Written Testimony
Submitted to
U.S. House Committee on Science, Space, and Technology
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Nature in Crisis: Biodiversity Loss and its Causes

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Chairwoman Johnson, Ranking Member Lucas, Members of the Committee, thank you for this opportunity to submit a written statement on behalf of the Noble Research Institute, LLC.

Lloyd Noble, an oilman and philanthropist, founded the Noble Research Institute in 1945 to help revitalize agriculture following the Dust Bowl. Mr. Noble was a visionary in land stewardship and conservation, recognizing that "… the land must continue to provide for our food, clothing and shelter long after the oil is gone," and that "no civilization has outlived the usefulness of its soil. When the soil is destroyed, the nation is gone." Today, the Noble Research Institute is the largest independent agricultural research organization in the United States. Among our other efforts in agriculture consultation and education, we conduct agricultural research to connect the five soil health management principles referenced herein to definable outcomes across the U.S. in an effort to enhance a sustainable beef cattle industry.

The recently published “Global Assessment of the Intergovernmental Panel for Biodiversity and Ecosystem Services” discusses in depth the estimated projections of global biodiversity loss and the perceived negative impacts imposed by the agriculture industry. To the contrary, for more than a decade, a movement has been taking place in the agricultural industry that is *returning* biodiversity to the land. A significant number of farmers and ranchers (“producers”) across the country and around the world are part of an agricultural revolution, a regenerative revolution, focused specifically on biological diversity and a healthy, biologically active soil. This movement, however, was not born in a laboratory nor was it born out of legislation or regulatory requirements. It was born out of the recognition by innovative producers who understood the need to adopt ecologically and economically sustainable principles to enable them to remain on the land, producing food, feed, fiber needed for an ever-expanding population.

Sixty years ago, the agricultural industry operated on cheap feed, cheap fertilizer and cheap fuel. Our industry and our research during that time focused on the chemical and physical characteristics of soils with little to no consideration of biological interactions within the soil. In recent years, prices for feed, fertilizer and fuel have increased to a point that has become unsustainable for many operations. Many producers have had to make a choice: continue doing what they have always done, or work *with nature* to find a new way to farm and ranch. Born out of equal parts necessity and frustration, producers began to experiment with farming techniques that limited the use of inorganic fertilizer, fuel and feed. They began to see that limiting or eliminating tillage reduced their fuel bill, and using the ageless practice of “cover crops” to keep their fields covered provided numerous benefits to the soil (i.e., preventing erosion, increasing water holding capacity and increasing biodiversity). In essence, they built a foundation of principles that many producers follow today to manage healthy soils.

These soil health management principles were set forth to achieve specific goals that are inherent to all soils. They are based on mimicking highly diverse, heterogeneous, native rangeland plant communities by harnessing the power of biologic interactions between plants, soil microbes, fungi and other of life in our soils. These principles build soil aggregation, which further builds structure. These principles have proven the path forward for many innovative producers and substantiated that the conventional farming practices of the last six decades are not the only way. The following soil health management principles were developed by producers for producers:

1) **Armor the soil:** Soil health cannot be built if the soil is moving. Building organic matter on the soil surface armors and protects the soil from erosive processes. Keeping the ground covered also serves as a mitigation mechanism for soil temperature. Excessive increases in soil temperature can have drastic and destructive effects on soil microbial life. Once soil temperatures reach 140º F soil bacteria die. The soil must be covered to minimize bare ground, this is largely accomplished by forage and crop residue.

2) **Optimize disturbance:** Physical soil disturbance, such as tillage, alters the structure of the soil and limits biological activity. If the goal is to build healthy, functional soil systems, tillage should only be use in specific, limited circumstances. While tillage is a detrimental disturbance, not all disturbances harm the soil. In fact, some are quiet beneficial and should be optimized. Grazing, prescribed fire, herbicide applications, among others, are all disturbances that can, if properly managed, be beneficial. For this reason, we use the term optimize disturbance to ensure that the timing, frequency, intensity and duration of these management activities are implemented in a planned manner.

3) **Increase diversity:** Increasing plant diversity above ground allows for a more diverse communities below ground. Specific soil microbes require specific plant types. The more diverse the microbial population in the soil, the better the plant species will perform due to increased biological activity.

4) **Keep living roots in the ground all year:** Soil microbes tend to utilize active carbon first. Active carbon is the exudates from living plant roots. Therefore to keep soil biology working as long as possible, a living root in the ground is ideal. A living root provides a food source for beneficial microbes and provides opportunity for symbiotic relationships between plant roots and mycorrhizal fungi.

5) **Properly integrate livestock:** Grasslands evolved under grazing pressure. Soil and plant health is improved by grazing, which recycles nutrients through improved manure distribution, reduces plant selectivity and increases plant diversity. The most important factor in grazing systems is the management of stocking rate and allowing, in some manner, adequate rest periods for the plant to recover before being grazed again.

Principles over Practices

The great challenges facing the U.S. agricultural industry as a whole are numerous and daunting. However, to solve those challenges, one must determine the root of the problem. For much of the past six decades, the agriculture industry admittedly focused on treating symptoms with practices and inputs rather that addressing the problem with science-based, systems-focused principles. Dating back as far as the early 1900s, producers tended to focus more on plowing the prairie with industrial technology and machinery rather than understanding the soil's ecology. To most, soils were largely viewed as a medium to grow crops.

Innovative producers today understand that we do not solve ecological problems by implementing practices, rather we implement principles. We can and are addressing ecological degradation by following principles that rebuild ecological processes and habitat from the ground up rather than focusing on specific singular species or management practices. It all begins with maintaining a solid foundation with healthy soil as the cornerstone to any agricultural enterprise.

Soil health is often defined as “the continued capacity of the soil to function as a vital, living ecosystem that sustains plants, animals and humans.” While many people today think of “soil health management” as a new strategy, it’s actually not. In 1949, Aldo Leopold stated in *A Sand County Almanac*, “Land, then, is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants and animals”.

Mr. Leopold is widely considered to be the father of modern conservation theory and wildlife management. He taught that land stewardship was not only rooted in conservation but also involved an ethic of stewardship. He wrote that all ethics rest upon the single premise "... that the individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, animals, or collectively: the land." Stated another way, once we understand that humans are not separate from, but are part of and depend on the natural community, we will develop an ethic to care for the community as a whole.

Fast forward to today: a lot has changed in how many “view” the soil and those entrusted with the stewardship thereof. For years, our soil, and specifically the health of our soil, has been taken for granted. And those who oversee the use and protection of our soil—the producers, the stewards of our land—have been disparaged and in many cases demonized for the practices in which they engage. However, the reality is that those entrusted with the mantle of responsibility as land stewards embrace the same ethic taught by Mr. Leopold. This is land stewardship, and land stewardship does not happen without land stewards.

Defining the Steward

Most of the time you can’t see them from the road, but if you take the time to look across rural America, you’ll find producers working tirelessly in an effort to ecologically steward their lands, raise their families, and earn a living wage. Many of these stewards are using the same tools that others claim are degrading the environment to effectively regenerate it.

In a 1933 article published by Mr. Leopold in *Game Management*, he states, "...game (wildlife) can be restored by the creative use of the same tools which have heretofore destroyed it- axe, cow, plow, fire and gun." He goes on to state "...management is their purposeful and continuing alignment,” emphasizing how these tools can be implemented or managed to drive their potential ecological outcome.

The management of the “axe” represents the management and sculpting of habitat, specifically woody species encroachment. The “cow” represents grazing management, including stocking rate along with the timing, frequency, intensity and duration of the grazing event. The “plow” represents soil management, optimizing habitat disturbance, managing for specific plant communities, even planting them. “Fire” represents the planned application of prescribed fire. Fire molded many of our rangeland systems and many have degraded due to its absence. Finally, the “gun” represents managing wildlife populations with science-based data in an effort to conserve and eliminate declining wildlife populations and declining biodiversity.

Applying the Principles Today

No-till and Cover Crops - Producers today are actively and independently beginning to re-implement these principles into their operating plans, all the while looking for new (and old) tools to help achieve environmental and production goals. With the primary soil health management principle being “armor the soil”, keeping the soil covered is paramount. Conventional tillage practices are extremely damaging to soil biological processes and increase the susceptibility of the soil to erode. Many innovative producers have embraced no-till agriculture and many are out-producing their conventional county cohorts. The use of cover crops has increase exponentially over the past several years. Cover crops are one commonly utilized tool in agronomic systems to meet several management goals, such as keeping the ground covered, adding biological diversity and increasing pollinator habitat. Cover crops are an incredible tool that can be utilized to directly or indirectly meet any and/or all of the five soil health management principles in cropland and pasture systems. Many producers have been utilizing mixed species cover crops in cropland and pasture systems to increase diversity, increase organic matter, increase soil microbiological function and more. Simply planting cover crops is not one of the principles. Cover crops are but one of the facilitators that enhance the farmer’s ability to follow the five soil health management principles.

Fire - The Great Plains, once stood as one of the most biologically diverse prairie ecosystems in the country. The two primary tools that molded this system over eons were herbivory (grazing) and fire. There are multiple reasons these rangelands are not in the condition they once were, including overgrazing (due to poor management and not the mere presence of the animals themselves), land fragmentation and woody encroachment. However, the most impactful is the suppression of fire. Limiting or completely removing fire from the landscape reduced nutrient and energy cycling and more importantly allows woody species to encroach and recruit, eventually creating a woodland. Fire in this ecological region is a core ecological process often overlooked, more often, completely removed. Historically, every square inch of land in the Great Plains evolved under a fire dependent ecology, meaning the proper function of that ecosystem and its habitat for wildlife species depended on fire and an integral component. Today, producers are increasing the use of prescribed fire to tailor its application and meet specific ecological outcomes and management objectives.

As with the use of cover crops to keep the ground covered thereby building healthy soil, timely and well-planned application of prescribed fire can actually limit the duration the soil is bare following fire. Given adequate soil moisture, cover can return quickly during the growing season. Prescribed fire can additionally aid in soil nutrient cycling and availability, often providing legacy effects for additional years.

Prescribed fire also aids in managing diverse plant communities, thus supporting habitat requirements of many game and non-game grassland bird species. Producers applying prescribed fire are actively enhancing the plant community structure for improved habitat, improving forage quality and quantity, and effectively addressing brush management. Studies have indicated that forage quality is increased and year end forage quantity is not reduced following prescribed fire. A primary driver of this result is controlling woody encroachment in prairie ecosystems. Consequently, brush management is the most common purpose for applying prescribed fire.

Air quality is often the scapegoat for most dissenters of prescribed fire. The primary air concern regarding prescribed fire is smoke management. Numerous environmental factors can have positive and negative effects on smoke dispersion during a prescribed fire, including mixing

height, transport wind speed and wind direction. Today's producers are using precise weather forecasting, proper planning and appropriate application of prescribed fire to mitigate air quality issues. Moreover, an oft-overlooked benefit of prescribed fire is that for some plant species, smoke actually increases seed germination.

Grazing - Grazing management is another tool that has defined agricultural production in the Great Plains region and beyond. Plant communities that make up the majority of ecologically diverse prairie systems evolved over time under some type of grazing influence. Largely the timing, duration, frequency and intensity of the grazing event over time has a tremendous impact on the composition and production of these rangeland plant communities. The art of applying proper grazing management is found in, among other things, the ability to be flexible with forage utilization and return intervals.

Beneficial grazing systems have been developed, tested, well published in the scientific literature and implemented across the country for decades. Producers are implementing grazing systems with an intentionality toward a given environmental climate, balancing the timing, duration, frequency and intensity of the grazing event.

Grazing systems are a valuable part of the overall grazing plan; however, no grazing system will be effective if stocking rate is not addressed. Stocking rate is the single most important grazing management decision a producer can make. Stocking rate influences forage utilization, grazing distribution, and over time can influence either positively or negatively the productive capability and diversity of rangeland plant communities and wildlife habitat. Grazing management is a complex part of managing a ranch, but today's producers are focusing not only on stewarding an ecological system and an animal production cycle that is constantly changing, but also on doing so in a manner that allows them to sustainably deliver their products cost-effectively into fluctuating markets.

Conclusion

Market forces on the inputs and outputs of farmers and ranchers across the United State have combined with the land stewardship ethic of those same individuals to create a movement in the agricultural industry focused on the application of fundamental principles of land stewardship, principles that can be applied across all aspects of the agricultural sector. Despite the growing theme in our public discourse laying the blame for global biodiversity loss at the feet of the agriculture sector, over the past decade, the movement is demonstrating that, in fact, many agricultural producers, as well as the sector as a whole, are actually helping return biodiversity to the land.

As the movement continues to grow, unimpeded by the burden of restrictive legislation and regulations, so too will the biodiversity beneficial to the production food, feed and fiber and ecosystem services necessary to support an ever-expanding population.

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Decatur, Texas 76234
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Education

Current — Texas A&M Kingsville, Kingsville, Texas
Ph.D. Student
Wildlife Science (emphasis Rangeland Ecology)

May 2001 — Tarleton State University *Stephenville, TX*
Master of Science Agriculture (emphasis Range /Animal Science)
Overall *GPA*: 4.0
Thesis: Interaction of Goats and Grass/Forb Pastures in Full Sun and Shade. * D.J. Goodwin. Department of Agronomy and Range Management. Tarleton State University. 112pp.

May 1999 — Tarleton State University *Stephenville, TX*
Bachelor of Science Range and Ranch Management
Minor- Animal Science

Certifications

- **Certified Professional in Rangeland Management**
  - Certification # CP04-005
  -administered by the Society for Range Management

Professional Experience

6/16 to Present **Noble Research Institute, LLC.**
2510 Sam Noble Parkway- Ardmore, Oklahoma 73401
Office of Industry Relations and Stewardship
Conservation Stewardship Lead and Rangeland & Pasture Consultant
Leads the development and implementation of Noble Research Institute's Land Stewardship Program. This program is focused on providing ranchers key indicators and metrics to help recognize the ecologic and economic return on investment of stewardship focused management. Additionally serves as a rangeland and pasture consultant, providing rangeland and pasture expertise and management planning to producers in Kansas, Oklahoma, and Texas.

4/14 to 6/16 **USDA-Natural Resources Conservation Service**,
Ecological Sciences Staff, Texas NRCS State Office.
101 South Main- Temple, Texas 76501
State Rangeland Management Specialist GS-13
Responsibilities include serving as a member of the Texas State Interdisciplinary Ecological Sciences technical team, providing support to program staff, state, zone and field office personnel in rangeland management technology transfer, development and implementation of federal, state and local programs and

initiatives. Serves as discipline leader for all rangeland management conservation practice standards and specifications in 254 counties in Texas. Serves as discipline leader for a team of 5 Zone Rangeland Management Specialists covering 50 counties each and 10 Grazingland Specialists covering 15-20 counties each. Provide state, zone and field office assistance in performance of quality assurance activities as directed in accordance with state and national guidelines. Provide support in the development, review and approval of ecological site descriptions in Texas. Continue to serve as the Texas NRCS liaison to the Texas Grazing Land Coalition.

1/11 to 4/14 **USDA-Natural Resources Conservation Service**,
Ecological Sciences Staff, Texas NRCS State Office.
101 South Main- Temple, Texas 76501
State Grazingland Specialist/ State GLC Liaison GS-12
(Acting) State Plant Materials Specialist GS-13 (1-1-13 to 4-30-13)
Serve as a member of the Texas State Interdisciplinary Ecological Sciences technical team, providing support to program staff, zone and field office personnel in grazingland technology transfer, development and implementation of federal, state and local programs and initiatives. Responsibilities include providing statewide leadership with the Texas Grazing Land Coalition (TXGLC) activities. Serves as team leader of 10 Grazingland Specialist covering 15-20 counties each. Assists Texas GLC in the development of operation plans, setting goals, determining conservation needs on grazing lands and setting statewide priorities. Provides support in the development and implementation of federal, state, and local programs that directly impact grazing lands. Provide staff, zone and field office assistance in performance of quality assurance activities as directed in accordance with state and national guidelines. Provide support in the administration of contracting, development and review of ecological site descriptions in Texas.

10/07- 1/11 **USDA-Natural Resources Conservation Service**,
Weatherford Zone 5 Staff, headquartered at Cleburne Field Office.
105 C Poindexter St- Cleburne, Texas 76033
Rangeland Management Specialist/Regional GLC Grazingland Specialist GS-11
Responsibilities include providing grazingland technical assistance to producers and providing technology transfer, training, and quality assurance to field office personnel in an 18 county work area. Primary responsibilities include providing leadership on Blackland Prairie Grazing Land Coalition (GLC) activities, assistance to land managers on specialized grazing land concerns, recommendations for alternative treatments of resource concerns, recommendations concerning conservation practice standards and revisions, and reviewing Ecological Site Descriptions.

10/05- 10/07 **USDA-Natural Resources Conservation Service**,
Eastland Field Office, 403 Pogue Ave. Eastland, Texas 76448
Rangeland Management Specialist GS-9
Responsible for providing rangeland technical assistance to landowners and operators in Eastland and Comanche Counties. Responsible for the planning,

application, and maintenance of natural resource conservation plans, resolving grazingland management conservation concerns, servicing Farm Bill programs, and initiating conservation practices on private land.

8/03 – 10/05 **USDA-Natural Resources Conservation Service**,
Fort Hood Project Office, 105 Memorial Dr. Gatesville, TX 76528
Rangeland Management Specialist GS-9
Primary responsibilities are planning and applying a coordinated natural resources conservation program for rangelands on Department of Defense lands at Fort Hood, Texas. Working with Integrated Training Area Management (ITAM) on the development and implementation of an Integrated Natural Resources Management Plan. County Based responsibilities include servicing Farm Bill Programs and assisting the Hamilton-Coryell Soil and Water Conservation District.

7/02 - 8/03 **USDA-Natural Resources Conservation Service,** Lampasas Field Office, 516 E. Fourth Lampasas, TX 76550
Rangeland Management Specialist GS-7
Responsible for providing rangeland technical assistance to landowners and operators in Lampasas, Burnet, and Mills Counties. Responsible for the planning, application, and maintenance of natural resource conservation plans, resolving grazingland management conservation concerns, servicing Farm Bill programs, and initiating conservation practices on private land.

1/01 - 6/02 **Texas Agricultural Experiment Station** P.O. Box 1658 Vernon, TX 76384
Research Associate, Range Animal Nutrition
Responsible for all ranch operations on the Smith/Walker Experimental Ranch. Responsible for the acquisition and analysis of data pertaining to the Beef Cattle Nutrition program. Additional duties included, maintaining detailed records on rotational grazing management, animal health, supplementation, pasture usage, as well as breeding and calving activity. In addition to, developing databases for statistical analysis, technical papers, and presentations. Managed full-time and temporary personnel in field activities.

1/00 - 12/00 **Tarleton State University** Box-T 0050 Stephenville, TX 76401
Graduate Assistant, Department of Agronomy, Agribusiness, Horticulture, and Range Management
Laboratory instructor - Fundamentals of Crop Production
Laboratory instructor - Introduction to Soil Science

5/99 - 12/00 **Texas Agricultural Experiment Station** Rt. 2 Box 00 Stephenville, TX 76401
Graduate Student, Forage Science
Conducted thesis research and worked closely with all other aspects of the Forage departmental research. Departmental research included warm and cool season, annual and perennial forbs and grasses, determining forage yield, quality, animal selectivity, persistence, and wildlife food plot research.

1/98 - 5/99 **Texas Agricultural Experiment Station** Rt. 2 Box 00 Stephenville, TX 76401
Student Worker, Plant Breeding

Maintaining reproductive plants, row cropping, greenhouse care, field plot care, irrigation, farm equipment operation and maintenance, and other aspects of the Plant Breeding Department.

Professional Publications: **Peer Reviewed Articles**

Soil Health as a Transformational Change Agent for US Grazing Lands Management. J. Derner, A. Smart, T. Toombs, D. Larsen, R. McCulley, J. Goodwin, S. Sims, L. Roche. Rangeland Ecology and Management. Vol 71, Issue, July 2018, pgs 4003-408.

Riparian Restoration on Farms and Ranches in Texas.
B. Alldredge, *J. Goodwin, N. Dictson, J. Cathey. Texas A&M University Press, August 2014.

Grazing, Hunting, and Endangered Species Management are Compatible Practices: Diversifying Income through a Multi-Species Approach.
M. Marshall, B. Hays, R. Reitz, *J. Goodwin, M. Machacek, J. Cathey. Texas A&M University Press, January 2014.

Texas GLCI: Growing Partnerships on Texas Grazinglands.
*J. Goodwin and M. Moseley. Rangelands. Vol 34 Issue 4, 2012. Pp. 50-53.

Goat Weight Gains, Forage Selectivity, and Forage Quality Dynamics in Three Cultivated Warm Season Pastures in North-Central Texas
*D. J. Goodwin, J. P. Muir, R. D. Wittie, and T.F. Brown. Small Ruminant Research. 52 (2004) pp.53-62.

Technical Reports

What Plants are Important? Monthly Editorial Edition. The Cattleman Magazine. Texas and Southwestern Cattle Raisers Association. 2013-2016

Goat Performance, Forage Selectivity, and Forage Quality Dynamics in Three Cultivated Warm Season Pastures in North-Central Texas
*D. J. Goodwin, J. P. Muir, and R. D. Wittie. TAES Sheep and Goat, Wool and Mohair Consolidated Progress Report, 2002. Pp. 90-98.

Wheat Forage and Stocker Cattle Production Response to Phosphorous Fertilization in The Rolling Plains. Part I 1999-2000. W.E. Pinchak, J.W. Sij, D.P. Malinowski, R.J. Gill, D.L.Robinson, T. Baughman, S.J. Bevers, K.A. Barnett, D.J. Goodwin J.D. Fulford, A. Hamburger, R. Clifton, S.E. Showers, P. Graf, and A. Waggoner. TAES-Vernon Technical Report 2002-08, pg. 3-4.

Wheat Forage and Stocker Cattle Production Response to Phosphorous Fertilization in The Rolling Plains. Part II 2001-2002. W.E. Pinchak, J.W. Sij, D.P. Malinowski, R.J. Gill, D.L.Robinson, T. Baughman, S.J. Bevers, K.A. Barnett, D.J.

Goodwin J.D. Fulford, A. Hamburger, R. Clifton, S.E. Showers, P. Graf, and A. Waggoner. TAES-Vernon Technical Report 2002-08, pg. 5-6.

Grazing Cattle Behavior and the Concept of Behavioural Expected Progeny Differences. W.E. Pinchak, K.A. Barnett, D.J. Goodwin, S.E. Showers, and J.D. Fulford. TAES-Vernon Technical Report 2002-08, pg. 47-49.

Spatial and Temporal Behavior of Grazing Cattle in the Southern Plains. I. W. E. Pinchak, K. A. Barnett, D. J. Goodwin and S. E. Showers. Texas Agricultural Experiment Station. Society for Range Management Annual meeting proceedings. Kansas City, Kansas 2002.

Spatial and Temporal Behavior of Grazing Cattle in the Southern Plains II. W. E. Pinchak, K. A. Barnett, D. J. Goodwin and S. E. Showers. Texas Agricultural Experiment Station. Society for Range Management Annual meeting proceedings. Kansas City, Kansas 2002.

Professional Papers/Abstracts/Oral Presentations

Rangeland Soil Health: A Texas Case Study. Society for Range Management, Minneapolis, MN, February 2019

Quick Carbon: Tools for Tomorrow, Today. Society for Range Management, Minneapolis, MN, February 2019

Land Stewardship and the Benefits for Beef Production. National Cattleman's Beef Association, New Orleans, LA, January 2019

The Value on Conservation Planning and Technical Assistance. National Cattleman's Beef Association, New Orleans, LA, January 2019

Noble Land Stewardship: The Case for an Ecosystem Service Market. ACES-A Community on Ecosystem Services, Washington D.C., December 2018

Rangeland Soil Health: A Texas Case Study. 7th National Grazing Land Conference, Reno, NV, December 2018

Quantifying and Valuing Land Stewardship: Science Based Solutions to Ecosystem Challenges. 7th National Grazing Land Conference, Reno, NV, December 2018

Prescribed Fire Effects on Soil Health. Yale University School of Forestry & Environmental Studies, New Haven, CT, November 2018

Quick Carbon: Tools for Tomorrow, Today Texas Section Society for Range Management, Lubbock, Texas, October 2018

Research & Development: Gaps & Priorities for Ecosystem Service Markets Foundation for Food and Agricultural Research, Washington D.C., September 2018

Prescribed Fire and Soil Health: Friend or Foe? Oklahoma Natural Resource Conference, February 2018.

Principles of Soil Health for Rangeland. Southern Soil Health Conference, 2018

Grazingland Soil Health- Concerns, Experiences, and Outlook. Southern Soil Health Conference, 2017

Grazingland Soil Health- Concerns, Experiences, and Outlook: Iowa Forage and Grassland Council Annual Conference, 2017

Top 10 Attributes of Successful Grazingland Managers.
DJ Goodwin. Texas and Southwestern Cattle Raisers Association. School for Successful Ranching. Fort Worth, Texas April, 2016.

Resources for Getting More Prescribed Fire on the Ground. DJ. Goodwin Making Cents of the Science Symposium. Society for Range Management Annual Meeting. Corpus Christi, Texas. February 2016.

Building Soil Health with Grazing Management: A Riesel Cast Study.
*DJ Goodwin, D. Harmel, N. Haile, C. Kneuper., 6th National Conference on Grazing Lands. Grapevine, Texas. December 2015.

Ranching with Endangered Species: What Help is Available?
DJ Goodwin. Texas and Southwestern Cattle Raisers Association. School for Successful Ranching. Fort Worth, Texas 2015

**Ranching in Synergy with Endangered Species in Texas: The Rocosa Ridge Ranch., ***D.J.Goodwin and M. Machacek. 2014 Society for Rangeland Management Annual Meeting, Orlando, FL. February, 2014. Excellence in Rangeland Management Competition.

Texas GLCI: Growing Partnerships on Texas Grazinglands.
DJ Goodwin., 5th National Conference on Grazinglands, Orlando, Florida. December 2012. Annual Meeting Proceedings

Ranch Diversification in the Blackland Prairie of Texas: The 77 Ranch.
D.J. Goodwin. 2011 Society for Rangeland Management Annual Meeting, Billings, MT. February, 2011. Excellence in Rangeland Management Competition.

Grazingland and Economic Sustainability: The Balancing Act.
D.J. Goodwin. 2011 Society for Rangeland Management Annual Meeting, Billings, MT. February, 2011. Annual Meeting Proceedings.

Forming a GLCI Coalition: A Blackland Prairie Example.
D.J. Goodwin. 4th National Grazingland Land Conservation Initiative Conference. Reno, NV. December 2009: Annual Meeting Proceedings.

Application of Alternative Management Strategies for Prickly Pear (*Opuntia spp*.) Control in Texas. *D.J. Goodwin, K. Ferguson, D. Merz., L. Creswell. 2008 Society for Range Management- American Forage and Grassland Council Annual Meeting, Louisville, KY. January 2008. Annual Meeting proceedings.

3rd National Grazing Lands Conservation Initiative Conference, St. Louis, MO. December 2006. Annual Meeting proceedings.

Rangeland Inventory and Monitoring on Fort Hood Military Installation. *D.J. Goodwin and *K. Ferguson, Texas Section Society for Range Management, General Session. Annual Meeting Proceedings, South Padre Island, Texas. October 2005.

An Integrated Approach to Addressing Soil Erosion Problems on Fort Hood. *D.J. Goodwin, K. Ferguson**,** D. Creek, and J. Paruzinski., 14th Annual Integrated Training Area Management (ITAM) Workshop. Indianapolis, Indiana, August 2005.

Ashe Juniper (*Juniperus ashei*) Encroachment on Previously Treated Fort Hood Training Areas. *D.J. Goodwin and K. Ferguson, 13th Annual Integrated Training Area Management (ITAM) Workshop. San Francisco, CA. August 2004.

Application of Conservation Practices on Fort Hood Military Installation. *D.J. Goodwin and D. Creek, Texas Section Society for Range Management, Young Professional Program. Wichita Falls, TX. October 2003.

Warm Season Pastures for Goats in the Cross-Timbers *D.J. Goodwin Texas Forage Workers, Annual Meeting. Stephenville, TX. May 15, 2001.

Interaction of Goats and Grass/Forb Pastures in Full Sun and Shade *D. J. Goodwin, J.P. Muir, R. D. Wittie, and T.F. Brown. American Society of Agronomy, meeting abstracts. Minneapolis, MN. November 2000.

Naturalized Winter Legumes for Finishing Goats under Mature Pecan Groves and Open Pastures. *D. J Goodwin and J.P. Muir, Texas Section Society for Range Management, Young Professional Program. Stephenville, TX. October 1999.

Activities

- Texas State FFA Range and Pasture Contest Co-Superintendent, 2005- 2016
- Member of Society for Range Management, 1995-present
- Tarleton State University Range Plant ID Team Coach, 2006
- Lampasas County 4-H Plant Identification Team, Assistant Coach, 2002
- Tarleton State University Range Plant ID Team Coach 1999-2001

- Tarleton State University Range Club President 97-98
- Tarleton State University Range Club Vice President 96-97
- Member of TSU Range Plant ID Team 96-99
- Charter Member of TSU Wildlife Society
- Alpha Gamma Rho (A National Agricultural Fraternity)

Honors

- 2019 Outstanding Achievement Award- Tarleton State University, Department of Wildlife, Sustainability and Ecosystem Services
- 2015 Texas Section Society for Range Management- Fellow Award
- 2014 USDA-NRCS National Rangeland Conservationist of the Year
- 2014 Texas Section Society for Range Management Publication Award- "Grazing, Hunting, and Endangered Species Management are Compatible Practices: Diversifying Income Through a Multi-species Approach"
- 2014 Excellence in Rangeland Management presented by the Society for Rangeland Management- Orlando, FL
- 2011 National Outstanding Young Rangeland Professional presented by the Society for Rangeland Management
- 2011 Excellence in Rangeland Management presented by the Society for Rangeland Management- Billings, MT
- 2008 Outstanding Young Professional in Rangeland Management presented by the Texas Section-Society for Range Management
- 2008 USDA- NRCS Certificate of Merit
- 2004 USDA-NRCS Certificate of Appreciation
- 2003 USDA-NRCS Certificate of Merit
- 1998 Outstanding Senior Student in Range Management at Tarleton State University

Professional Engagement

Society for Range Management

2019 SRM 2nd Vice President (on ballot)
2017-2019 SRM Board of Directors
2015 SRM Annual Meeting Program Co-Chair, Corpus Christi
2014 SRM Advisory Council Chair
2013 SRM Advisory Council Chair Elect
2011-2012 SRM-GLCI Committee Chair
2008 Certified Professional in Rangeland Management Certification Committee
2005 Annual Meeting Technical Tour Committee
2005 Annual Meeting Local Information Committee

Texas Section - Society for Range Management

2014 TSSRM Planning committee Chair
2014 Resolutions Committee Chair
2013 President - Texas Section Society for Range Management
2012 1st Vice President - Texas Section Society for Range Management
2011 2nd Vice President- Texas Section Society for Range Management
2008-2010 Texas Section Society for Range Management- Board of Directors
2010-2013 Outstanding Rangeland Management Committee Chair
2007 TSSRM Youth Activities Committee

2006-2010 TSSRM "*Grass Roots"* Newsletter and Website Editor
2006 TSSRM Membership Committee
2005 TSSRM Membership Chair
2004 TSSRM College Activities Committee
2004 TSSRM Information and Education Committee
2003 TSSRM Endowment Fund Committee
2003 TSSRM Excellence in Range Management Award Committee

Texas and Southwestern Cattle Raisers Association
Natural Resources and Environment Committee 2015-2016

Texas Cooperative Extension
State Herbicide Use Committee- 2014-2016
Navarro County Extension Livestock Committee 2008-2010
Lampasas Co. Cattleman's College Task Force, 2002 to 2004
Lampasas Co. Agricultural Economic Task Force, 2002 to 2004
Lampasas Co. Range Management Tour Planning Committee, 2002 to 2004

North Texas Buckskin Brigade
2003-2009 Steering Committee

Douglas Jeffrey (Jeff) Goodwin

Short Narrative Biography

Jeff Goodwin serves as the Conservation Stewardship Lead at Noble Research Institute. Mr. Goodwin provides leadership in the development and implementation of the institute's land stewardship programs and activities. Mr. Goodwin received a BS and MS degree in rangeland management from Tarleton State University and is currently pursuing a PhD at Texas A&M University-Kingsville. Before coming to the Noble, Mr. Goodwin was the state rangeland management specialist for USDA's Natural Resources Conservation Service (NRCS) in Temple, Texas. Mr. Goodwin has over 20 years' of experience working directly with producers and land managers implementing stewardship focused management. Jeff and his family are also commercial cow/calf producers in central and north Texas.