill, the CRP provisions could be one of the key points of debate.

Other changes could be addressed by USDA through administrative action, such as providing a preference for or more emphasis on CRP contracts that benefit pollinators or native plant species, or practices that benefit migrating wildlife. Some of these opportunities can be captured by the organizations who work directly with farmland owners to navigate the program, apply for contracts, or supply seeds.

As the largest federal program focused on grassland restoration and management, the Conservation Reserve Program does much to benefit America's grasslands and grass-dependent wildlife, yet it could do even more. It is up to all of us to ensure that those opportunities are realized.

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Congressional Budget Office, Baseline Projections, USDA Farm Programs, January, 2025 estimates outlays of $2.22 billion for FY2025 for CRP financial assistance and technical assistance.

USDA Farm Service Agency, Conservation Reserve Program Monthly Summary, September, 2004.

USDA News: Questions & Answers, Conservation Reserve Program, Maryland State Enhancement Program, October 1997.

USDA Farm Service Agency, Conservation Reserve Program Monthly Summary, September, 2024, reported 8.55 million acres of Grassland CRP, 8.37 million acres of Continuous CRP, and 7.70 million acres of General CRP. USDA reported accepting 1.4 million acres of Grassland CRP in 2024, 2.7 million acres in 2023, and 3.1 million acres in 2023 according to CRP Monthly Summary reports.

USING DATA TO ADVANCE GRASSLAND CONSERVATION LEGISLATION

Wenfei Tong, Cornell Lab of Ornithology

Other Authors: Irene Liu, Tom Swartwout, Cornell Lab of Ornithology

Conservation groups advancing the North American Grasslands Conservation Act stated the need for a data-based tool to show the public and policymakers how the loss of our nation's grasslands in the contiguous U.S. are linked to declines in 15 iconic birds, large mammals, fish, and insects. We co-produced 'MapForGrasslands.org', an interactive map combining the latest comprehensive data for a group of wildlife species chosen to illustrate the nationwide presence of grasslands, the services they provide, and the magnitude of loss. The map was presented to Congressional staffers before the bill's introduction and will continue to be used to recruit legislative support and explain the importance and diversity of grasslands across the country.

FROM REGULATION TO REWARD: AN INCENTIVE-BASED APPROACH TO CONSERVING AMERICA'S GRASSLANDS

Shaleas Harrison, Western Landowners Alliance

The WY-USDA Big Game Conservation Partnership exemplifies an approach to grassland conservation that balances agricultural production with habitat stewardship. The Partnership was built from a Wyoming initiative that engaged stakeholders in conserving wildlife migrations and working lands. Since its launch, the Partnership secured 287,345 acres in habitat leases within big game corridors and improved habitat across half a million acres. By tailoring programs to meet producer needs, it pioneered a USDA habitat lease, shifting conservation from regulatory to incentive-based, ensuring grasslands remain integral to the region's economic fabric. Case studies, producer successes, and policy innovations will showcase a new model of conservation.

11. NOVEL APPROACHES AND EMERGING TECHNOLOGIES

Presentations

- Virtual fence as a tool for grassland bird conservation in tallgrass prairies, Theo Michaels and Capizzo
- Bringing life back to incised streams: A low-tech restoration approach for the Great Plains, Aaron Deters
- Monitoring grasslands at scale*, Nick Ward and Kenny Dhakal
- Reversed auction for grassland restoration in Saskatchewan, Mindy Anderson

VIRTUAL FENCE AS A TOOL FOR GRASSLAND BIRD CONSERVATION IN TALLGRASS PRAIRIES

Theo Michaels, Kansas State University and Anthony Capizzo, The Nature Conservancy

Other Authors: Katy Silber, Institute for Allied Ecology; Alice Boyle, Kansas State University

Tallgrass prairie bird populations have seen precipitous declines. Working with private and public partners in Kansas, we tested Virtual Fence (VF) as a tool for grassland bird conservation. From 2022-2025 we established 11 cattle exclusion and control plots (4-ha), half of which were burned each year. VF increased vegetation heterogeneity with benefits to grassland birds. Some species favored the vegetation structure of the control plots, while others preferred the exclosures. Annual environmental conditions influenced how some species interacted with plot type. Prairie Chicken lek populations increased across all years of the study. Virtual Fence shows promise as a win-win management tool for both ranchers and grassland birds.

BRINGING LIFE BACK TO INCISED STREAMS: A LO-TECH RESTORATION APPROACH FOR THE GREAT PLAINS

Aaron Deters, Ducks Unlimited

Other Authors: Brittany Poynor, John Brennan, Grace Thomas, University of Nebraska

The Great Plains, once dominated by diverse prairies and meandering waterways, have undergone

*Abstract omitted, contact author for more information

significant alterations since agricultural conversion leading to channelized and incised streams and degraded riparian ecosystems. Low-Tech, Process-Based, In-Stream Structures (LTPBs) offer a novel approach to stream restoration by mimicking natural processes. While often associated with beaver dams, LTPBs encompass a wider range of structures and processes that mimic natural stream processes. This presentation will provide an overview of a recent Conservation Innovation Grant along with early observations and ongoing research activities.

REVERSE AUCTION FOR GRASSLAND RESTORATION IN SASKATCHEWAN

Mindy Anderson, Saskatchewan Stock Growers Foundation

The Saskatchewan Stock Growers Foundation administered a native grass restoration program known as the Reverse Auction for Grassland Restoration. This program has a unique approach where landowners submitted bids for portions or entire parcels of land to be converted from cultivated land back to native grassland, stating the bid amount they would need to be paid as a $/acre figure. This took into account costs for land preparation, weed control and also included the loss of production. The bids were then ranked by the environmental benefit metric composed of soil organic carbon potential and grassland bird habitat increases. Using a system to rank the bids we are able to better allocate limited funding for these native seeding projects.

Sandhills Field Trip/Duane Hovorka

12. WOODY PLANT ENCROACHMENT

Presentations

- Burning through bottlenecks: Building capacity to reduce woody encroachment on private lands in central Nebraska, Nelson Winkel
- Causes and consequences of woody plant encroachment in Great Plains grasslands, Jesse Nippert, Zak Ratajczak, and Chris Helzer
- Rethinking grassland management in the era of woody plant encroachment*, Jesse Nippert, Zak Ratajczak, and Chris Helzer
- Managing woody forages without eradicating them, Alex McKiernan

BURNING THROUGH BOTTLENECKS: BUILDING CAPACITY TO REDUCE WOODY ENCROACHMENT ON PRIVATE LANDS IN CENTRAL NEBRASKA

Nelson Winkel, Central Platte NRD

Other Authors: Mark Alberts, Central Platte Rangeland Alliance; Dave Carr, Central Platte NRD

Partnerships between conservation organizations, local prescribed burn associations, and landowners help leverage resources and build capacity for grassland management across Nebraska. Central Platte NRD has been a leader with a proactive approach to address capacity gaps, provide technical assistance and cost-share, support prescribed fire associations, and communication about the importance of grasslands. Partnerships with prescribed burn associations allow groups like the Central Platte Rangeland Alliance to advance cultural techniques for reducing woody encroachment and burn thousands of acres annually. This collaborative approach fosters landowner engagement and increases the scale of the conservation footprint.

CAUSES AND CONSEQUENCES OF WOODY PLANT ENCROACHMENT IN GREAT PLAINS GRASSLANDS

Jesse Nippert and Zak Ratajczak, Kansas State University; Chris Helzer, The Nature Conservancy

Currently, the greatest threat to grasslands is woody encroachment. For the past half century, conservationists have documented this process and worked to identify solutions to stop the spread of woody plants. While some strategies have slowed woody encroachment, most landscapes continue to transition from

*Abstract omitted, contact author for more information

grassland to shrubland. Natural areas managers need additional tools and strategies beyond a 'resist at all costs' approach to woody encroachment. This session will provide information illustrating the drivers and consequences of this phenomenon followed by potential approaches to maintain biodiversity, range production, and other key ecological services. Other speakers will include Chris Helzer (NE-TNC), Zak Ratajczak (KSU).

MANAGING WOODY FORAGES WITHOUT ERADICATING THEM

Alex McKiernan, Robinette Farms

Can we defeat woody encroachment, or should we begin viewing these species as "woody forage"? At Robinette Farms in southeastern Nebraska, we have pushed back hard on encroaching trees and shrubs in the traditional ways: prescribed fire, mechanical clearing and targeted chemical applications. However, as these same species expand on surrounding land, and research continues to show how woody species are more successful in elevated CO2 atmospheres, we are also trying to reframe encroachment as an opportunity. Join us to discuss our broad "Forage Management Framework" that considers and prioritizes all the tools available to ranchers as we try to profitably manage grasslands in the face of changing plant communities.

13. PARTNERSHIPS FOR GRASSLANDS CONSERVATION

Presentations

- Leave your logo at the door: Cross-organizational team building for conservation collaboration, Jim Giocomo
- Innovative partnerships for landscape level grassland impacts, Kelsi Wehrman and Ryan Lodge
- Balancing renewable development and grassland conservation: A model partnership, David Bezanson and Brian Obermeyer
- Catalyzing grassland restoration through partnerships, Josh Lefers

LEAVE YOUR LOGO AT THE DOOR: CROSS-ORGANIZATIONAL TEAM BUILDING FOR CONSERVATION COLLABORATION

Jim Giocomo and Steve Riley, American Bird Conservancy

Other Authors: Andy Bingle, Driftless Area Land Conservancy; Marty Moses, Pheasants Forever, Inc. and Quail Forever

INTRODUCTION

Meeting today's biome-wide grassland conservation challenges requires more than individual organizational effort—it requires intentional, collaborative partnerships that align technical expertise, resources, and credibility at the local level. With over 70% of land in the United States, and more than 90% in the Great Plains, under private ownership, conservation success depends on voluntary stewardship by landowners and producers. No single agency, university, or organization can meet this need alone. Cross-organizational teams provide a model for scaling conservation impact, reducing barriers for landowners, and ensuring that science-based practices lead to measurable, lasting improvements in natural resources.

Cross-organizational teams are locally grounded, landscape-level collaborations composed of non-governmental organization (NGO) conservation staff, federal and state agency biologists, university extension specialists, and private landowners. These teams are unified by shared goals rather than shared branding or funding. Members align around technical assistance and conservation delivery, setting aside organizational silos to prioritize service to landowners. This "leave your logo at the door" approach emphasizes credibility, trust, and shared success. For landowners, the essential concern is not who signs a paycheck, but whether the conservation professional understands their goals, knows the available programs, and can provide practical, long-term solutions.

THE CENTRAL ROLE OF TRUST

Trust is the foundation that makes cross-organizational collaboration effective. For landowners, trust is built when biologists and conservation professionals show up consistently, listen before prescribing solutions, and demonstrate a genuine understanding of both ecological and production goals. Landowners value credibility—someone who can bridge the gap between biology and programs—and they place greater weight on personal relationships than on organizational identity. A biologist who is reliable, responsive, and invested in the long term becomes not just an advisor but a partner in stewardship.

Trust also matters within the professional network. Cross-organizational teams succeed when members respect each other's expertise, share knowledge openly, and approach collaboration without defensiveness about credit or visibility. Peer-to-peer trust allows biologists to sharpen their technical skills, lean on each other's program knowledge, and coordinate seamlessly in front of landowners. In turn, this professional trust ensures that landowners receive clear, consistent, and confident guidance rather than fragmented or conflicting advice.

Building trust requires deliberate cultural shifts: from focusing on who gets credit to focusing on how landowners can succeed; from guarding information to openly sharing resources; and from competing for visibility to investing in shared outcomes. Trust is further

strengthened when supervisors validate collaboration by creating time for joint site visits, celebrating shared accomplishments, and modeling partnership-first attitudes. Over time, these practices shift organizational culture from siloed delivery to integrated conservation networks.

EXAMPLES AND OUTCOMES

Cross-organizational trust-building has delivered tangible conservation outcomes at multiple scales. At the local level, conservation delivery networks reduce redundancy and pool resources, making it easier for landowners to navigate programs. The Southern Driftless Grasslands partnership (https://www.driftlessgrasslands.org/) is a "partnership of public and private organizations working together to conserve the grasslands of Southwest Wisconsin through landscape-scale change" in 5 counties in southwest Wisconsin. This group started in 2014 brings together partner organizations and agencies to work directly with landowners, providing incentive payments and access to US Farm Bill programs to support grassland practices across their region. They function as a cross-organizational "conservation delivery network."

At the regional level, Migratory Bird Joint Ventures (JVs; https://mbjv.org/) have coordinated diverse partners to align bird conservation goals with habitat delivery. JVs like the Oaks and Prairies Joint Venture (https://www.opjv.org) include several conservation delivery networks that are tied together within larger ecoregions by similar priorities, ecological factors and common practices.

At the biome-wide scale, initiatives such as the Central Grasslands Roadmap (https://www.grasslandsroadmap.org/) and JV8 (https://jv8.org/) demonstrate that durable, trust-based relationships can knit together institutions, agencies, and NGOs to tackle challenges that no single organization could achieve alone.

BENEFITS AND LEGACY

For biologists, working within trust-rich teams provides professional growth, expanded networks, and confidence in delivering comprehensive solutions. For landowners, trust in both the individual and the team translates into higher adoption of conservation practices and willingness to invest in long-term stewardship. For organizations, trust ensures that conservation dollars stretch further, impacts are multiplied, and credibility with local communities grows.
Ultimately, the legacy of cross-organizational collaboration is not measured in logos or press releases, but in landscapes that continue to support healthy grasslands, thriving wildlife, and resilient rural communities. By centering trust and leaving logos at the door, conservation professionals can ensure that voluntary stewardship is supported, landowners are empowered, and conservation outcomes endure for generations.

CALL TO ACTION

The path forward is clear: show up as a partner, not a competitor; invest in building local trust across organizations and agencies; and prepare the next generation of collaborative conservationists. Trust is not built overnight, but it is the most valuable currency we hold as conservation professionals. By investing in it—consistently and intentionally—we can transform fragmented efforts of "conservation kindness" into a collective legacy of thriving grasslands and communities.

INNOVATIVE PARTNERSHIPS FOR LANDSCAPE LEVEL GRASSLANDS IMPACTS

Kelsi Wehrman and Ryan Lodge, Pheasants Forever and Quail Forever

Pheasants Forever and Quail Forever work with several different conservation partners to accomplish largescale goals related to grassland and grassland species including game and non-game wildlife. We'll give an overview of innovative partnerships we've created to accomplish goals at national, state, and field levels. We'll provide landowner project examples to highlight the level of communication, relationships and trust built within a region to accomplish more together. Other examples include prescribed burn associations, working with NRCS, FSA, local natural resource agencies, schools, and the state agency to accomplish grassland goals like our Pathway For Wildlife program and other public and private land habitat programs.

BALANCING RENEWABLE DEVELOPMENT AND GRASSLAND CONSERVATION: A MODEL PARTNERSHIP

David Bezanson, The Nature Conservancy

Other Authors: Brian Obermeyer, The Nature Conservancy; Paula Diaz, The Nature Conservancy

The Nature Conservancy (TNC) will share success stories and lessons learned from TNC's collaboration with Ørsted, a Danish-based renewable company. In Texas, Ørsted agreed to purchase and set aside 950 acres leased for solar development to protect the largest known remnant of a rare native prairie type. Ørsted donated the property to TNC as a preserve. Subsequently, Ørsted contributed $2 million to The Conservation Fund and TNC for conservation easement acquisition and stewardship in the Flint Hills of Kansas. The presentation will highlight ways that renewable energy developers and conservation organizations can work together to mitigate grassland impacts.

CATALYZING GRASSLAND RESTORATION THROUGH PARTNERSHIPS

Josh Lefers, Audubon Great Plains

Other Authors: Bruce Toay, Ducks Unlimited

Over the past four years, Audubon and Ducks Unlimited, with the support of federal, state, corporate, and NGO partners, have been working in the Dakotas to implement an innovative program to drive grassland restoration on marginal cropland acres with the intent to provide long-term sustainability as productive grazing lands. Partners are piloting initiatives that provide support for deferment during the establishment phase while allowing increased management over the rest of the term. Utilizing diverse sources of funding, the effort continues to grow with a goal of restoring at least 43,000 acres across the Dakotas by 2030.

Greater prairie chicken/Ethan Freese

14. PERSPECTIVES ON SUSTAINABLE LIVELIHOODS

Presentations

- Monitoring for rancher livelihood and conservation, Adam Dixon
- When the prairie speaks, Kevin Fulton
- Regenerating a watershed one blade at a time, Bill Fox, Troy Bishopp & Hadley Owens
- From local to global "grazing the wild", Jorge Bildo Saravia Fuentes

MONITORING FOR RANCHER LIVELIHOOD AND CONSERVATION

Adam Dixon, World Wildlife Fund - Great Plains Program

Other Authors: Patrick Lendrum

Livestock are one of the largest ecosystem influencers of US grasslands. The Ranch Systems and Viability Planning (RSVP) project at the World Wildlife Fund has worked with nearly 100 ranchers across 1 million Great Plains acres over a four-year period to measure changes in soil characteristics and birds and vegetation communities. Improving rangeland function for rancher livelihood keeps grazers on grass and prevents conversion to cropland – where biome transformation is most profound. We'll review the ecological monitoring results and discuss how ecosystem function information can be delivered to ranchers, the public, and policy makers to improve grassland ecosystem management.

WHEN THE PRAIRIE SPEAKS

Kevin Fulton, Clear Creek Land and Livestock

This presentation is a virtual tour of my farming and ranching operation in the Central Nebraska Loess Hills region, highlighting my transition from conventional practices to a regenerative organic model utilizing holistic land management practices. A slide show will feature plant diversity, wildlife, historical sites, artifacts, conservation practices, AMP grazing on virgin prairie and restored grasslands. My operation has been featured in numerous online videos, documentaries, news stories, and publications. I've presented my story to farmers and ranchers, consumers, advocacy groups, university faculty and students from New York City to Los Angeles. I've hosted visitors on my farm from every continent except Antarctica.

REGENERATING A WATERSHED ONE BLADE AT A TIME

Bill Fox, NatGLC; Troy Bishopp and Hadley Owens, Bishopp Family Farm

How an Upstate NY grass farm adopted holistic planned grazing, decision-making principles and "Linger Grazing" to protect the Hudson-Mohawk River Watershed where it starts. Drawing inspiration from our "why", interest in soil and riparian health, wildlife, diverse plant communities and with very intentional management of grazing cattle, the farm has data and photos to prove without a doubt that grassland stewardship is crucial for downstream neighbors worried about weather events. Drawing from practical observations, soil fertility data, testing by the Ecdysis Foundation and managing using the all-important grazing chart, we have the solutions to resiliency right under our grass-stained feet. See it at the www.thegrasswhisperer.com.

FROM LOCAL TO GLOBAL "GRAZING THE WILD"

Jorge Bildo Saravia Fuentes, Rancho el Ojo/RGJV Board Member

As a local producer we are challenged with the global reality of competition, struggling with a limited local consumption, it can be a real challenge to innovate and turn a business to a direct-to-consumer model. The world is there how do we make the world look at us, we have been granted a diversity on our grassland that allow us to use in a holistic approach the extraction of wild resources like our agave cenizo and sotol, we have managed to forge alliances that help us go from local product to world recognition. Restoring and conserving wild grassland is the way forward and there is a huge opportunity to give value to the production we can have in our Ranchos.

15. GRASSLAND INVENTORIES, SPATIAL MAPPING

Presentations

- Grassland opportunity maps: leveraging multidisciplinary data to recover grassland birds, Chris Latimer
- Analyzing nationwide parcel-and property-level data fro grasslands conservation*, Christina Dennis
- Mapping intact natural lands across the U.S. to support land use change sustainability commitments, Tyler Lark
- ActGreen: A near-real time integrated mapping and reporting systems for re-wilding efforts of American bison, Sarah Olimb

Abstract omitted, contact author for more information

GRASSLAND OPPORTUNITY MAPS: LEVERAGING MULTIDISCIPLINARY DATA TO RECOVER GRASSLAND BIRDS

Chris Latimer, Bird Conservancy of the Rockies

Other Authors: T. B. Ryder, Q. Zhao, Bird Conservancy of the Rockies; B. Robinson, Environment Climate Change Canada; J. Giacomo, American Bird Conservancy; I. Rangwala, CU Boulder; A. Rodewald, M.Chu, Cornell Lab of Ornithology; B. Ross, T.Bonnot, J. Carlson, US Fish and Wildlife Service; I. Ruvalcaba, Universidad Autonoma de Nuevo Leon; S. Olimb, World Wildlife Fund, D. Twidwell, University of Nebraska-Lincoln; D. Benett, B. Rashford, University of Wyoming, K. Holland, Virginia Tech

Grassland birds are among the most steeply declining guild of land birds with some species having lost 70-90% of their historic populations. Conservation efforts for these species is challenged by the fact that grasslands are predominantly privately owned and used for food production. Addressing these challenges requires transdisciplinary approaches to understand how key threats facing grassland birds intersect with socio-ecological risk factors. We present results from a full-annual cycle model and resulting spatial prioritizations, highlighting the most cost-effective locations for investing in population recovery based on two key threats. Lastly, we demonstrate how these efforts support the goals of the Central Grassland Roadmap.

MAPPING INTACT NATURAL LANDS ACROSS THE US TO SUPPORT LAND USE CHANGE SUSTAINABILITY COMMITMENTS

Tyler Lark, University of Wisconsin

Other Authors: Nazli Uludere Aragon, University Montana; Ted Lawrence, University of Wisconsin; Yanhua Xie, Oklahoma University

Identifying areas of intact habitat, undisturbed land, or native vegetation at high resolution across broad scales in temperate ecosystems is an ongoing challenge with high value to the conservation community. For North America's grasslands, several methods for identifying these areas have emerged. We'll describe the data and approaches for mapping intact natural lands in ways that match on-the-ground experiences of U.S. producers and stakeholder groups to build better consensus. A key goal is to support the participation of producers of commodity crops and livestock in supply-chain initiatives surrounding Land Use Change (LUC) to help maintain access to markets, increase product sustainability, and improve conservation outcomes.

ACTGREEN: A NEAR-REAL TIME INTEGRATED MAPPING AND REPORTING SYSTEM FOR RE-WILDING EFFORTS OF AMERICAN BISON

Sarah Olimb, World Wildlife Fund

Other Authors: Dennis Jorgensen, World Wildlife Fund; Gautam Surya, Jay Schoen, Luke Hunter, Haqiq Rahmani, Wildlife Conservation Society

Rewilding, in the most traditional sense, is returning species to parts of their indigenous range where they have been extirpated or where populations have been drastically reduced by human activity. Here, we expand a model developed for the tiger (Panthera tigris) to the North American Bison (Bison bison). We will use in situ biological data and NASA Earth observations in an established and scientifically sound ecological model to measure the effectiveness for rewilding efforts (intentional or not), forecast future habitat availability under different scenarios, advance remote sensing approaches with consistent and rapidly updated metrics, parameterize, validate, distribute, and popularize models for bison, and ensure adoption by end users.

16. SAVING CRITICAL REMNANT GRASSLANDS

Presentations

- Remnants, restorations, and reconstructions: elevating grassland conservation projects in 40 "southeastern" national parks, Jeremy French
- Vertical grasslands at the gap: Exploring cliffside remnant grasslands at Cumberland Gap National Historical Park, Lee County Virginia, Alaina Krakowiak
- Restoring and enhancing regal fritallary habitat - planting native violet plugs at key prairie restoration sites in Nebraska, Sarah Bailey
- Little Brown Bird screening*, Wilpath and Cornell Lab of Ornithology

REMNANTS, RESTORATIONS, AND RECONSTRUCTIONS: ELEVATING GRASSLAND CONSERVATION PROJECTS IN 40 "SOUTHEASTERN" NATIONAL PARKS

Jeremy French, Southeastern Grasslands Institute

Other Authors: Theo Witsell, Alaina Krakowiak, Hope Wilson, Southeastern Grasslands Institute

Eastern U.S. grasslands are some of the most imperiled ecosystems on Earth. Overlooked by conservationists, these diverse communities are critical sites for conserving grassland biodiversity. The Southeastern Grasslands Institute has partnered with the National Park Service to identify and restore rare and imperiled grassland remnants and reconstruct resilient grasslands where they no longer exist. This is one

*Abstract omitted, contact author for more information

Poster Session/Aleta Dam

of the largest restoration efforts ever attempted in Eastern National Parks, including 16 states, 40 national parks, and over 109 sites. Sites range from remnants to agricultural fields. Fieldwork also located several grassland remnants new to the scientific community.

VERTICAL GRASSLANDS AT THE GAP: EXPLORING CLIFFSIDE REMNANT GRASSLANDS AT CUMBERLAND GAP NATIONAL HISTORICAL PARK, LEE COUNTY VIRGINIA

Alaina Krakowiak, Southeastern Grasslands Institute

Other Authors: Laura Boggess, Mars Hill University

Cliffs are under-recognized and under-surveyed hotspots of remnant grassland vegetation, or "vertical grasslands." We surveyed a calcareous cliff line near the Cumberland Gap via rappel for rare species and diverse plant community's indicative of old-growth grassland habitat. We documented at least 10 state-rare plant species, and numerous other conservative grassland species. Additionally, core samples taken from cliffside eastern red cedars revealed individual ages of 250 years or more. However, despite the inaccessibility of these vertical grasslands, we observed severe habitat degradation in some areas. We demonstrate that cliffs can serve as refugia for grassland vegetation and warrant further inventory and conservation efforts.

RESTORING AND ENHANCING REGAL FRITILLARY HABITAT – PLANTING NATIVE VIOLET PLUGS AT KEY PRAIRIE RESTORATION SITES IN NEBRASKA

Sarah Bailey, Prairie Plains Resource Institute

Prairie Plains Resource Institute has been working with conservation partners in Nebraska to restore and enhance prairie with regal fritillary (Speyeria idalia) conservation in mind. As a part of their high-diversity, local-ecotype restoration services, Prairie Plains grows native violet (Viola spp.) plugs in their greenhouse that are planted at appropriate sites in an effort to improve Speyeria idalia habitat. This presentation briefly outlines the process for growing Viola spp. plugs, highlights restoration projects where plugs have been planted, discusses data tracking Viola spp. plug survivorship after planting and looks forward to next steps and management actions for successful Viola spp. establishment at restoration sites.

17. HARNESSING THE COLLECTIVE POWER OF CENTRAL GRASSLANDS CONSERVATION INITIATIVES

Presentations

- Building a collaborative conservation framework for the central grasslands biome*, Maggie Hanna
- The JV8 business plan and stepping it down for implementation*, Catherine Wightman
- Ensuring indigenous perspectives in the development of conservation solutions, Bill Snow and Francisco Munoz-Arriola*
- Moderated panel on conservation initiatives across the central grasslands*

WORKSHOPS

A BUG'S VIEW: WHAT INSECTS CAN TELL US ABOUT GRASSLANDS

Jennifer Hopwood, Xerces Society for Invertebrate Conservation

Other Authors: Dr. Gil Felipe Gonçalves Miranda, University of Ottawa; Carolyn Callaghan, Canadian Wildlife Federation

Although insects are not often primary conservation targets of grassland management, insect population health should guide management decisions. From dung beetles to butterflies, insects play a multitude of important roles in grasslands, as pollinators, detritivores, soil engineers, predators and parasitoids, seed dispersers, and food for other wildlife. We will share insect survey data from Canada grasslands, provide an overview of grassland insect groups and their ecological roles, discuss how grassland management affects different groups, and share an overview of sampling techniques and identification methods, with a summary of challenges encountered.

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TRANSITION TO REGENERATIVE RANCHING

Hugh Aljoe, Noble Research Institute

INTRODUCTION

The Noble Research Institute ("Noble") traces its roots to 1945, when the Samuel Roberts Noble Foundation was established in Ardmore, Oklahoma to help local farmers and ranchers. In 2017, Noble became an agricultural research organization focused on regenerative ranching—helping producers build healthier soils, more productive grazing lands, and stronger businesses.

In 2020, Noble committed fully to regenerative management, embracing our founder's intent to restore soil, improve operational economics, and keep producers on the land. To advance this mission, Noble manages 13,500 acres of ranches in southern Oklahoma under regenerative practices, integrating applied research, producer education, and long-term monitoring.

Although Noble Ranches had long used best management practices and rotational grazing, transitioning to regenerative ranching required new planning, infrastructure, and mindset. By approaching the process holistically—preparation, implementation, and monitoring—we have achieved measurable ecological and economic gains.

STEP 1: PRE-TRANSITION PREPARATION

Preparation provides the foundation for lasting change. At Noble Ranches, we began by taking stock of our resources and clarifying our vision.

Resource Assessment

Noble Ranches include six properties, ranging from 350 to 5,200 acres, with 13,168 acres accessible to livestock. Two properties are native rangelands with woody encroachment, while four are mostly bermudagrass and small grains. Water was sourced from ponds, wells, and rural systems but often unreliable. Fencing was designed for cattle only.

In January 2020, livestock inventories totaled 1,276 animal units (AU). Despite applying "best practices," financial performance was weak: direct costs averaged $367/AU, operating expenses $1,152/AU, and revenues $1,033/AU—resulting in a net loss of $118/AU.

Vision and Training

Recognizing the need for change, Noble adopted the vision of "grazing land stewardship for improved soil health and lasting ranch profitability." Goals included minimizing fertilizer and chemicals, reducing feed and hay, working with natural cycles, and enhancing biodiversity.

Staff training was essential. All ranch and research staff received instruction in soil health, adaptive grazing, holistic resource management, and ranch economics. Each ranch developed written management and grazing plans, infrastructure priorities, and business plans guided by the Ranching For Profit framework.

STEP 2: IMPLEMENTATION OF STRATEGIES

With plans in place, Noble implemented regenerative practices across four areas: business, land, livestock, and infrastructure.

Business & Profitability

Profitability was central. We separated enterprises, tracked direct vs. overhead costs, and built budgets for positive gross margins. Fertilizer, herbicides, and veterinary supplies had been the largest direct costs. Equipment repair and fuel were major overheads. By eliminating hay production, selling excess equipment, and reducing chemical inputs, we lowered costs significantly and freed over $400,000 for reinvestment.

Land Management

Healthy soil underpins regenerative ranching. Adaptive grazing, extended recovery, and maintaining cover improved soil function. We planted cover crops in introduced pastures and croplands to build aggregation, water infiltration, and diversity. We also began a 10-year plan to reclaim 2,000 acres of savannah lost to woody encroachment, combining mechanical treatments, prescribed fire, and managed grazing.

Livestock Management

Livestock were managed to align with forage growth. Cattle were rotated daily or every other day during growing seasons, using higher stock densities while protecting recovery. Calving was shifted to April and May to match green forage, reducing hay and supplement needs. Cow size and genetics were adjusted for efficiency and heat tolerance. Sheep and goats were added to diversify grazing and revenue.

Infrastructure

Strategic infrastructure enabled adaptive grazing. To date, Noble has installed more than 35 miles of new fencing, reinforced 10 miles of existing fences, and added 20 miles of water lines with quick-connect and insulated troughs. Three new wells improved water reliability. Infrastructure was phased in over five years, starting with the most productive pastures.

STEP 3: MONITORING AND RESULTS

Regenerative ranching is a continual process of monitoring, learning, and adapting.

Organizational Alignment

Annual ranch management, grazing, and infrastructure plans are reviewed against Noble's vision and approved by leadership. Staff training and accountability are built into performance goals.

Natural Resources

Over 120 monitoring sites track soil cover, structure, infiltration, erosion, and biodiversity. Soil health tests (Haney, PLFA) provide lead and lag indicators. Results guide adaptive grazing and planting decisions. Cover crops are planted annually on cropland and pastures to improve diversity and forage supply.

Livestock Performance

We monitor reproduction, weight gain, animal health, and grazing records. Veterinary treatments are tracked by herd or individual. Sheep numbers expanded from 60 ewes in 2021 to 300 in 2024. Goat numbers stabilized at 300 owned and 1,000 leased during growing seasons. Despite drought from 2021–24, total AU declined only 6% from pre-transition levels.

Business Outcomes

By matching stocking rates to forage, reducing inputs, and planning for profit, Noble Ranches reversed financial losses. Direct costs fell from $367/AU in 2020 to $201/AU in 2023. That year, gross revenue averaged $601/AU with a net profit of $114/AU, despite prolonged drought. Net revenue per acre improved from -$11 pre-transition to +$8 in 2023. Noble Ranches have been profitable each year since the transition.

LESSONS LEARNED

1. Transition is a process. Change takes time; start small and build confidence before scaling.
2. Balance ecology and economics. Land health and

profitability must go hand in hand.

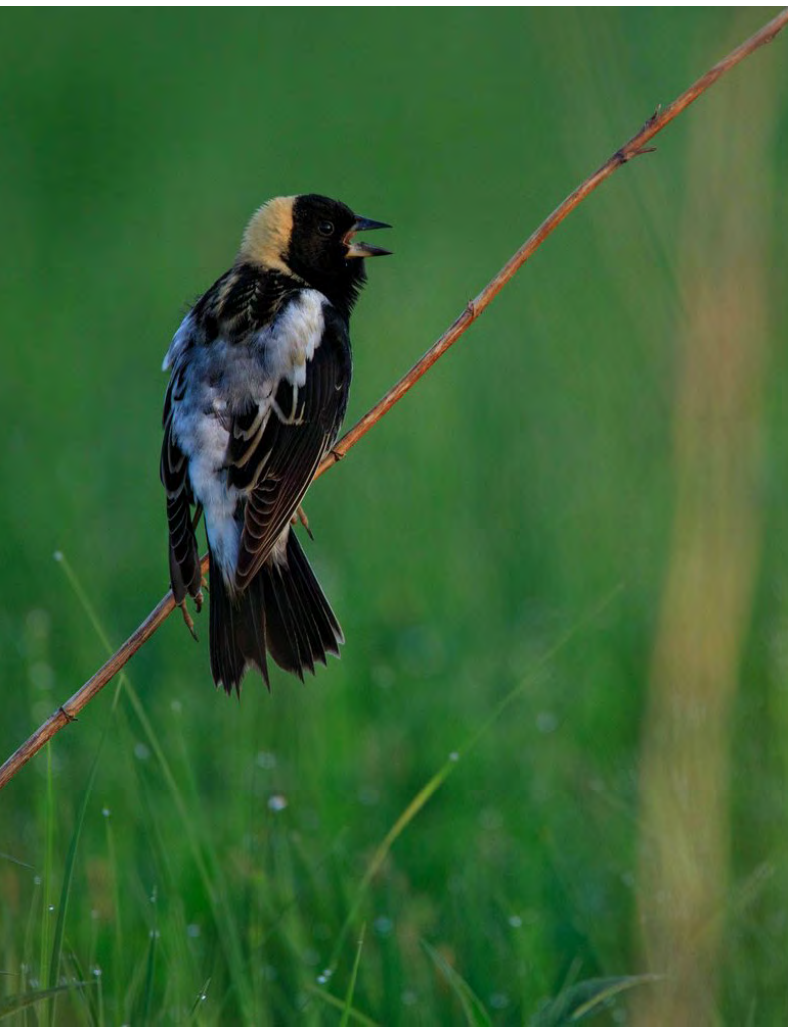
3. Mindset matters. Shifting from "production at all costs" to "regeneration and resilience" is the most important change.

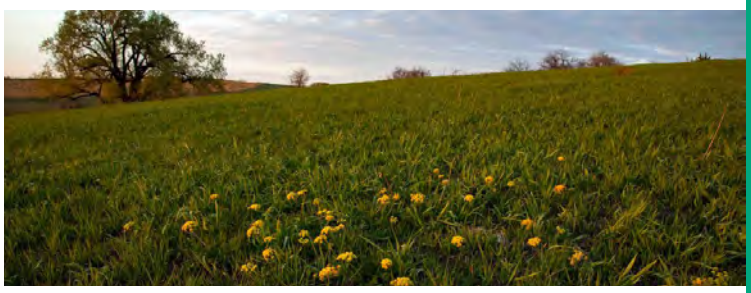
4. Community is critical. Collaboration with ranchers, educators, and partners accelerates progress. Measure against your own benchmarks, not others.

CONCLUSIONS

Regenerative ranching provides a pathway to improve both land health and business resilience. Noble's experience demonstrates that with careful preparation, strategic implementation, and continual monitoring, ranchers can strengthen soil, forage, livestock, and profitability—even under drought conditions.

The transition requires patience, persistence, and a willingness to learn. But with each step toward regeneration, we create stronger operations, healthier landscapes, and more resilient rural communities. Regenerative ranching is not about doing more with less—it is about doing better with what we have.





Left: Bobolink/Ethan Freese; Top Right: Bobcat Prairie/Ethan Freese; Bottom Right: Sandhills Field Trip/Duane Hovorka

POSTER PRESENTATIONS

CONSERVATION RESERVE PROGRAM HAY QUALITY FROM PRODUCER SUBMISSIONS TO A COMMERCIAL LABORATORY IN CENTRAL NEBRASKA

Rebecca Kern-Lunberry, Ward Laboratories

Data were obtained from CRP hay samples to evaluate nutritive value. Crude protein, Acid Detergent Fiber, Neutral Detergent Fiber, and Neutral Detergent Fiber Digestibility at 48 hours data indicated that overall CRP hay nutritive value is poor. If beef producers must feed CRP hay, then lab analysis will be a valuable tool for determining the precise level of supplementation. However, these results paired with wildlife management studies show that grazing at reduced stocking rates during nesting season may be the best alternative to optimize forage nutritive value utilization on CRP acres as well as provide the benefit of more variable grassland habitat to increase avian species diversity on these lands.

BUTCHER'S PHOTOS: DOCUMENTING THE TRANSFORMATION OF NEBRASKA'S GRASSLANDS

Dave Wedin, University of Nebraska-Lincoln

Other Authors: Kim Haciya and Larkin Powell, University of Nebraska-Lincoln

Homesteaders transformed Nebraska's Custer County in the heart of the Great Plains between 1875-1899. Native peoples had lost this land, the bison extirpated. Cattle began arriving in 1869, homesteaders in 1872. Without lumber, homesteaders in the treeless plains created farms and raised families in sod structures. Solomon Butcher, a failed homesteader but ambitious photographer, documented Custer County families through photographs from 1885 to 1910. We share 12 enlarged Butcher photos and reflections on the history of Great Plains grasslands. Folklorist R. Welsch wrote: "The pictures' magnetism is irresistible. The gaunt, desperate faces and buildings that grow from the ground leave an indelible impression of Nebraska pioneer life".

C4 GRASS LINEAGES HAVE VARIED RESPONSES TO ATMOSPHERIC DYING

Klara Stevermer, Kansas State University

Other Authors: Jesse Nippert

Grasslands play a major role in carbon and water cycling, with C4 grasses accounting for nearly 25% of gross primary production globally. The physiological mechanisms influencing responses to atmospheric drought (measured as changes in the vapor pressure

deficit (VPD)) are not well understood, despite the global importance of C4 grasses in grasslands and continuous increases in VPD with a warming climate. We investigated how evolutionary adaptation influences subtype-specific water use strategies. Preliminary results show subtype responses are consistent with drought adaptation. Under high VPD, physiological responses of the NADP-ME subtype were more sensitive than the NAD-ME subtype, which exhibited a more conservative water use strategy.

REED CANARY GRASS RESPONSE TO RESTORATION STRATEGIES THAT REMOVE OR ALL OF THE SOIL ABOVE THE BT-HORIZON

Jeff Drahota, Kylie Tierney and Jessica Bolser, U.S. Fish and Wildlife Service

Other Authors: Kylie Tierney and Jessica Bolser, U.S. Fish and Wildlife Service

With fewer wetlands showing functionality, each and every acre that reed canarygrass (Phalaris arundinacea, RCG) invades reduces the bioenergetic capacity of wetlands. RCG invasion of prairie wetlands has double over the last decade creating long-term sustainability challenges that cannot be fixed using conventional practices. We have implemented a restoration strategy that both removes RCG and restores wetland habitat creating more sustainable conditions and resilient native plant communities.

DIVERSE LANDSCAPE-LIVESTOCK INTERACTION (DALLI) APPROACH FOR PROMOTING MULTIPLE DESIRED GRASSLAND OUTCOMES IN SASKATCHEWAN, CANADA

Kelly Williamson, SODCAP Inc.,

Other Authors: Schellenberg, M.P., Tastad, A., Williamson, K., Todd, K., and Harrison, T.; SODCAP Inc.

The South of the Divide Conservation Action Program collaborates with rangeland managers in the Northern Great Plains using outcome-based approaches to promote ecosystem health and wildlife benefits. They find successful managers do not simply implement prescribed rangeland management systems, but use a Diverse Landscape-Livestock Interaction (DALLI) approach, relying on observation and local knowledge to dynamically adjust grazing strategies and shift livestock impacts in time and space. Results imply that DALLI supports ecosystem resilience and biodiversity, improves socio-economic stability, and helps meet desired government policy and conservation outcomes.

FARMER ADOPTION OF PRECISION LIVESTOCK FARMING: CURRENT AND FUTURE

Tong Wang, South Dakota State University

Other Authors: Hector Menendez, Oranuch Wongpiyabovorn, South Dakota State University

The increasing demand for animal protein underscores the need for improved livestock management. Precision livestock farming (PLF) provides a pathway to improve productivity and sustainability of livestock industry by leveraging sensors and information technologies in areas such as movement monitoring,

feeding patterns, health, and reproduction. To bridge the research gap in farmers' perceptions of PLF technologies, we carried out a farmer survey to investigate PLF awareness and adoption. Findings that identify the types of technologies that are of most interest to ranchers, both now and future, will be of interest to PLF researchers, technology developers and policy makers.

BENEFITS AND CHALLENGES OF PASTURE CROPPING: PERCEPTIONS OF GRAZING PRODUCERS

Tong Wang, South Dakota State University

Other Authors: Tim Steffens, West Texas A&M University; Srini Ale, Texas A&M AgriLife Research

Pasture cropping is a management system that integrates direct seeding of annual winter crops, such as small grains, into existing perennial grassland. The planted winter crops can be used for winter protein supplementation and/or cut for grain. Adoption of pasture cropping can potentially improve soil and grassland health. Despite the potential benefits of pasture cropping, producers' adoption rate is low, and no economic analysis has been conducted. This study plans to use online survey data collected from grazing producers to provide a better understanding of producers' profit change after implementing pasture cropping, the associated changes and successes, to facilitate future rancher adoption decisions of this practice.

DO LEGACIES OF LONG-TERM STOCKING RATES INFLUENCE CARBON PARTITIONING IN A GRASSLAND PRAIRIE

Walter Magero Wafula, South Dakota State University

Other Authors: Krista Ann Ehlert, Hector Menendez, Jameson Brennan, A. Joshua Leffler, South Dakota State University

Grazing legacies on grassland C are rarely studied despite having critical impacts on rangelands. We sampled six pastures in an 80+ year experiment in western South Dakota grazed at high, moderate, and low intensity. We examined above and below ground biomass, soil C (0-5, 5-15, and 15-30cm depths), bulk density, and soil respiration. High stocking reduced shoot biomass (50.4%), increased 5-15cm soil bulk density (13.2%), and increased 0-15cm root production (15.1%). However, soil organic matter, total organic C, and soil respiration were not affected despite nearly a century of distinct grazing. These findings demonstrate that multi-year stocking rate differences affect biomass allocation and soil compaction, but topsoil C remains stable.

HAS EASTERN REDCEDAR REMOVAL IMPACTED THE SANDHILLS GRASSLAND BIRD COMMUNITY

Rachel Rusten, University of Nebraska-Lincoln

Other Authors: Sarah Sonsthagen, United States Geological Survey

One of the main threats to the Sandhills Ecoregion is the encroachment of woody species such as Eastern Redcedar. Our project seeks to evaluate the mechanical removal treatments' effect on the grassland bird community. We are conducting avian point counts for three breeding seasons (2024-2026) across pastures with varying landscape management. We report our 2024 preliminary results; detected grassland bird obligate abundance is similar across removal treatments but decreases in pastures lacking active management (absence of fire, lopping, etc). We also detected lower abundance in higher encroached areas. Ultimately, we aim to inform conservation actions by evaluating if grassland obligate species are positively responding to treatments.

SOIL HEALTH AND CARBON DYNAMICS IN U.S. FISH AND WILDLIFE SERVICE WATERFOWL PRODUCTION AREAS: ASSESSING RESILIENCE IN THE RAINWATER BASIN OF NEBRASKA

Gregory Pec, University of Nebraska at Kearney

Other Authors and Affiliation: Jayne Jonas-Bratten, Austyn Kreikemeier, Letitia Reichart, Melissa Wuellner; University of Nebraska at Kearney

The U.S.F.W.S. Waterfowl Production Areas (WPAs) in the Rainwater Basin (Nebraska) provide crucial habitats for migratory birds. Effective WPA management requires understanding soil health to assess ecosystem resilience. In Summer 2023, we evaluated soil health indicators (organic matter, nutrients, soil respiration, and carbon sequestration) across seven WPAs. Results showed variability in soil respiration, with Ritterbush WPA being the driest and exhibiting lower carbon sequestration and soil carbon stock, while Lindau WPA had higher nitrogen and carbon levels. Lower carbon sequestration rates in dry areas were linked to increased microbial activity and decomposition, emphasizing the influence of moisture dynamics on soil health.

THE IMPACT OF EMERGENCY HAYING ON GRASSLAND BIRDS IN THE CONSERVATION RESERVE PROGRAM HABITAT IN NW IOWA

Claire Widmer, University of Northern Iowa

Other Authors and Affiliation: Ai Wen, University of Northern Iowa; Kenneth Elgersma, University of Northern Iowa; Mark Vandever, USGS

Disturbance such as fire and grazing are important for native grassland and are applied to constructed grasslands such as many programs in the Conservation Reserve Program (CRP). However, CRP grasslands in drought area are allowed to be hayed or grazed as emergency management for harvesting livestock supplemental forage. We compared the breeding bird communities in undisturbed vs. emergency hayed grassland CRP habitat in NW Iowa. Using distance sampling, we found grassland habitat that was not hayed had significantly higher bird richness compared to the hayed area in the same CRP parcel. We also found the bird density in the hayed area was marginally lower than the area without emergency management.

MONITORING THE NESTING SUCCESS OF SAGEBRUSH-OBLIGATE (ARTEMISIA SPP.) AND GROUND-NESTING SONGBIRDS WITHIN ADAPTIVE ROTATIONAL CATTLE GRAZING SYSTEM

Amanda Norton, University of Wyoming

Other Authors and Affiliation: Timm Gergeni, University of Wyoming, John Derek Scasta, University of Wyoming

Determining the most suitable grazing system that optimizes cattle production and improves biodiversity for native songbirds continues to be an ongoing topic in refining range management practices. We monitored the nest progression of three focal sagebrush-obligate and ground-nesting songbirds on a functioning ranch in Wyoming. Active nests were found within 10 study pastures, split between a traditional and adaptive, rotational grazing system. During the 2024 field season, we found 108 active nests which were monitored every 2-3 days to determine fate outcome. The project aimed to understand the effect intensity, duration, and type of cattle grazing have on songbird nest success.

PERENNIAL BUNCHGRASSES AND LEGUMES FOR FLEXIBLE FORAGE/BIOFUEL IN TEXAS: ESTABLISHMENT YEAR

Lisandro Entio, Texas A&M Agrilife Research

Other Authors: C. Shadrock, Texas A&M AgriLife Research, Department of Wildlife and Natural Resources, Tarleton State University; J.L. Foster, Texas A&M AgriLife Research; D.B. Murray, Department of Wildlife and Natural Resources, Tarleton State University; L.J. Entio, Texas A&M AgriLife Research; A.D. Falk, Texas A&M University; J.P. Muir, Texas A&M AgriLife Research, Department of Wildlife and Natural Resources, Tarleton State University

We measured herbage yields (Y) and nutritive value of native and non-native Texas perennial bunchgrasses and legumes at three latitudes. Top performers were: Tripsacum dactyloides and Acaciella angustissima (cv. Plains) (natives) and Panicum coloratum (cv. Verde) and Dichanthium annulatum (cv. T-587) (non-natives) at Stephenville; A. angustissima (cv. Rio Grande) and Andropogon hallii Hack. (cv. Chet) (natives) and Verde at Lubbock; Bothriochloa laguroides (cv. Santiago) and T. dactyloides (natives) and Verde at Beeville. Non-natives had greater Y, and were adequate for biofuel, with few entries showing sufficient nutritive values for forage compared to natives. Natives Y were suboptimal, but their nutritive values were better.

NUTRITIVE VALUE AND DIGESTIBILITY OF FORAGE LEGUME SPECIES THAT IMPROVE CATTLE PRODUCTION

Pepper Kirk, Texas A&M Agrilife Research

Other Authors: James Muir, PhD Texas A&M Agrilife, Brandon Smith, PhD Auburn University

Beef cattle production is a pillar in the agriculture

world, however they have their downfalls, one of them being the struggle in finding the balance between high forage performance while maintaining substantial nutritive value and digestion. The objective of this research is to determine forage legume species that can be integrated into grasslands that will potentially increase nutritive value and digestion while maintaining good beef cattle production practices. The project consists of 13 different species of forage legume, 6 of which are native to Texas. The test being ran are NDF, ADF, and IVTD. We will be using the software Infostat for the statistical analysis. Some of test we will run will be an ANOVA.

EXTREME VAPOR PRESSURE DEFICIT IMPACT ON WILDFIRE IN THE GREAT PLAINS

Kanak Kanti Kar, University of Nebraska-Lincoln

Other Authors and Affiliation: Rezaul Mahmood, School of Natural Resources, University of Nebraska-Lincoln, Lincoln, USA and High Plains Regional Climate Center, University of Nebraska-Lincoln, Lincoln, USA; Tirthankar Roy, Department of Civil and Environmental Engineering, University of Nebraska-Lincoln, Omaha, USA

Vapor pressure deficit (VPD) is a key climatological factor influencing human health, infrastructure, and vegetation. An increasing VPD has led to a chronic increase in wildfire areas in the US, where several regions have been more affected than others. This presentation will summarize the causal inference between extreme VPD and grassland and burned forest areas. We used dew point temperature (Td) data from the North American Regional Reanalysis (NARR) in the Great Plains region for 43 years from 1979. Afterward, we calculated VPD using the Td dataset and Bolton's (1980) equation. The results will also include visual representations of the causal influence of extreme VPD on seasonal and annual changes in grassland and burned forest areas.

THE ROLE OF GRASSLANDS FOR THE CONSERVATION RESERVE PROGRAM – AN INSIGHT ON ECONOMIC DECISIONS, HYDROLOGY, LAND COVER AND LAND USE DYNAMICS

Layda Spor Leal, University of Nebraska-Lincoln

Other Authors: Rita Khadka, Dilli Ram Bhattarai, University of Nebraska-Lincoln

The Grassland Conservation Reserve Program is part of the CRP program, focusing on the protection of grassland, rangeland, pastureland and certain other lands. Analysis on hydrology and uncertainty aspect of landowner decision to enroll in CRP has been limited, leading to uncertainty on both the quality and quantity of the CRP's impact. We are conducting various systematic reviews on CRP focusing on synthetizing three main subjects: CRP impact on hydrology and water resources, Land cover and land use changes within CRP areas, and Key factors driving CRP enrollment decisions for landowners. These reviews will provide valuable insights into the long-term impacts of the CRP Grasslands on hydrology, land cover, and land use in the US.

THE POWER OF PARTNERSHIPS: A LOOK AT CROSS-ORGANIZATIONAL GRASSLAND CONSERVATION IN WISCONSIN'S SOUTHERN DRIFTLESS

Andy Bingle, Southern Driftless Grasslands

Other Authors: Marty Moses, Pheasants Forever, and Jim Giocomo, American Bird Conservancy

Southern Driftless Grasslands (SDG) is a partnership of federal and non-federal organizations that has been working to protect grasslands in Southwest Wisconsin for over 30 years. In the 1990s, the group consisted of a few organizations working to preserve a specific prairie. The effort has since blossomed into a partnership which covers about 4% of the state of Wisconsin and has staff hosted at three different organizations. Collaborating across organizations is challenging, but when successful can lead to landscape-scale grassland conservation benefiting wildlife, water, farms, and communities. This poster will explain the challenges and successes of the SDG partnership and will exhibit its plan for how to thrive for generations to come.

THE NUTRITIONAL VALUE OF NATIVE PLANT DIVERSITY FOR GRAZING LIVESTOCK

Kaylee Wheeler, South Dakota State University Extension

Other Authors: Emily Rohrer, Natural Resource Conservation Service; Peter Bauman, South Dakota State University Extension; RaeAnn Powers, The Xerces Society for Invertebrate Conservation & Natural Resource Conservation Service; Krista Ehlert, South Dakota State University

Grassland biodiversity improves forage production, resilience, wildlife habitat and diet selection. However, there is little known about the value of diverse plant populations for livestock. The objective of this 2024 study was to determine nutritional contents of nearly 30 broadleaf species. Plants were collected from 10 locations across South Dakota under private, public, and tribal ownership in coordination with various partner groups. Laboratory analysis determined crude protein, fiber, energy, and mineral values of each species at three growth stages (vegetative, bloom and seed). This data can be used to encourage management that promotes biodiversity, such as reducing broadcast herbicide and implementing strategic grazing practices.

Rowe Sanctuary/Aleta Dam

WHAT'S IN A NAME? IMPROVING GRASSLANDS COMMUNITY CLASSIFICATION IN THE INTERIOR SOUTHEAST

Alison Wilson, Southeastern Grasslands Institute

Other Authors: Gabby LeFevre, Jared Gorell; Southeastern Grasslands Institute

Grasslands of the Southeastern U.S. have a high diversity of plant species and natural communities. However, <1% remains of most of these grasslands. Intensive study of remnants is necessary to understand what communities still persist in the region. This is an important step towards restoring and conserving grassland biodiversity. In year one of a three-year floristic study of grasslands in the Interior Southeast, we documented hundreds of plant species across dozens of communities in five states. We analyzed vegetation data by growth form, coefficients of conservatism, and dominance. We correlated remnant quality with management and disturbance variables. This data will eventually be used to revise community classifications

INVASIVE PERENNIAL GRASSES: A TEXAS CASE STUDY

Jameson Crumpler, Texas Native Seeds Program

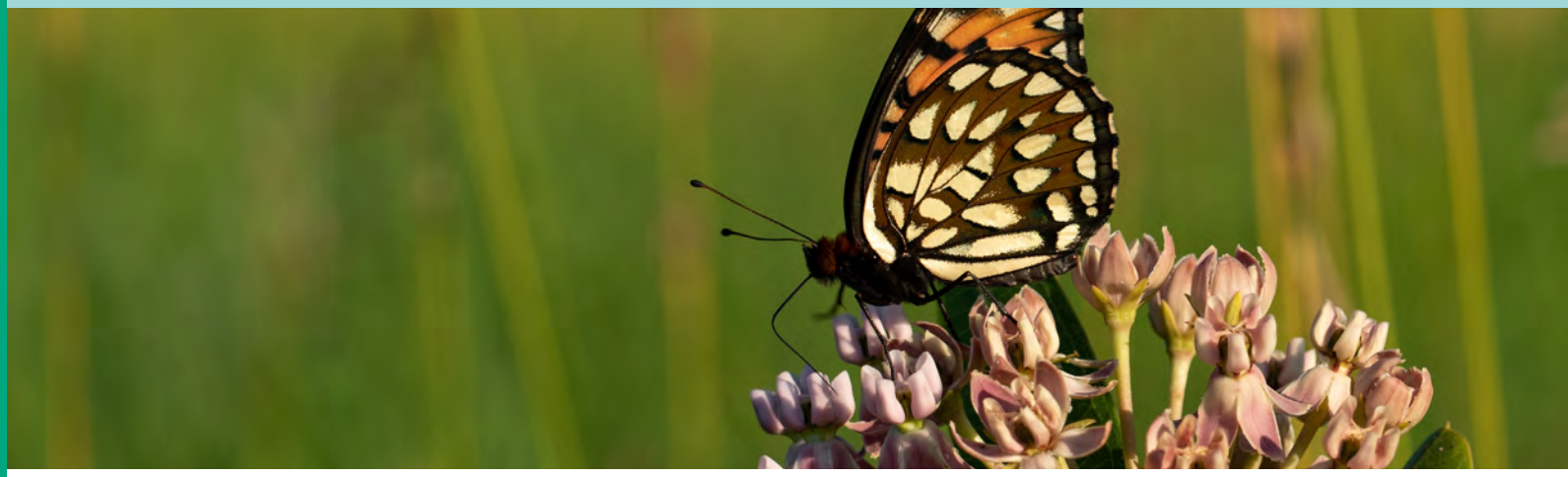
Lehmann's lovegrass has invaded thousands of acres across sandy and loamy ecological sites of West Texas. The Texas Native Seeds Program is studying the feasibility of converting Lehmann lovegrass-dominated rangeland to native grassland using various treatments, including reseeding. Early results after 2 years show limited success. These data show that more research is needed in this land management issue. The main threat is the expansion of Lehmann lovegrass into adjacent South Plains region, where millions of acres of current cotton production landscapes are under threat of invasion due to changes in land use practices as groundwater from the Ogallala Aquifer continues to decline, creating a positive feedback loop.

REMNANT GRASSLAND CONSERVATION IN THE SOUTHERN APPALACHIAN REGION

Zach Irick, Southeastern Grasslands Institute

Prioritizing research and restoration of grassland remnants is a central focus of the Southeastern Grasslands Institutes mission. In the Southern Appalachian region many imperiled grassland remnants are often overlooked by the greater conservation community. Starting in 2019, the Southeastern Grasslands Institute implemented a grassland remnant conservation program in the Southern Appalachian region. The program has worked to build a network of diverse stakeholders that work cooperatively to protect unique remnants through on the ground research and restoration. This presentation will overview the partnerships developed and summarize the methodology and results of practices implemented for different projects.

GRAZING MANAGEMENT ON CRP GRASSLANDS: EFFECTS ON SOIL HEALTH, GRASSLAND BIRD DIVERSITY AND VEGETATION SPECIES



Prairie Corridor/Ethan Freese

COMPOSITION

Amanda Shine, Texas A&M

Other Authors: Dr. Jeff Goodwin (Texas A&M); Dr. Stephen Webb (Texas A&M); Dr. Katie Lewis (Texas A&M)
Grazing activities on Conservation Reserve Program grasslands have traditionally been limited to short windows of time in alternating years in an effort to best protect the soil resource and maintain the grass species that have been established. However, an increasing amount of research has shown that grazing can have benefits for soil health, vegetation and wildlife habitat when it is well-managed and responsive to current conditions. The goal of this project is to examine the impact of different grazing strategies on CRP land in the Texas Panhandle; specifically, to assess how increased frequency of grazing impacts soil health, grassland bird diversity and species composition of the vegetation community.

IMPACTS OF ENCROACHING SMOOTH SUMAC (RHUS GLABRA) ON HERBACEOUS SANDHILL'S SPECIES AND ENVIRONMENT

Lillie Hoffart, University of Nebraska-Lincoln

Other Authors: Chris Helzer, The Nature Conservancy & Sabrina E. Russo, University of Nebraska-Lincoln

Smooth sumac (Rhus glabra) is a woody, clonal shrub encroaching on the Nebraska sandhills. We investigated the effect of sumac on prairie herbaceous plant diversity, productivity, and environmental conditions and the ecological mechanisms involved. We tested the hypotheses: 1. sumac outcompetes other plants, and 2. sumac alters environmental conditions. Results from the 2024 field season indicate that herbaceous plant productivity but not diversity declined with increasing sumac density. However, species composition of herbaceous plants varied between sumac patches and prairie. This indicates sumac competes with herbaceous prairie species and can alter community composition, though sumac's presence does not necessitate a diversity decline.

THREE YEARS AFTER THE DORMANT SEASON FOUR COUNTY FIRE IN KANSAS

Keith Harmoney, Kansas State University

Other Authors: Jacob Hadle, Kansas St. University -

Ag Research Center Hays

The 122,000 acre Kansas Four County Fire in December 2021 occurred with winds over 85 mph and humidity near 10%. We compared backfire and head fire areas to unburned areas at the same ecological sites. Species richness and diversity were largely unaffected, but litter cover and little bluestem suffered major reductions. Initial reduced biomass was short-lived as burned areas eventually had similar biomass as unburned areas from big bluestem cover increasing. Principle component analysis showed that a major shift in the plant community occurred, mostly due to the loss of little bluestem and increase in big bluestem. Dormant season wildfire caused short term yield reductions, but also caused longer lasting changes in community structure.

AVIAN COMMUNITY RESPONSE TO REMOVAL OF ENCROACHING WOODY VEGETATION IN TRANS-PECOS GRASSLANDS

Audrey Taulli, Sul Ross State University

Other Authors: Dr. Carlos Gonzalez, Dr. Justin French, Dr. Maureen Frank; Borderlands Research Institute

INTRODUCTION

Grasslands in North America are some of the fastest-declining habitats on the continent. Reasons for the decline include land conversion for energy development, farming, and "improved" pastures (Macías-Duarte et al., 2009; Pool et al., 2014; Quinn et al., 2017). Another source of habitat loss, woody plant encroachment (WPE), is a large driver for habitat degradation within the Trans-Pecos region of Texas. The encroachment of woody shrubs alters grassland plant communities by increasing soil erosion, altering distributions of nutrients within soil, and reducing vegetation species diversity (Báez & Collins, 2008; Barger et al., 2011; D'Odorico et al., 2010; Throop & Archer, 2008). Encroaching shrubs reduce available food produced by grass species over the winter months and reduce available thermal cover that avian species need to survive harsh temperatures (Askins et al., 2007; Desmond et al., 2008; Macías-Duarte et al., 2017). Woody plants provide perches for avian predator species, such as loggerhead shrikes (Lanius ludovicianus) and American kestrels (Falco spaverius). This potentially leads to higher predation rates on grassland-obligate avian populations, which are also physically more exposed due to the declines in shelter provided by grasses and other plant species (Lima & Valone, 1991). Trans-Pecos grasslands have experienced considerable WPE due to overgrazing, soil erosion, and periodic drought, leading to degradation of grassland bird habitat.

STUDY AREA

We have four study sites in the Marfa and Marathon Grasslands in the Trans-Pecos region of Texas. One of the properties is the Dixon Water Foundation – Mimms Unit, located north of Marfa, TX. The Mimms Unit was surveyed from 2020 to 2025. This property serves as a control for surveys, with well-managed grassland habitats and no WPE treatments. The second property in the study, a privately-owned cattle operation outside Marfa, has been surveyed from 2019 to 2025. Approximately 4,500 acres were treated with herbicide, targeting encroaching honey mesquite (Neltuma glandulosa) over the course of three years. The first 4,000 acres were treated in the fall of 2019; the remaining 500 acres received treatment in the fall of 2021. After two years of rest, the original 4,000 acres were roller-chopped by a tractor pulling an aeration

drum. A second cattle ranch located outside of Marfa was added in 2025 to better sample the region after a year of extreme drought and very patchy precipitation. No treatments were implemented on the property. The last property for the project is located outside of Marathon, TX. The property is privately owned and serves as a working cattle operation. Surveys have been conducted on the property from 2019 to 2025. Approximately 1000 acres were treated in the fall of 2021 with an herbicide mixture, targeting creosote bush (Larrea tridentata) and tarbush (Flourensia cernua).

METHODS

The survey methods used in this study were created by Bird Conservancy of the Rockies and used consistently from 2019 to 2025 (Bird Conservancy of the Rockies, 2021). Survey units consisted of randomly selected 1 km2 grid cells at each property. Within each selected grid cell, three 800 m transects were established, running east to west. To complete a survey, an observer walked the three transects on foot and recorded all birds detected. Birds were identified to species and their distance from the transect was recorded. We also recorded weather data at the start and end of each survey. Vegetation surveys were conducted along the transects, centered on each 200-m segment (12 vegetation surveys per survey unit). At each point, a 5-m radius circle, 50-m radius circle, and 100-m radius circle were established. At the 5-m plot level, we estimated percent cover for shrubs (non-herbaceous plants ≥ 30 cm), grasses, forbs, woody/succulent plants (non-herbaceous plants < 30 cm), tumbleweeds, and "Other," along with the average heights for shrubs (m), grasses (cm), and forbs (cm). We also recorded the 2 most dominant "Other" cover types and most dominant grass species. At the 50-m radius level, we recorded the percent shrub cover, average height (m), and the 2 most dominant species. At the 100 m radius level, the primary habitat type was noted, as well as the presence or absence of black-tailed prairie dog towns. Precipitation data were obtained from PRISM at a 4km resolution (PRISM Group, 2025).

RESULTS

We summarized counts of target species across years and averaged counts across the number of surveys for each habitat type. We graphed precipitation data for the years leading up to each survey season (Figure 1). We ran a Principal Coordinate Analysis (PCoA) across bird species relative to survey site for all years of data, to look for potential trends in the data (Figure 2). While some grassland-obligate species trended to the left side of the x-axis, not much was interpretable from the analysis due to tight clustering for most species. Points within the plot did show some signs of grouping based on ranch, indicating that different properties may have management characteristics that support slightly different groups of species.

DISCUSSION

Grassland restoration methods such as the use of herbicides and mechanical removal could help reverse the population declines of grassland-obligate birds. If the results of this study indicate effectiveness of WPE treatments, information on treatment methodology and effectiveness can be shared with landowners in priority areas for target species. Future work on this dataset will include additional statistical analysis to compare vegetation data to avian data across years. This will allow us to examine specific vegetation characteristics that impact avian communities. We will also add prior growing season precipitation data to our analyses. By looking at changes in vegetation and/or bird communities over time, while accounting for en-

vironmental variables like precipitation, effectiveness of restoration efforts may be better understood and utilized by researchers and property managers.

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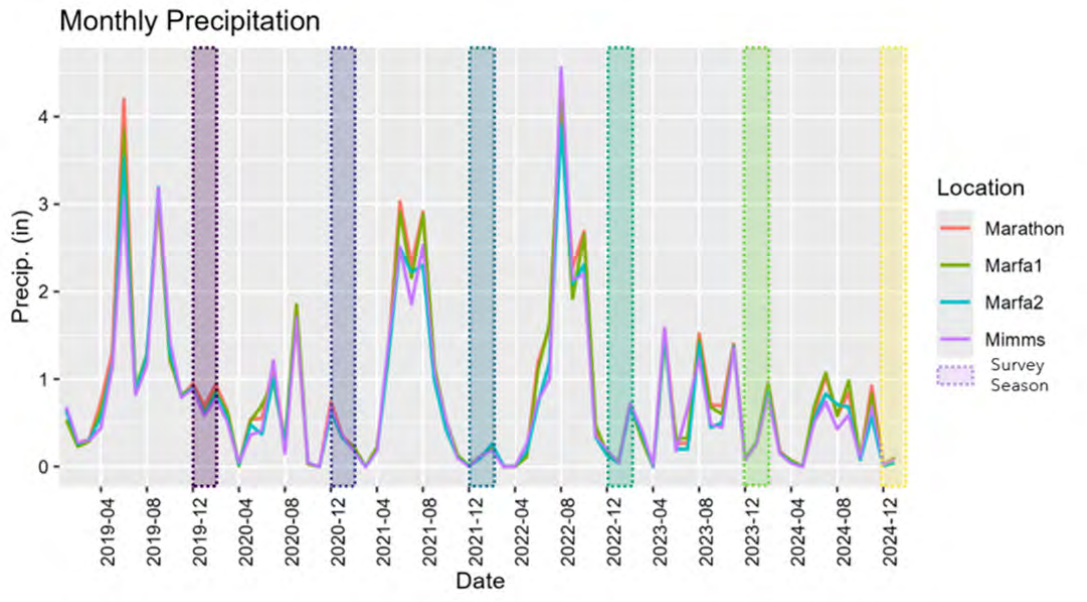

Figure 1: Monthly total precipitation data from PRISM for each property during the year, leading up to the winter survey season.

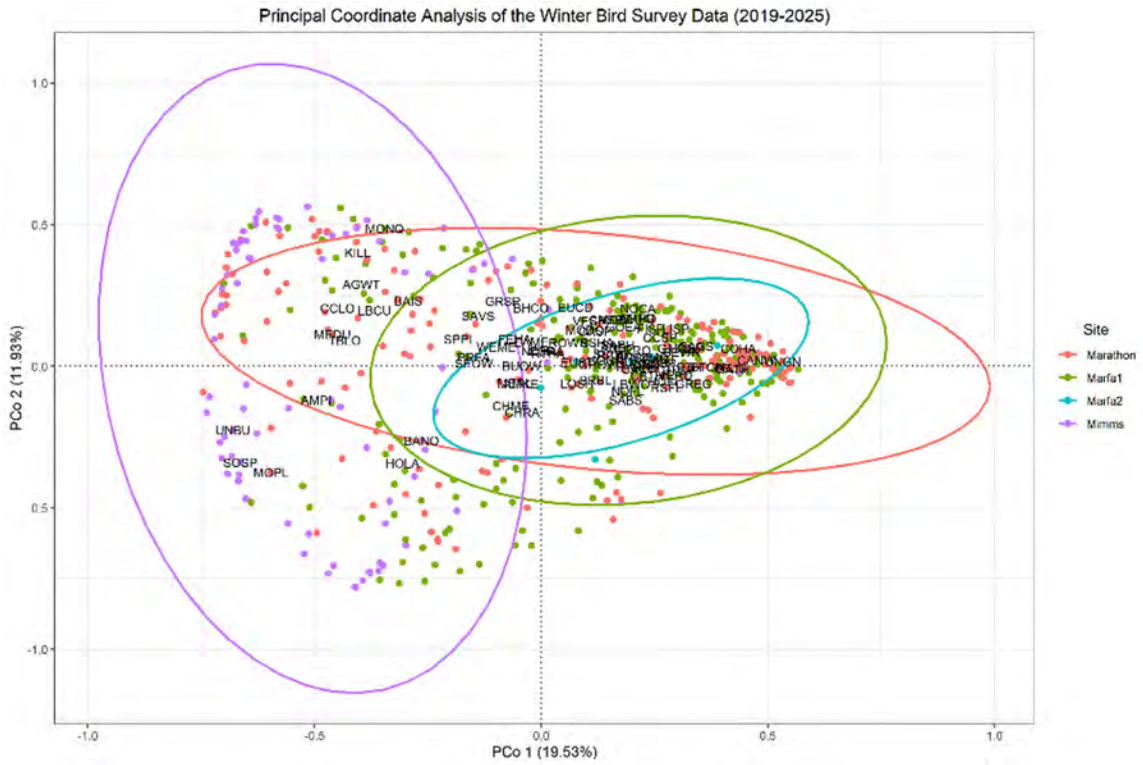

Figure 2: Results of PCoA, with points representing individual surveys along the two main primary component axes. Four letter AOS species codes for bird species represent where these species occur in multivarate space.

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SPECIES DISTRIBUTION MODELS TO INCREASE THE IMPACTS OF WOODY ENCROACHMENT MANAGEMENT IN THE NEBRASKA SANDHILLS

Brad Thornton, Rainwater Basin Joint Venture

Other Authors: Greg Brinkman, Ducks Unlimited; Roger Grosse, Rainwater Basin Joint Venture

The Nebraska Sandhills is the largest intact temperate grassland landscape in the world but faces an increasing risk of woody invasion from Eastern redcedar, impacting 4% of the total grassland area annually. We incorporated these models into the Working Lands for Wildlife (WLFW) framework to compare management scenarios as well as estimate the cost to reduce woody encroachment and achieve regional bird population goals. With this approach we demonstrate that focusing on maintaining grassland cores can improve cost efficiency and species impact.

HORIZON II: A CLIMATE SMART FUTURE WITH PRAIRIE

Will Higgins, Roeslein Alternative Energy

This presentation will provide an update on the USDA's Climate-Smart Commodities Grant project, Horizon II, a partnership of 13 organizations led by Roeslein Alternative Energy. A year and a half into the grant project, the Horizon II team has successfully recruited landowners to the prairie establishment program in northern Missouri, contracting roughly 5,000 acres in 2024. There is ongoing work to monetize and develop prairie establishment and cover crop planting on lands in the heartland into a bioenergy supply chain for the country. Opportunities and limitations arise when using grassy biomass from restored grasslands to provide market value through RNG production while improving ecosystem services from an agricultural watershed.

DIVERSITY OF MIGRATING AND WINTERING BIRDS AT DIRT LIVESTOCK TANKS IN THE TRANS-PECOS REGION OF TEXAS

Emily Blumentritt, Borderlands Research Institute (Sul Ross State University)

Other Authors: Justin French, Borderlands Research Institute (SRSU); Dan Collins, U.S. Fish and Wildlife Service; Maureen Frank, Borderlands Research Institute (SRSU)

Introduction

Ninety percent of the migratory grassland birds that breed in the Great Plains overwinter in the Chihuahuan

Figure 1. Star on the map represents the general location of the two study sites in the Marfa Plateau in Presidio county, within the Trans-Pecos region of Texas.

Desert (Pool at al. 2019), and many of those birds are expereincing steep population declines (NACBI 2025). Currently there is little data on resource utilization for many grassland bird species during migration and winter (Berlanga et al. 2010, Somershoe 2018). Dirt livestock tanks may be an important resource for birds migrating through and wintering in arid landscapes, but few studies have examined the use of livestock tanks by songbirds especially. Our study aims to answer the following questions: 1. Which migrating and wintering birds of the Chihuahuan Desert grasslands utilize dirt livestock tanks? 2. What characteristics of dirt livestock tanks relate to bird diversity and abundance? Because this study is still in progress, results here are focused on the question of bird diversity at dirt livestock tanks.

Study Area

Our study took place at the Dixon Water Foundation's Mimms Unit and an anonymous private ranch, both located near the town of Marfa, Texas (Fig. 1). Both properties feature Chihuahuan Desert grassland habitat and are located within the Marfa Grassland Priority Conservation Area (Karl and Hoth 2005). Eleven dirt livestock tanks across the 2 properties were selected for the study. The selected tanks varied in their characteristics including water level, brush cover, and size. Each tank was given a descriptive name to facilitate communication between survey teams.

METHODS

We conducted 10-minute double-observer point count surveys at dirt livestock tanks every 4-5 weeks from September through March, starting in 2023 and ending in 2025. Survey observers recorded species present, number of individuals for each species, any behaviors observed, and the location of each bird relative to the tank.

RESULTS

We detected 88 bird species overall on surveys, and 58 of those species were detected within the tank area. Out of those 58 species, 12 of our target priority

	Thistle	Longspur	Heron	Bermuda	Ducky	BUOW	Bones	Prong.	Trigger	Sala.	Big Dam
BUOW						✓					
CASP	✓										
CCLO	✓	✓	✓	✓	✓						✓
CHME	✓	✓	✓	✓	✓	✓		✓			
GRSP							✓	✓			
HOLA	✓	✓	✓	✓	✓	✓				✓	✓
LARB	✓	✓			✓		✓	✓	✓	✓	✓
LOSH	✓		✓		✓	✓	✓	✓	✓	✓	✓
LBCU				✓							
SCQU	✓					✓			✓	✓	✓
TBLO		✓			✓						
WEME	✓										

Table 1. Priority species for the study that were detected at dirt tanks. Some priority species were widespread across different tasks (LOSH, LARB), while some were detected only at a a single tank (BUOW, CASP, LBCU, WEME).

species were detected using tanks (Table 1).

DISCUSSION

Tanks with persistent water (Heron, Big Dam, Ducky, Bermuda, Longspur) generally supported greater species diversity, although some tanks that never held water (Thistle, Trigger) supported similar diversity. The Longspur Tank had lower species diversity but higher abundance of chestnut-collared longspurs (Calcarius ornatus), a Species of Greatest Conservation Need (Fig. 2). Because grassland obligate birds such as longspurs have specific habitat preferences (Somershoe 2018), there may be trade-off in managing tanks for high bird diversity in general versus managing for high abundance of target conservation species.

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Figure 2. Pie charts representing the general species composition at each tank surveyed from 2023-2025. The first 5 tanks (Big Dam, Ducky Bermuda, Longspur, and Heron) held persistent water, while the remaining tanks were typically dry throughout the survey period.

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EFFECTS OF GRASSLAND PAYMENT ON HERDERS' CONSERVATION BEHAVIOR EVIDENCE FROM LONGITUDINAL STUDY IN CHINA

Yanting Yin, South Dakota State University

Other Authors: Tong Wang, South Dakota State University

Aiming to reduce livestock stocking rate while improving household income, the Grassland Ecological Protection Award Policy (GEPAP) in China is the largest PES grassland program worldwide in terms of area, participant numbers and amount of investment. Yet its effect is under-examined. This paper employed remote sensing and longitudinal survey data covering the entire implementation area to examine its effect on participating herders. We found that the GEPAP crowds out their grassland conservation behavior. While we observed an improvement in grasslands over the years, it was more attributed to the climate factors than GEPAP. The overall stocking rate increased, however, the net household income decreased, contrary to the aim of GEPAP.

PRIVATE LANDOWNER PERSPECTIVES OF THE GRASSLAND RESTORATION INCENTIVE PROGRAM

Derek Wiley, Texas Parks and Wildlife Department/Oaks and Prairies Joint Venture

Other Authors: Playa Lakes Joint Venture, Oaks and Prairies Joint Venture, American Bird Conservancy

In 2013 the Oaks and Prairies Joint Venture created the Grassland Restoration Incentive Program. GRIP restores native grassland through prescribed grazing, prescribed fire, and other practices in parts of Texas and Oklahoma through incentive payments to landowners. OPJV conducted a participant survey (2018-present) to evaluate GRIP effectiveness according to participants. Landowners were asked about program satisfaction, barriers to implementation, and conservation engagement after the contract. We received a 39% response rate with 98% of respondents reporting a positive experience and 95% of Landowners reporting continued use of practices. We identified growth opportunities, such as increased training for staff, to guide improvements.

LONG-TERM TALLGRASS PRAIRIE PLANT COMMUNITY RESPONSES TO SEASON OF FIRE

Alec Glidden, Kansas State University

Other Authors: Zak Ratacjzak, Jeff Taylor, John Blair: Kansas State University Faculty

Prescribed burning is a common practice in tallgrass prairies. There is interest in expanding burn timing

to mitigate air quality impacts, but few studies have assessed long-term responses to fire timing. Using 30-years of data from Konza Prairie, we compared effects of dormant and growing season burning on plant communities. Spring fire reduced cool-season graminoids, increased dominant warm-season grasses, and decreased species richness and diversity. In contrast, summer fires had fewer warm-season grasses, increased cool-season graminoids, and enhanced plant richness and diversity. The effects of fall and winter fire were intermediate. Our study demonstrates that season of fire can be used to produce different plant community outcomes.

GRASSLAND HABITAT FOR POLLINATORS UNDER VARIOUS MOWING REGIMES AT THE FORT DAVIS NATIONAL HISTORIC SITE, TEXAS

Eliane Dykehouse, Sul Ross State University

Other Authors: Dr. Maureen Frank, Borderlands Research Institute; Dr. Justin French, Borderlands Research Institute; Dr. Christopher Ritzi, Sul Ross State University

Mowing is used to improve safety and visibility for tourists but can reduce pollinator habitat through removal of floral resources and reduction of structural diversity. Deferred or reduced mowing may benefit pollinators and other insects. Managers at the Fort Davis National Historic Site in Texas aim to balance tourism with conservation while replicating historic conditions. We investigated how current management is impacting grassland vegetation and pollinators. In 2023, we recorded the highest forb cover and highest abundance of pollinating insects in areas mowed once in the fall. Areas mowed during the growing season had the highest invasive grass cover, the lowest forb cover, and the lowest insect abundance of any treatment area.

Sandhills Field Trip/Duane Hovorka

EVALUATING THE ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP) IN WESTERN SD

Krista Erdman, Northern Great Plains Joint Venture

Other authors: Katherine Graham, Ducks Unlimited Inc.; Tong Wang, South Dakota State University; Catherine Wightman, Northern Great Plains Joint

Venture

In the Northern Great Plains, the Environmental Quality Incentives Program (EQIP) is the USDA Natural Resources Conservation Service's (NRCS) flagship conservation program, providing technical assistance to farmers and ranchers who are addressing natural resource concerns. Rancher participation in voluntary, working lands programs like EQIP is essential for the effective conservation of grassland habitats in the region. However, to ensure EQIP is meeting its conservation goals and the needs of producers, evaluation of the program is necessary. In this pilot study, we interviewed farmers and ranchers in western South Dakota to enhance our understanding of the range of outcomes associated with participation in grazing-related EQIP practices, producer satisfaction with participation in the program, as well as perceptions of operational resilience. Specifically, the objectives of this work were to 1) describe producer perceptions of the ecological, social, cognitive, and economic outcomes of participating in EQIP practices, 2) explore rancher satisfaction with participation in grazing-related EQIP practices, 3) explore rancher perceptions of operational resilience to a range of shocks and stressors, and 4) explore perceived barriers to continued or increased adoption of conservation actions and future conservation intentions.

We received feedback from 12 ranchers, all of whom own or operate land in the pilot study area and had completed at least one grazing-related EQIP practice since 2021. Of those ranchers interviewed, we found that most respondents perceived positive ecological and social outcomes (Figure 1). Most ranchers perceived improvements in the length of their grazing season, forage quality, and the time needed for their rangeland to recover from drought. Additionally, all but one participant noted an improvement in wildlife populations since enrolling in grazing-related EQIP practices. Most producers also perceived improvement in their understanding of conservation programs and grassland health, as well as their relationships with conservation organization staff. These results suggest that grazing-related EQIP practices are resulting in their intended ecological outcomes, and further, are resulting in social outcomes that may be important for continued or increased participation in conservation programs. Overwhelmingly positive outcome perceptions are likely due to most participants being very or extremely satisfied overall with their participation in EQIP.

When asked about the biggest challenges operations currently face, participants most frequently mentioned drought, followed by market and general weather uncertainty, and rising costs. Relatedly, participants were moderately confident in their operation's ability to deal with weather extremes and to provide them with the income they hope for (Figure 2). Together, these results suggest that additional support is needed to help prepare operations for drought and other weather extremes. When asked directly what support would help prepare participants' operations for the future, additional cost-share was most frequently mentioned, followed by education and outreach.

All respondents said they were extremely likely to continue the practices included in their EQIP contract, and most were very or extremely likely to enroll in another EQIP contract. However, most participants were moderately or less likely to enroll in a new conservation program. This is likely due to perceptions of challenges or issues with application processes (e.g., application ranking and extended wait-time to be accepted).

This pilot study is an example of how producer input can be collected and applied to improve voluntary, working lands conservation programs. The data sum-

marized here provide initial insights that will be used to inform program marketing, targeting, and new pilot practices. However, it is important to note that, given the nature of the study design, the results are not generalizable and should only be applied to the ranchers who participated in the interviews or producers who are similar to them. Continued data collection in additional counties and over time will inform whether perceptions differ across counties or demographic groups, how perceptions change over time, and how perceptions impact sustained conservation practice implementation, as well as the adoption of additional practices.

USING SCIENCE AND TECHNOLOGY TO ADDRESS BIOME COLLAPSE IN THE GREAT PLAINS

Samantha Cady, University of Nebraska-Lincoln

Other Authors: Dirac Twidwell, University of Nebraska-Lincoln

In the North American Great Plains, large-scale woody plant encroachment is causing one ecological regime (woodlands) to become geographically larger at the expense of another (grasslands). This phenomenon has direct consequences for grassland conservation. Emerging technological advances have allowed for large scale tracking of these rapidly shifting biome boundaries. Combining these tools with ecological theory has yielded the capability to closely quantify and monitor these regime shifts, detect the scale at which they occur, describe their impacts on avian species, and develop proactive conservation strategies. Here, we describe these grassland conservation data products and their role in driving management action.

A TALE OF TWO RIVERS: DO WATERSHED PRACTICES DICTATE WATER QUALITY IN NEBRASKA'S GRASSLANDS

Gultekin Yilmaz, University of Nebraska-Lincoln

Other Authors: David Manning, Paul Ayayee, Rodrigo Meza Gonzalez, Bincy Sunny (University of Nebraska-Omaha), Alan Warden, Binbin Wang (University of Nebraska-Lincoln)

Grassland rivers provide habitat and migration corridors for many species. In this study, we compare environmental indicators in the Niobrara River (NR) and the Elkhorn River (ER). Nutrients were twice as high in ER as NR, with a 10X increase in algal biomass. Algal growth in both rivers showed signs of nutrient limitation, suggesting increases in nutrient pollution could worsen eutrophic conditions. Our aquatic macroinvertebrate survey suggests similar functional groups are present in both rivers, but their isotopic signatures reflect different pollution impacts. Bacterial microbial composition comparisons also reflect higher levels of pollution in the ER. Grassland management practices have helped minimize ecological stressors in the NR.

RESTORATION STRATEGIES AND HOW THEY INFLUENCE PLANT COMMUNITY RESILIENCE, DIVERSITY, PONDING, AND SUSTAINABILITY

Jeff Drahota, U.S. Fish and Wildlife Service

Other Authors: Jessica Bolser, Rainwater Basin WMD

The RWB WMD selected a short list of projects to be completed in 5 years were mainly focused on increasing ponded area, ponding frequency, and restoring native plant communities. Ultimately, the goals for these projects were to reduce invasive plant communities and increase desirable plant communities while improving plant community resilience. We used cutting edge restoration strategies to complete 9 projects and contemporary restoration strategies on 4 other areas over the last 4 years. New restoration strategies focus on restoring habitat to pre-settlement conditions, contemporary strategies focus on keeping some soil above the claypan.

"The topics did a great job of geographic representation. Seeing the presentations from the southeastern United States especially broadened my thinking about grasslands both spatially and temporally. We certainly have other conferences and meetings around grasslands, but this was a good mix of faces both familiar and new, and a unique combination of the familiar ones." ~ Conference Attendee

Ethan Freese

National Wildlife Federation
1200 G Street, NW, Suite 900
Washington, D.C. 20005
www.nwf.org