

# OKLAHOMA NATURAL RESOURCES CONFERENCE

**FEBRUARY 20-22, 2019** TULSA, OK



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## → HOSTED BY

### THE OKLAHOMA CHAPTERS OF:

The Wildlife Society  
American Fisheries Society  
Society for Range Management  
Invasive Plant Council  
Society of American Foresters  
Prescribed Fire Council

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## THE POWER OF SUSTAINABLE AGRICULTURE

Soil health practices across the U.S. not only have the potential to improve water quality in our streams also the potential to reduce **389 million tons of carbon dioxide** per year, equivalent to the pollution from nearly **85 million cars and trucks** on the road.



# → SCHEDULE-AT-A-GLANCE

WEDNESDAY

2/20

10:00am - 12:00pm	<b>Seminar A/V Setup</b>	Rooms B & D
1:00pm - 2:00pm	<b>OKNRC Registration</b>	2nd Floor Foyer
1:30pm - 4:30pm	<b>Terrestrial and Aquatic Diseases in Oklahoma Seminar</b>	Room D
2:00pm - 5:00pm	<b>Women in Natural Resources</b>	Room B
4:00pm - 6:00pm	<b>A/V Set-up for Presenters</b>	2nd Floor Foyer
5:30pm - 6:30pm	<b>OKNRC Registration</b>	2nd Floor Foyer
6:30pm - 9:00pm	<b>Mixer</b>	2nd Floor Foyer

THURSDAY

2/21

7:30am - 11:40am	<b>Registration</b>	2nd Floor Foyer
7:30am - 5:00pm	<b>A/V Set-up for presenters</b>	2nd Floor Foyer
8:00am - 5:00pm	<b>Poster Session</b>	2nd Floor Foyer
8:30am - 11:05am	<b>Plenary Session</b>	Room D
11:05am - 11:20am	<b>Break</b>	
11:20am - 12:20pm	<b>Human Dimensions</b>	Room B

11:20am - 12:20pm	<b>Fire Ecology</b>	Room C
11:20am - 12:20pm	<b>Water Quality</b>	Room D
12:20pm - 2:00pm	<b>Lunch (Student/Mentor Must Pre-register)</b>	
2:00pm - 3:00pm	<b>Human Dimension</b>	Room B
2:00pm - 3:00pm	<b>Movement</b>	Room C
2:00pm - 3:00pm	<b>Smallmouth Bass</b>	Room D
2:00pm - 5:00pm	<b>Registration</b>	2nd Floor Foyer
3:00pm - 3:20pm	<b>Poster Session   Break</b>	
3:20pm - 5:00pm	<b>Birds</b>	Room B
3:20pm - 5:00pm	<b>Eastern Redcedar Dynamics</b>	Room C
3:20pm - 5:00pm	<b>Population</b>	Room D
5:00pm - 6:00pm	<b>Business Meetings</b>	TWS - Room A AFS - Room B SRM - Room D
6:00pm	<b>Mixer</b>	Tulsa Ballroom
6:30pm - 9:00pm	<b>Dinner, Awards, and Auction</b>	Tulsa Ballroom

FRIDAY

2/22

7:30am - 9:00am	<b>Registration</b>	2nd Floor Foyer
7:30am - 9:00pm	<b>A/V Set-up for presenters</b>	2nd Floor Foyer
8:00am - 10:00am	<b>Invasive Species</b>	Room B
8:00am - 10:00am	<b>Stream Fisheries</b>	Room C

8:00am - 10:00am	<b>GIS Modeling</b>	Room D
10:00am - 10:20pm	<b>Break</b>	
10:20am - 12:00pm	<b>Species of Concern</b>	Room B
10:20am - 12:00pm	<b>Conservation Programs</b>	Room C
10:20am - 11:00am	<b>Responsive Management</b>	Room D
11:00am	<b>Oklahoma Invasive Plant Council Meeting</b>	Room D
12:00pm	<b>Adjourn</b>	

# Oklahoma State Chapter of the National Wild Turkey Federation



When the National Wild Turkey Federation was founded in 1973, there were about 1.5 million wild turkeys in North America. After decades of work, that number hit an historic high of almost 7 million turkeys. To succeed, the NWTF stood behind science-based conservation and hunters' rights. Thanks to the efforts of dedicated volunteers, professional staff and committed partners, the NWTF has facilitated the investment of \$488 million in wildlife conservation and the preservation of North America's hunting heritage. The NWTF has improved more than 17 million acres of wildlife habitat and introduce 100,000 people to the outdoors each year. The NWTF Save the Habitat. Save the Hunt. initiative is a charge that mobilizes science, fundraising and devoted volunteers to raise \$1.2 billion to conserve and enhance more than 4 million acres of essential wildlife habitat, recruit at least 1.5 million hunters and open access to 500,000 acres for hunting. The NWTF is well on its way to meet or exceed these goals. For more information, visit [NWTF.org](http://NWTF.org).



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# → PLENARY SPEAKERS

## DR. WILLIAM MATTHEWS

Challenges and Opportunities for Future Fisheries Professionals: Basic Biology of Species, Long-term Studies, and Taking Good Field Notes

Dr. William Matthews was Professor at the University of Oklahoma from 1979 to 2016. He is now Professor Emeritus in the Biology Department at OU. He taught ichthyology, fish biology, ecology, and various fish courses at the OU Biological Station. He received his BSE and MS from Arkansas State University, and PhD from OU. Dr. Matthews was an Officer in the US Army from 1968 to 1970. He taught at Roanoke College, Virginia from 1977 to 1979, then returned to OU as Assistant Professor in 1979. He spent 15 years in residence at the OU Biological Station at Lake Texoma, with extensive studies of striped bass, predator-prey interactions, and fish communities in the reservoir. He also did long-term studies of fish communities in Brier Creek, OK, and Piney Creek, AR, now with more than 40 years evaluating changes in fish community structure in both systems. He has more than 100 published papers on fishes in Oklahoma, Arkansas, and the Midwest; three books, including "Patterns in Freshwater Fish Ecology" with Edie Marsh-Matthews and "Stream Fish Community Dynamics: A Critical Synthesis." He has served as President of the American Society of Ichthyologists and Herpetologists (ASIH) and of the Southwestern Association of Naturalists (SWN); curator of Fishes at Sam Noble Oklahoma Museum of Natural History from 1982 to 2003; and chairman of the OU Zoology Department (2003-2011). Dr. Matthews has received Lifetime Achievement Awards from the Arkansas and Oklahoma Chapters of the American Fisheries Society; the Joseph S. Nelson Lifetime Achievement Award in Ichthyology from ASIH; and the Carl R. Sullivan Fishery Conservation Award from AFS. He continues to collaborate with Edie Marsh-Matthews on long-term studies of stream fishes and in writing papers from 40+ years of shared data.

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# → PLENARY SPEAKERS

## DR. TORRE HOVICK

Simplification of Rangelands Threatens  
Biodiversity Conservation

Dr. Torre Hovick is an assistant professor of range science at North Dakota State University. He received his BS at the University of Northern Iowa, MS at Iowa State, and PhD at Oklahoma State University. His MS and PhD research focused on the influence of restored disturbance regimes on the native bird community. Dr. Hovick currently advises six graduate students that research highly integrated range/wildlife/fire ecology topics and involve organisms such as bees, butterflies, birds and bats. He has 36 publications in A wide variety of journals including outlets such as Rangeland Ecology and Management and Ecological Applications and has received over \$2 million in funded grants. When not doing research, Dr. Hovick enjoys taking photos of wildlife and spending time outdoors with his two daughters.

## DR. JAMES M. GULDIN

### Forestry in the 21st Century—Resistance, Resilience, and Transition Under Changing Climatic Conditions

Dr. Jim Guldin is the Station Silviculturist for the Southern Research Station of the USDA Forest Service, and is stationed in Hot Springs, Arkansas. He is one of three Station scientists who serve on the SRS Research Advisory Board, which supervises the scientific research program for all of the Station's research work units across the South. With A 35-year career in academia and Federal research, Jim describes himself as an "alleged" expert in the theory and application of uneven-aged silvicultural systems in southern yellow pines and in Ozark oak-hickory forests, on the restoration of even-aged shortleaf pine-blue-stem woodlands in the Ouachita Mountains of Arkansas and Oklahoma, and restoration and management of longleaf pine forests and woodlands in the lower Gulf Coastal Plain. He is active in the Society of American Foresters; in the IUFRO Uneven-aged Silviculture Working Group, and serves on the Editorial Board for the British journal, *Forestry*. Jim also serves on two major regional advisory groups: 1) the Science Advisory Council for the L-A-D Foundation, which manages the 143,000-ac Pioneer Forest in southern Missouri, and 2) the Longleaf Partnership Council, an advisory group of 33 Federal, State, industry, private landowners, and conservation groups charged with implementation of the 2010 America's Longleaf Pine Restoration Initiative.



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## → PLENARY SPEAKERS

### **DR. DIRAC TWIDWELL, JR.**

#### **Managing for A Future of Uncertainty and Change**

Dirac Twidwell is an associate professor of rangeland and fire ecology at the University of Nebraska, A member of the international Resilience Alliance, and A partner with the Sage Grouse Initiative and the USDA National Working Lands for Wildlife Science Team. Dirac specializes in large-scale resilience science and planning. His research aims to address many of the challenges of the future in ecosystems and to identify solutions to many undesirable transitions occurring today. He has developed A series of novel experiments and technologies – including fire-igniting drones, which are now being tested and used to fight wildfires, the extreme fire experiments, the first studies in rangelands to control, study, and understand fire in extreme conditions, and he recently has developed new technologies capable of screening for vegetation transitions, which borrows principles from medicine to screen for undesirable changes that do not yet show signs or symptoms of an environmental resource problem. Dirac is well-published, with 45 papers in peer-reviewed scientific journals and in top journals like Science, Frontiers in Ecology and the Environment, Conservation Biology, and Applied Ecology. He is A strong proponent of science for citizen and professional use and works alongside multiple landowner networks and supports agency decision-making across millions of acres of land. His academic training includes A Ph.D. at Texas A&M University, Masters and postdoctoral research at Oklahoma State, and A Bachelor's degree in Biology at the University of Missouri Science and Technology.

# → ORAL PRESENTATIONS

WEDNESDAY

2/20

## Session

### Terrestrial and Aquatic Diseases in Oklahoma Seminar

Moderator: Steven Smith, Noble Research Institute  
Room D

1:30pm	<b>Investigating Fish in Oklahoma</b> Ferrella March
2:00pm	<b>Tracking Avian Disease Prevalence Across Environmental Gradients in Oklahoma and East Texas</b> Krisangel Lopez
2:30pm	<b>The Ecology of Tick-Borne Diseases and the Role of Wildlife Hosts in the Oklahoma City Metro Area</b> Megan Roselli
2:50pm	<b>Break</b>
3:10pm	<b>Ticks and Health: Should I Care About that Tick Crawling Up My Leg?</b> Bruce Noden
3:40pm	<b>Disease Surveillance in Oklahoma Feral Swine</b> Scott Alls
4:30pm	<b>Adjourn</b>

## Session

### Women in Natural Resources

Moderator: Priscilla Crawford, Oklahoma University Biological Survey  
Room B

2:00pm	<b>Keynote Speakers:</b> <b>Sara Hill</b> - Secretary of Natural Resources for the Cherokee Nation <b>Sue Fairbanks</b> - Assistant Professor at OSU NREM, Co-Founder Wildlife-Domestic Animal Disease Research Initiative <b>Jane Breckinridge</b> – Director Euchee Butterfly Farm, Co-Director Tribal Alliance for Pollinators, Founder Natives Raising Natives Project
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3:00pm	<b>Q&amp;A Panel:</b> <b>With Professional Women in Several Natural Resource Professions in Various Stages of their Careers</b> Moderator – Jessa Watters
4:00pm	<b>Social Hour:</b> Chat and Network Over Snacks and Beverages
5:00pm	<b>Adjourn</b>

THURSDAY

# 2/21

## Plenary Session

### Challenges Facing Natural Resource Professionals: What Is the Future of Natural Resources Management and Science?

Moderators: Craig Davis and Sam Fuhlendorf

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Room D

8:30am	<b>Welcome and Introduction</b> Vicki Jackson
8:35am	<b>Challenges and Opportunities for Future Fisheries Professionals: Basic Biology of Species, Long-Term Studies, and Taking Good Field Notes</b> Dr. William Matthews
9:05am	<b>Simplification of Rangelands Threatens Biodiversity Conservation</b> Dr. Torre Hovick
9:35am	<b>Forestry in the 21St Century- Resistance, Resilience, and Transition Under Changing Climatic Conditions</b> Dr. James M. Guldin
10:05am	<b>Managing for A Future of Uncertainty and Change</b> Dr. Dirac Twidwell, Jr.
10:35am	<b>Discussion Panel</b>
11:00am	<b>Break</b>

Session	Human Dimensions	Fire Ecology	Water Quality
Room	B	C	D
Moderator	Mike Proctor Noble Research Institute	Ken Gee Oaks and Prairies Joint Venture	Dan Shoup Oklahoma State University
11:20am	<b>Oklahoma's Deer Management Assistance Program</b> D. Barber	<b>It's A Dry Heat: Quantifying Effects of Increasing Atmospheric Moisture Demand on Native Oklahoma Trees</b> L. Wilson*, W. Hammond, H. Adams	<b>The Effect of Water Quality on the Mean Relative Weight of Largemouth Bass, Crappie, and Channel Catfish in Oklahoma Lakes</b> A. Griffin, B Hoagland, K. Kuklinski
11:40am	<b>Forward March - A New Commitment to Protecting the Earth: Volunteers Needed</b> C. Cheadle	<b>A Critical Analysis of Fire in Oklahoma: Is A Universal Approach, the Right Approach?</b> J. Buck*, J. Cheek, C. King	<b>Prioritizing Conservation Efforts for Maximum Water Quality Benefits in Little Beaver Creek Watershed, OK</b> B. Rogers
12:00pm	<b>Insights on High-Profile Tournament Bowfishers</b> J. Schooley, A. Geik, J. Johnston, R. Snow, D. Scarnecchia, K. Bostian	<b>The Influence of Local Fire History on Sericea Lespedeza Invasion</b> J. Howard	<b>Turbidity Alters Habitat Use By Bluegill</b> S. Molsey**, D. Shoup
12:20pm	<b>Lunch (Student/Mentor Must Pre-register)</b>		

Session	Human Dimensions	Movement	Smallmouth Bass and Saugeye
Room	B	C	D
Moderator	Matt Fullerton ODWC	Mike Porter Noble Research Institute	Matt Mauck ODWC
2:00pm	<b>Potential Economic Impacts of Management Alternatives &amp; Factors Associated With Visitor Satisfaction at Canton Lake, Oklahoma</b> A. Frakes**, O. Joshi	<b>Does Intraguild Avoidance Occur in Mesocarnivores? Temporal Activity Pattern Analysis of Mesocarnivores in South central Oklahoma</b> D. Premathilake*, V. Jackson	<b>Neosho Smallmouth Bass Spawning Movements and Associated Environmental Conditions in a Seasonally Discontinuous Boston Mountain Stream</b> J. Martin, C. Gagen
2:20pm	<b>Human Dimensions of Black Bear (<i>Ursus americanus</i>) Management in Eastern Oklahoma: An Assessment of Human Values, Attitudes, Behaviors and Population Tolerances</b> M. Cleary*, O. Joshi, S. Fairbanks	<b>Autumn and Winter Movement of Diminutive Prairie Fishes</b> D. Moore**, S. Brewer	<b>Growth Comparisons for Saugeye in Oklahoma Lakes</b> S. O'donnell
2:40pm	<b>Woody Plant Management in the Southern Great Plains: Understanding the Goal Intentions and Management Actions of Private Landowners</b> K. Rajala, M. Sorice	<b>Monitoring and Management of the Texas Horned Lizard on Tinker Air Force Base, Oklahoma City Using Harmonic Radar Tracking Technology</b> M. Veszy*, R. Moody, J. Mook	<b>Effects of Non-Native Rainbow Trout on Behavior and Cover Use By Smallmouth Bass</b> K. Brown**, R. Mollenhauer, S. Brewer
3:00pm	<b>Poster Session   Break</b>		



Session	Birds	Eastern Redcedar Dynamics	Population
Room	B	C	D
<b>Moderator</b>	Scott Loss Oklahoma State University	Will Moseley Noble Research Institute	Ken Cunningham ODWC
3:20pm	<b>Habitat Selection and Thermal Ecology of Greater Prairie-Chicken</b> D. Londe*, D. Elmore, S. Fuhlendorf, C. Davis	<b>Status of Eastern Redcedar (<i>Juniperus virginiana</i>) Encroachment and Potential Use in Future Bioproducts Industry in Oklahoma</b> R. Kaur, O. Joshi, R. Will	<b>Age and Growth of Catistomids in the Ozark Highlands</b> D. Zentner**, S. Brewer, D. Shoup
3:40pm	<b>Thermal Ecology and Habitat Selection of Scaled Quail in New Mexico</b> K. Kauffman*, D. Elmore, C. Davis, S. Fuhlendorf, L. Goodman	<b>Kill It Without Fire: Quantifying Lethal Drought Stress for Eastern Redcedar, (<i>Juniperus virginiana</i>)</b> W. Hammond*, L. Wilson, J. Torres-Ruiz, H. Adams	<b>Local Colonization and Extinction of Prairie Chub <i>Machrybopsis Australis</i> Across Wet-Dry Cycles in The Upper Red River Basin</b> M. Wedgeworth**, R. Mollenhauer, S. Brewer
4:00pm	<b>Northern Bobwhite Responses to Drought and Woody Cover in the Great Plains</b> S. Cady*, C. Davis, S Fuhlendorf, L. Goodman, D. Elmore, R. Scholtz	<b>Encroachment of Redcedar in the Cross Timbers Oak Forests: the Cause and Consequence</b> P. Torquato*, C. Zou, R. Will, H. Adams	<b>Seasonal Microhabitat Selection By Native Fishes in Ozark Streams</b> S. Wolf**, R. Mollenhauer, E. Tanner, S. Fuhlendorf, S. Brewer

4:20pm	<b>Interannual Variability in Abundance of Breeding Birds in Central Oklahoma</b> T. O'Connell, B. Simons, S. Cady, N. Jaffe, J. Giocomo	<b>A Burning Question: How Much Drought Causes Eastern Redcedar to Become More Easily Combustible?</b> J. Dudek*, H. Adams	<b>Estimating Detection Probability Using Multiple Gears to Sample Least Darter</b> D. Swedberg**, R. Mollenhauer, S. Brewer
4:40pm	<b>Assessing the Influence of Turbulence and Olfactory Cover at Red-Cockaded Woodpecker Nesting Cavity Trees</b> J. Elmore*, M. Fullerton, D. Fogarty, S. Loss	<b>Increase in Soil Moisture and Runoff After Eastern Redcedar Removal - A Paired Watershed Study</b> Y. Zhong*, C. Zou, R. Will, E. Stebler, A. Saenz, G. Kakani	<b>Evaluating the Effectiveness of A Statewide Trophy Length Limit (762 mm) for Blue Catfish (<i>Ictalurus furcatus</i>) in Oklahoma</b> J. Duck

FRIDAY

2/22

Session	Invasive Species	Stream Fisheries	GIS Modeling
Room	B	C	D
Moderator	Brandon Reavis NRCS	Sherylann Densow ODWC	Vicki Jackson University of Central Oklahoma
8:00am	<b>Testing the Effectiveness of Sampling Environmental DNA to Detect the Presence of Aquatic Invasive Plants</b> P. Crawford, J. Watters	<b>Population and Community Trends of the Arkansas River Shiner (<i>Notropis girardi</i>) and Peppered Chub (<i>Macrhybopsis tetranema</i>)</b> J. Fisher, D. Fenner	<b>The Creation, Design, and Implementation of the Oklahoma Department of Wildlife Conservation's Online Interactive Fish Attractor Map</b> C. Whisenhunt

8:20am	<b>Lespedeza Cuneata Density Affects Carbon, Nitrogen, and Organic Matter in Tallgrass Prairie Ecosystems</b> J. Kaplan***, K. Baum	<b>A Gene Flow Management Plan for the Federally-Threatened Leopard Darter</b> D. Fenner, B. Fillmore	<b>Oklahoma Observatory for Agriculture, Forestry and Water Resources: An Update in 2018</b> X. Xiao, Y. Qin, J. Wang, Z. Zou, X. Wu, R. Doughty
8:40am	<b>Analyzing Sericea Lespedeza (<i>Lespedeza cuneata</i>) Management Practices: Can Herbicides Be Used to Enhance Invasion Mitigation Provided By Ecological Processes?</b> C. Sherrill***, S. Fuhlendorf, L. Goodman, D. Elmore, B. Hamilton	<b>The Evolution of the Leopard Darter (<i>Percina pantherina</i>) Monitoring Program 1992 to Present</b> R. Standage, K. Collins	<b>Validation of A Rapid Assessment Method for Determining the Condition of Floodplain Wetlands in Oklahoma</b> A. Thornton, C. Davis, B. Tramell, D. Dvoretz, S. Gallaway
9:00am	<b>Predicting Potential Range Expansion of Invasive Pueraria Montana in the Southcentral United States Under Future Climate Scenarios</b> P. Harron***, O. Joshi, S. Paudel, S. Loss, K. Hickman	<b>The Results of the Leopard Darter (<i>Percina pantherina</i>) Monitoring Program 1998 to Present</b> R. Standage	<b>Oklahoma's Wetland Program Plan: A Collaborative Approach to Wetland Management</b> D. Dvoretz

9:20am	<b>Attempting Biological Control of White Perch in Oklahoma: Setting A Benchmark to Evaluate Success</b> A. Nealis	<b>Preliminary Results of Environmental DNA (Edna) Screening for Reptiles and Amphibians of Oklahoma</b> J. Watters, E. Freitas, T. Yuri, C. Siler	
9:40am	<b>Assessing Potential Effects of Nonnative Rainbow Trout on Seasonal Diets of Neosho Smallmouth Bass and Redspot Chub</b> A. Rodger, T. Starks, D. King, J. Burroughs	<b>Habitat Factors Affecting Arkansas River Shiner and Peppered Chub in Southern Great Plains Rivers-Past, Present, and Future</b> L. Levesque, D. Fenner, M. Horner, J. Fisher	
10:00am	<b>Break</b>		
<b>Session</b>	<b>Species of Concern</b>	<b>Conservation Programs</b>	<b>Response Management</b>
<b>Room</b>	B	C	D
<b>Moderator</b>	Russ Horton ODWC	Mark Howery ODWC	Corey Jager ODWC
10:20	<b>Paddlefish Snagging at Fort Gibson Dam: A Unique Fishery in Oklahoma</b> A. Geik, J. Schooley, B. Brown	<b>Land Acquisition and the Need for Public Lands and Access</b> K. Gillman	<b>Oklahoma Kill Response Management Team (OKRMT): A Collaborative Response to Fish Kills in Oklahoma</b> F. March

10:40	<b>American Burying Beetle Species Status Assessment - Current and Projected Status and Risks</b> K. Stubbs, J. Fisher	<b>Wildlife Diversity Inventories on ODWC Wildlife Management Areas</b> M. Howery, C. Tackett, M. Fullerton, J. Donnell	<b>Oklahoma Response and Management Team: J&amp;M Response Success Story</b> S. Dunn
11:00	<b>Assessment of the Conservation Status of Two Freshwater Mussels (<i>Bivalvia: unionoida</i>) Occurring in Oklahoma: the Louisiana Pigtoe (<i>Pleurobema riddlellii</i>) and the Purple Lilliput (<i>Toxolasma lividum</i>)</b> D. Martinez	<b>Leveraging Every Dollar to Have the Greatest Impact on the Resource</b> K. Gillman	<b>Oklahoma Invasive Plant Council Meeting</b>
11:20	<b>Post-Fledging Movements of Bald Eagle From Nests in Oklahoma</b> R. Horton, J. Cooper, T. Grubb, M. Braham, T. Miller, T. Katzner	<b>Implementation of A National Survey Protocol to Inform and Evaluate Local Management: Integrated Waterbird Management and Monitoring at Four National Wildlife Refuges in Oklahoma</b> P. Schmidt, J. Burton, G. Hensley, L. Feltman, D. Unruh, A. Zimmerman, R. Cantu, S. Kasson, D. Taylor, R. Schutes	
12:00	<b>Adjourn</b>		

\*Students Competing for the TWS Student Presentation Award

\*\*Students Competing for the AFS Student Presentation Award

\*\*\*Students Competing for the OkIPC Student Presentation Award

# → POSTER PRESENTATIONS

THURSDAY

2/21

Second Floor Foyer | 3:00pm

Title	Author(s)
<b>Tradeoff Between Water Yield and Biomass Production Associated With Eastern Redcedar Encroachment Into Grassland Ecosystems of Northcentral Oklahoma</b>	K. Schmidt, R. Will, C. Zou, E. Stebler, L. Zhong
<b>Mapping the Distribution of the Sarcoptic Mange Mite (<i>Sarcoptes scabiei</i>) in Black Bear (<i>Ursus americanus</i>) Populations Across the United States</b>	W. Childress, S. Fairbanks, S. Lyda, K. Niedringhaus
<b>Estimating Occupancy of Mesocarnivores Through Non-Invasive Survey Methods: Pontotoc Ridge Preserve</b>	A. Kidd, V. Jackson
<b>Abundance and Proportion of Sterilized Free-Ranging Domestic Cats Following Five Years of A Trap-Neuter-Release Program</b>	S. Coe, J. Elmore, S. Loss
<b>Preventing the Further Spread of Kudzu in Oklahoma: A Stakeholder Perception Analysis on Best Management Practices (BMPS)</b>	A. Whiteman, O. Joshi
<b>Body Size Estimation and Identification of Twelve Fish Species Using Cleithrum Bones</b>	S. Jeter, M. Porta, R. Snow
<b>Assessing the Distribution, Trends and Abundance of Bobcats (<i>Lynx rufus</i>) in Oklahoma</b>	N. Proudman, S. Fairbanks
<b>Drought, Fertilization, and Thinning Effects on Mid-Rotation Growth and Canopy Production in (<i>Pinus taeda</i>) Plantations</b>	N. Shephard, C. Meek, O. Joshi, R. Will
<b>Fire and Climate Impacts on Understory Productivity Across A Forest-Savanna Continuum</b>	A. Adhikari, R. Will, O. Joshi, C. Zou

<b>Modeling Potential Climate Change Impacts on Smallmouth Bass Distributions at the Southern Range Extent</b>	J. Martin, T. Fox, D. Magoulick
<b>Giving Up Density As An Indicator of Black Bear (<i>Ursus americanus</i>) Food Preference in the Ouachita National Forest, Oklahoma</b>	N. Prentiss, S. Fairbanks
<b>Germination Techniques in Five Asclepias Species</b>	C. Paden
<b>Grassland Restoration Incentive Program (GRIP) For Landscape Conservation in Oklahoma and Texas Through the Oaks and Prairies Joint Venture Partnership</b>	L. Lowe, K. Gee, J. Giocomo, S. Riley, W. Newman, D. Wiley, A. Matthews
<b>Toward An 1871 Land Cover Baseline: the Public Land Survey Plats and Bearing Tree Data in Oklahoma</b>	B. Hoagland, T. Fagin
<b>Population Genetics of Linda's Roadside Skipper, <i>Amblyscirtes Linda Freeman</i> (Hesperiidae: Hesperinae), in the Oklahoma Ouchita Mountains and South-East Region of the State</b>	M. Sadir, K. Menard



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BIA/BLM Mapping  
Constraint Maps  
**Permitting Solutions**  
BLM/BIA Application for Permit to Drill  
Salt Water Disposal Permits  
**Project Management Solutions**  
Development Strategies  
Minimize Risks and Liabilities  
Proactive Decision-Making  
**Regulatory Solutions**  
ONRR Reporting  
State Regulatory Compliance  
**Right of Way Solutions**  
Turnkey Pipeline Services  
BIA/BLM Permitting  
State, County & Railroad Crossings

**Transactional Solutions**  
BIA/BLM Due Diligence  
BIA/BLM Curative/Assignments  
**Unit Solutions**  
BLM/BIA Communitization Agreements  
BLM/BIA Waterflood Units  
BLM/BIA Unitization Agreements  
**Water Solutions**  
Water Use Agreements  
Wetland Delineation  
Water Sampling  
**Wildlife Solutions**  
Habitat Assessments  
Bat Surveys  
Migratory Bird Surveys  
Raptor/Eagle Surveys  
Wildlife Monitors  
**Violation Solutions**  
Agency Negotiation  
Appeal Representation  
Violation Evaluation, Response and Resolutions

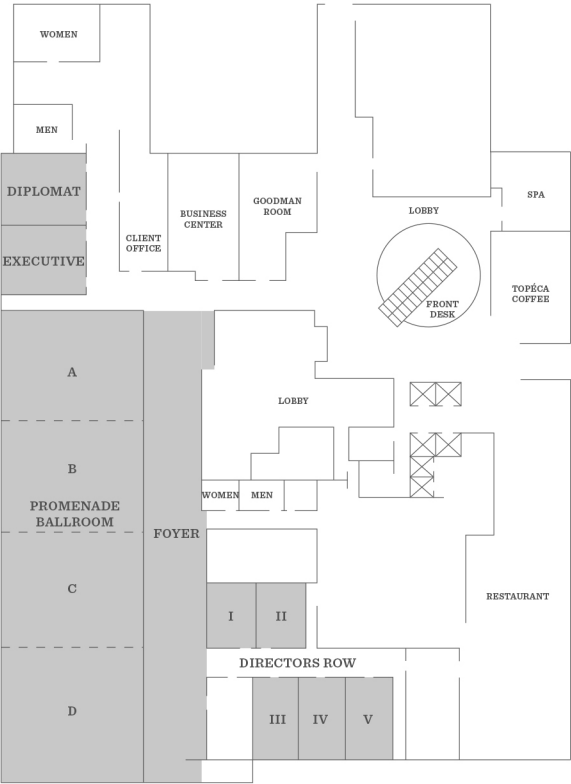
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