

Education and Training Program

Saturday, September 23

Workshops

- Session 1:** **Free-Ranging Wildlife Health, Disease and Mortality Investigation - From Outbreaks to Surveillance**
- Organizers:** Heather Fenton, Southeastern Cooperative Wildlife Disease Study, University of Georgia Athens, GA; Peregrine Wolff, Nevada Department of Wildlife, Reno, NV; Sonia Hernandez, Southeastern Cooperative Wildlife Disease Study, University of Georgia, Athens, GA; Barb Bodenstein, USGS, Madison, WI; Margaret Wild, National Park Service, Ft. Collins, CO; Kevin Castle, Alpenglow Veterinary Specialists, Boulder, CO; Megin Nichols, Center for Disease Control, Atlanta, GA
- Supported by:** TWS Wildlife Disease Working Group, SCWDS
- Location/Time:** 230/8:00 AM - 5:00 PM
- Session 2:** **Valles Caldera National Preserve as a Natural Laboratory: Monitoring the Effectiveness of Habitat Management, Restoration, and Wildlife Reintroduction Efforts**
- Organizers:** Bob Parmenter, Valles Caldera National Preserve, National Park Service, Jemez Springs, NM; Teresa Seamster, Northern New Mexico Group, Rio Grande Chapter of Sierra Club, Santa Fe, NM
- Supported by:** Northern New Mexico Group, Rio Grande Chapter of Sierra Club
- Location/Time:** Off-Site/ 8:00 AM - 5:00 PM
- Session 3:** **Change Your Perspective: Urban-Wildland Management in the Southwest**
- Organizers:** Gizelle Hurtado, New Mexico State University, Las Cruces, NM
- Supported by:** TWS Urban Wildlife Working Group
- Location/Time:** Off-Site/8:00 AM - 5:00 PM
- Session 4:** **Bosque Del Apache NWR: Fire and Wildlife Management in a Shortgrass Wetland Landscape**
- Organizers:** Carol Blocksome, Kansas State University, Manhattan, KS; Barb Satink Wolfson, Northern Arizona University, Flagstaff, AZ; Shaula Hedwall, US Fish and Wildlife Service, Flagstaff, AZ
- Supported by:** Great Plains Fire Science Exchange, Southwest Fire Science Consortium
- Location/Time:** Off-Site/8:00 AM - 5:00 PM
- Session 5:** **Animal-Trapping Techniques for Researchers and Managers**
- Organizers:** Pat Jackson, Nevada Department of Wildlife, Reno NV; Bryant White, Association of Fish & Wildlife Agencies, Columbia, MO; Julie Golla, Montana Fish, Wildlife, and Parks, Missoula, MT
- Supported by:** Nevada Department of Wildlife
- Location/Time:** 215/8:00 AM - 5:00 PM
- Session 6:** **The Technical and Wildlife Management Implications of Hunting Ammunition with a Focus on Non-Lead Options for Big Game Hunting in North America**
- Organizers:** Gordon Batcheller, TWS Hunting, Trapping and Conservation Work Group, Petersburg, NY
- Supported by:** TWS Hunting, Trapping and Conservation Working Group, Institute for Wildlife Studies, Minnesota Chapter of TWS, The Peregrine Fund, USGS Cooperative Fish and Wildlife Research Units
- Location/Time:** 220/8:00 AM - 5:00 PM

**Advanced registration required for all Workshops*

Saturday, September 23

- Session 8:** **Distance Sampling: Conventional and Hierarchical Methods for Abundance in R**
Organizers: Trent L. McDonald, Western Ecosystems Technology, Inc., Laramie, WY; Jason D. Carlisle, Western Ecosystems Technology, Inc., Laramie, WY
Supported by: Western Ecosystems Technology, Inc
Location/Time: 120/8:00 AM - 5:00 PM
- Session 9:** **Managing Wildlife Conservation and Management Conflicts through Formalized Conservation Action Planning**
Organizers: Robert D. Sutter, Enduring Conservation Outcomes, LLC, Savannah, GA; Andrew S. Bridges, Institute for Wildlife Studies, San Diego, CA; Jennifer L. Murrow, University of Maryland, College Park, MD
Supported by: TWS Biodiversity Working Group, TWS Early Career Professional Working Group, TWS Human Dimensions Working Group, TWS Urban Wildlife Working Group, TWS Wildlife Damage Working Group
Location/Time: 130/8:00 AM - 5:00 PM
- Session 10:** **An Introduction to Spatial Capture-Recapture**
Organizers: J. Andrew Royle, USGS Patuxent Wildlife Research Center, Laurel, MD; Chris Sutherland, UMASS-Amherst, Amherst, MA; Richard B. Chandler, University of Georgia, GA
Supported by: TWS Biometrics Working Group
Location/Time: 15,16 & 32/8:00 AM - 5:00 PM
- Session 11:** **Introductory R**
Organizers: Frances E. Buderman, Colorado State University, Fort Collins, CO; Perry J. Williams, Colorado State University, Fort Collins, CO; Brittany A. Mosher, Colorado State University, Fort Collins, CO
Supported by: TWS Biometrics Working Group
Location/Time: 18 & 30/8:00 AM - 5:00 PM
- Session 12:** **Bat White-Nose Syndrome: Best Practices for Surveillance and Management**
Organizers: Michelle Verant, National Park Service, Fort Collins, CO; Anne Ballmann, USGS National Wildlife Health Center, Madison, WI
Supported by: Wildlife Diseases Working Group of The Wildlife Society; Bat Conservation International; National Park Service; USGS National Wildlife Health Center
Location/Time: 27, 29 & 31/8:00 AM - 5:00 PM
- Session 13:** **Mapping and Monitoring Wildlife Habitat Using Remotely Sensed Vegetation Phenology Measures**
Organizers: Lars Y. Pomara, Center US Forest Service, Asheville, NC; Bjorn Brooks, US Forest Service, Asheville, NC; Serra Hoagland, US Forest Service, Pablo, MT
Supported by: Eastern Forest Environmental Threat Assessment Center, Southern Research Station, USFS, Fire, Fuels, and Smoke Science Program, Rocky Mountain Research Station, USFS, TWS Forestry and Wildlife Working Group Officers and Liaisons
Location/Time: 230/1:00 - 5:00 PM

**Advanced registration required for all Workshops*

Sunday, September 24

Plenary: Wildlife Conservation: Crossroads of Cultures

Location/Time: Kiva Auditorium/8:45 AM - 10:10 AM

See page 31 for details

Aldo Leopold Keynote Address: Where Science Meets Culture: How Belief Systems Influence Wildlife Policy and Management

Location/Time: Kiva Auditorium/11:30 AM - 12:15 PM

See page 32 for details

Session 14: Symposium

Tribal Wildlife Management and Conservation in the Southwest I

Organizers: Gizelle Hurtado, New Mexico State University, Las Cruces, NM; Sarah Rinkevich, U.S. Fish & Wildlife Service, Tucson, AZ; Serra Hoagland, U.S. Forest Service, Flagstaff, AZ; Chase Voirin, University of Arizona, Rio Rancho, NM; Joe Jojola, Bureau of Indian Affairs, Albuquerque, NM; John Nystedt, U.S. Fish & Wildlife Service, Flagstaff, AZ

Supported by: TWS Native Peoples Wildlife Management Working Group, Native American Fish & TWS Wildlife Society Southwestern Region

Location: 215

1:10 PM **Welcome and Introduction to Wildlife Management on Tribal Lands in the Southwest**

John E. Antonio, Sr.

1:30 PM **Natural Resources Youth Practicum**

Norman Jojola

1:50 PM **Water for Wildlife in an Arid Landscape**

Timothy Smith

2:10 PM **Wildlife Conservation on the Pueblo of Santa Ana, Sandoval County, New Mexico**

Glenn Harper

2:30 PM **Tracking Big Game Migration and Highway Crossings on the Southern Ute Indian Reservation**

Aran S. Johnson

2:50 PM Break

3:20 PM **The Reintroduction of a Culturally and Economically Important Species**

Taos Wildlife Biologist Taos Wildlife Biologist

3:40 PM **Philosophies of Science and the Conceptualization of Traditional Ecological Knowledge through an Indigenous Lens in Wildlife Research**

Seafha Ramos

4:00 PM **Conservation through Empowerment**

Russ Benford

4:20 PM **Panel Discussion**

Session 15: Contributed Papers

Conservation and Ecology of Natural Resources and Habitats

Location: 220

Moderator: Christopher Moorman, North Carolina State University, Raleigh, NC

1:10 PM **Evaluating the Suitability of Designated Critical Habitat for Imperiled Flatwoods Salamanders**

Susan C. Walls; William J. Barichivich; Kevin M. Enge; Thomas A. Gorman; John G. Palis

1:30 PM **Islands of Tallgrass Prairie: the Case of the Regal Fritillary**

Andrew Caven; Kelsey C. King; Josh Wiese; Emma Brinley Buckley

1:50 PM **Predicting Gopher Tortoise Habitat Connectivity in Georgia Using Forest Structure, Land Cover, and Soils**

Jeffrey Hepinstall-Cymerman; Tom Prebyl; Bryan Nuse; Clint Moore

Sunday, September 24

- 2:10 PM **Soil Chemistry and Its Effect on Central Pennsylvania's Forest Wildlife Habitat**
Danielle R. Begley-Miller; Duane R. Diefenbach; Marc E. McDill; Christopher S. Rosenberry; Emily Just
- 2:30 PM **Diet Overlap of Wild Bees and Ungulates in a Forested Riparian System**
Mary M. Rowland; Sandra J. DeBano; Samantha M. Roof; Lauren A. Smith
- 2:50 PM Break
- 3:20 PM **Impact of Logging Residue Retention on Small Mammals in the Southern Appalachian Region**
April D. Boggs; Christopher E. Moorman; Dennis W. Hazel; Cathryn H. Greenberg
- 3:40 PM **Active Adaptive Management in Action: Recovery Options for Woodland Caribou**
Robert Serrouya; Bruce N. McLellan; Harry van Oort; Garth Mowat; Stan Boutin
- 4:00 PM **The Ecology of the Monarch Butterfly Relative to Density, Host Plant Occurrence and Habitat Use in the Flint Hills**
Caroline Skidmore
- 4:20 PM **A National Approach to Map and Quantify Terrestrial Vertebrate Biodiversity**
William G. Kepner; Kenneth G. Boykin; Anne C. Neale; Kevin J. Gergely
- 4:40 PM **Breeding Bird Response to Post Oak Savanna Restoration in Eastern Texas 8 Years Post-Management**
Courtney K. Williams; Christopher Comer; Jeffrey Gunnels

Session 16: Symposium**Challenges of Balancing Stakeholder Engagement and Scientific Decision-Making to Inform Wildlife Policy**

Organizers: Gino J. D'Angelo, University of Georgia, Athens, GA; William F. Porter, Michigan State University, East Lansing, MI; David Williams, Michigan State University, East Lansing, MI

Supported by: Boone and Crockett Club, University Programs Committee, TWS College and University Education Working Group

Location: 230

- 1:10 PM **Conservation Decision-Making through Transparency, Inclusion, and Use of Best Available Science**
Rebecca Humphries
- 1:30 PM **Control of Apex Predators during the Restoration of Endangered Ungulates**
Eric M. Rominger
- 1:50 PM **Integrating Stakeholder Input and Science in Governance of the Public Trust in Wildlife**
John F. Organ; Shawn A. Riley; Daniel J. Decker
- 2:10 PM **Effective Implementation of the Endangered Species Act By Engaging Multiple Stakeholders**
Nancy E. Mathews
- 2:30 PM **Transforming Conflict and Fostering Collaborative Action: Critical Components in the Successful Development and Implementation of Wildlife Policies**
Laura Van Riper
- 2:50 PM Break
- 3:20 PM **Moving Feral Cat Management Forward**
Christopher A. Lepczyk
- 3:40 PM **The Politics of Deer Farming in North Carolina - Lessons Learned**
Robert D. Brown
- 4:00 PM **The Art of Deer Management: Finding the Sweet Spot between Biological Reality and Public Acceptance**
Jason A. Sumners
- 4:20 PM **Conservation by Conflict**
Sherry L. Barrett
- 4:40 PM **Canary in the Marijuana Field: How Wildlife Engaged Stakeholders and Policy in Addressing Environmental Impacts from Marijuana Cultivation in the Western United States**
Mourad W. Gabriel

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Session 17: Symposium

Structured Decision Making: A Vehicle for Navigating the Crossroads of Cultures in Wildlife Management

Organizers: Tara Gancos Crawford, Georgia Cooperative Fish and Wildlife Research Unit, University of Georgia, Athens, GA; Abby J. Lawson, South Carolina Cooperative Fish and Wildlife Research Unit, Clemson University, Clemson, SC; Sarah J. Converse, USGS Patuxent Wildlife Research Center, Laurel, MD; Michael Runge, USGS Patuxent Wildlife Research Center, Laurel, MD

Location: 235

- 1:10 PM **Road Management for a Declining Species: Integrating Multiple Objectives through Structured Decision Making**
Brian A. Crawford; John C. Maerz; Nik Heynen; Terry M. Norton; Clinton T. Moore
- 1:30 PM **Bridging the Research-Management Gap: Effective Conservation Decisions for Flatwoods Salamanders through Adaptive Management**
Katherine M. O'Donnell; Susan C. Walls
- 1:50 PM **Applied Conservation Decision Making in Dynamic Environments: A Case Study in Puerto Rico**
Krishna Pacifici
- 2:10 PM **Whose Objectives Are These Anyway? The Perils of Navigating the Cultural Crossroads without First Looking in All Directions**
Graham Long
- 2:30 PM **We Have Been Talking Past Each Other: An Analysis of Decision Framings for Endangered Species Classification**
Jonathan W. Cummings; Sarah J. Converse; David R. Smith; Steve Morey; Michael C. Runge
- 2:50 PM Break
- 3:20 PM **Integration of Social and Ecological Sciences for Natural Resource Decision Making: Challenges and Opportunities**
Angela K. Fuller; Kelly F. Robinson; Richard Stedman; William Seamer
- 3:40 PM **Organizational Decision Quality: Building a Culture of Structured Decision Making Within Federal Agencies and Their Partners**
Michael C. Runge
- 4:00 PM **Balancing Risk and Reward in Coastal Impoundment Management**
Rachel Katz
- 4:20 PM **Application of Structured Decision Making in Development of a Gulf-Wide Avian Monitoring Network**
Robert J. Cooper; Evan Adams; Peter Fredrick; Jeff Gleason; Jim Lyons; John Tirpak; Randy Wilson; Mark S. Woodrey
- 4:40 PM **Panel Discussion**

Session 18: Symposium

Navigating the Path to Professional Success

Organizers: Robert Lewis, Utah State University, Logan, UT; Kristi Confortin, Ball State University, Muncie, IN; Lara Pacifici, North Carolina State University, Raleigh, NC

Supported by: TWS Student Development Working Group, TWS Conference Arrangements Committee

Location: 240

- 1:10 PM **Selecting the Right Applicant: Critical Examination of Resumes and Applications**
Merav Ben-David
- 1:50 PM **Climbing the Career Ladder Starting from Below the Bottom Rung**
Colleen Olfenbittel
- 2:10 PM **Making and Working Connections to Open Doors**
Nova Silvy
- 2:30 PM **Professional Paths in Wildlife: Pursuing Your Passion**
Quentin R. Hays
- 2:50 PM Break

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3:20 PM **Involvement in Professional Societies - Being More Than a Member**
Susan Ellis-Felege

3:40 PM **TWS Student Chapter Involvement - Your First Stop on the Road to Success**
TWS Student Chapter of the Year

4:00 PM **Panel Discussion**

Session 19: Symposium**Bird Conservation on Managed Forest Landscapes**

Organizers: Darren J.H. Sleep, National Council for Air and Stream Improvement, Montreal, QC; Andrew de Vries, Sustainable Forestry Initiative, Ottawa, ON; Gary Roloff, Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI; Jenniffer Bakke, Hancock Forest Management, Independence, OR

Supported by: TWS Forestry and Wildlife Working Group, Sustainable Forestry Initiative, National Council for Air and Stream Improvement

Location: 110

1:10 PM **Introduction: The Role of Forest Management in Forest Bird Conservation**
Gary J. Roloff

1:30 PM **American Woodcock Reproductive Rates in Relation to Forest Structure at Local and Landscape Scales**
Allie Shoffner; David Luukkonen; David Williams; Scott Winterstein

1:50 PM **Avian Conservation Within Working Forests of the Southeastern US**
Emily Jo Williams

2:10 PM **The Role of Early Successional Forests in Maintaining Forest Bird Populations**
Mark E. Swanson

2:30 PM **An Early-Successional Shrubland Habitat Decision Support Tool**
David King; Jason Coombs; Keith Nislow; Jeffrey Ritterson; Michael Akresh; Jeffrey Collins

2:50 PM Break

3:20 PM **Habitat Selection and Movement of Fledgling Cerulean and Golden-Winged Warblers in Managed Mixed-Oak Forests of the Central Appalachian Mountains**
Jeffrey Larkin; Cameron Fiss; Doug Raybuck; Darin J. McNeil; Amanda Rodewald; Than Boves; Scott Stoleson

3:40 PM **Guild-Specific Effects of Intensive Forest Management on Avian Abundance**
Jake Verschuyt; Jack Giovanini; Matthew G. Betts; Andrew J. Kroll

4:00 PM **Forest Management, Bird Diversity, and Early Successional Forests in the Southern US: Research to Date**
Scott Rush

4:20 PM **Provision of "Open Pine" Conditions on Managed Forest Landscapes in the Southeastern US: Responses from Avian Communities**
Darren A. Miller

4:40 PM **Migratory Bird Joint Ventures: Bridging Science and Implementation to Conserve Migratory Birds Across North America**
Becky Keller

Session 20: Contributed Papers**Conservation and Ecology of Birds I**

Location: 115

Moderator: Christine Ribic, USGS Cooperative Research Unit, University of Wisconsin, Madison, WI

1:10 PM **Protected Areas Facilitate Species Persistence by Reducing Extinction and Improving Colonization**
Michelle Peach; Jonathan Cohen; Jacqueline Frair

1:30 PM **Identifying Western Yellow-Billed Cuckoo Breeding Habitat with a Dual Modeling Approach**
Matthew J. Johnson; Jennifer Holmes; James R. Hatten

1:50 PM **Evaluation of Methods Used to Improve Grasslands as Pheasant Brood Habitat**
Mandy Orth; Kent C. Jensen; Travis Runia

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2:10 PM **Wintering Avian Occupancy on West Virginia Agricultural Conservation Easement Program Wetlands**
Katharine Lewis; Christopher Rota; James T. Anderson

2:30 PM **Climate Change and Long-Term Trends in Bald Eagle Winter Habitat Use**
Madeleine A. Rubenstein; Roger Christophersen; Tanya Kitterman; Jason Ransom

Session 21: Symposium

Recent Applications of Multi-State Models to Capture-Recapture and Occupancy Studies

Organizers: William Gould, New Mexico State University, Las Cruces, NM

Supported by: TWS Biometrics Working Group

Location: 120

1:10 PM **The Multistate Model as an Omnibus Framework for Robust Inference from Mark-Recapture Studies**
William Kendall

1:30 PM **Estimating Nest Density and Productivity of Grassland Birds with Multi-State Capture-Recapture Models**
Adrian P. Monroe; Richard B. Chandler; Loren W. Burger; James A. Martin

1:50 PM **TBA**

2:10 PM **Multi-State Models Demonstrate Hoary Marmots Are Not Biennial Breeders**
Vijay Pati

2:30 PM **The Use of Multi-State Models with State Uncertainty to Estimate Survival and Movement Probabilities of Florida Manatees**
Catherine A. Langtimm; William L. Kendall

2:50 PM Break

3:20 PM **Overview of Multi-State Models in Occupancy Estimation**
Larissa L. Bailey

3:40 PM **Identifying Drivers of Local Extinction in an Amphibian-Pathogen System Using Multi-Species Occupancy Models**
Brittany Mosher; Larissa L. Bailey; Erin Muths; Kathryn P. Huyvaert

4:00 PM **Joint Estimation of Habitat Dynamics and Species Interactions**
Courtney Davis

4:20 PM **Multi-State Models Applied to Species Interactions to Inform Endangered Species Management**
Charles Yackulic

4:40 PM **Detailed Dynamics: Using Multi-State Responses for Greater Specificity on Species Interaction Dynamics**
Jay E. Jones; Andrew J. Kroll

Session 22: Contributed Papers

Wildlife Disease and Toxicology I

Location: 130

Moderator: David Walter, USGS, Pennsylvania State University, University Park, PA

1:10 PM **Raccoon Roundworm Intensity Distributions across Hosts and Modeled Implications for Population Management**
Matthew E. Gompper; Aniruddha Belsare; Harith Al-Warid

1:30 PM **The Potential of Fish to Act as Transport Hosts for *Dracunculus medinensis* and *D. insignis* Larvae**
Christopher A. Cleveland; Mark L. Eberhardt; Alec Thompson; Stephen J. Smith; Hubert Zirimwabagabo; Robert Bringolf; Michael J. Yabsley

1:50 PM **Adapting a Determinants of Health Model to Identify Drivers and Priorities for Salmon Population Health in Two Groups of Experts**
Julie Wittrock; Colleen Duncan; Craig Stephen

2:10 PM **Size Matters: Sample Size Calculations for Harvest-Based Wildlife Disease Surveillance Using an Agent-Based Framework**
Aniruddha V. Belsare; Matthew E. Gompper; Joshua J. Millsaugh

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- 2:30 PM **Prevalence and Distribution of Amphibian Pathogens and Parasites in North Dakota**
Melanie Firkins; Vasyl Tkach; Robert Newman
- 2:50 PM Break
- 3:20 PM **Transmission of Influenza a Virus from Mallards to European Starlings via Shared Water**
Susan Shriner; Katherine L. Dirsmith; Jeremy W. Ellis; J. Jeffrey Root; Kevin T. Bentler; Nicole L. Mooers; Loredana McCurdy
- 3:40 PM **Effects of Sub-Acute External Exposure to Deepwater Horizon Oil in the Double-Crested Cormorant**
Brian S. Dorr; Katie C. Hanson-Dorr; Katherine Healy; Katherine Horak; Karen M. Dean; Steven J. Bursian; Kendal Harr; Jane E. Link
- 4:00 PM **Contaminants of Emerging Concern in the Great Lakes Basin: Implications for Wildlife Management and Conservation**
Stephanie Longstaff Hummel; Mandy Annis; Jo Ann Banda; Nicholas Cipoletti; Steve Choy; Sarah Elliot; Dan Gefell; Zachary Jorgenson; Jeremy Moore; Heiko Schoenfuss; William Tucker; Lina Wang; Daelyn Woolnough
- 4:20 PM **West Nile Virus Prevalence in Sympatric Populations of Greater Sage-Grouse and *Culex tarsalis***
Lindsey A. Bischoff; Travis Runia; Andrew Gregory; Jonathan A. Jenks
- 4:40 PM **Potential of Fish Eating Birds to Spread Virulent *Aeromonas hydrophila***
Fred L. Cunningham; Katie Hanson-Dorr; Lorelei Ford; Alex Crain; Lanna Durst; Raleigh Middleton; Larry Hanson

Session 23: Symposium**Mesos in the Middle: Strategies for Researching Understudied or Elusive Mid-Sized Mammalian Carnivores**

- Organizers: Summer Higdon, University of Missouri, Columbia, MO; Robin Eng, Clemson University, Clemson, SC; Stephen Harris, Clemson University, Clemson, SC
- Location: 140
- 1:10 PM **Understudied but Not Forgotten: The Importance of Mesocarnivores to Community Structure and Function**
Gary Roemer
- 1:30 PM **Remote Camera Sampling to Evaluate Occupancy and Intraguild Predation in Desert Carnivores**
Quinn Robinson
- 1:50 PM **How Far Have We Come: Radio Telemetry and GPS Technology for Mid-Sized Forest-Dependent Mammals**
Katie M. Moriarty; Ryan M. Nielson; Aaron N. Facka; Sean M. Matthews; Christopher O. Kochanny
- 2:10 PM **Techniques for Studying Reproduction and Associated Habitat Use in Mesocarnivores: Examples from Field Studies of Fisher and Other Members of the *Martes* Complex**
Rebecca E. Green; Michael J. Joyce; Sean M. Matthews; Kathryn L. Purcell; Mark Higley; Andrzej Zalewski
- 2:30 PM **Panacea or Pandora's Box: Building the Foundational Health Knowledge for a Rare Species, the Pacific Fisher**
Mourad W. Gabriel
- 2:50 PM Break
- 3:20 PM **Conservation Genetics of an Uncommon Mesocarnivore, the Eastern Spotted Skunk**
Alexandra A. Shaffer; J. Clint Perkins; Robert C. Dowler; Loren K. Ammerman
- 3:40 PM **Culturally-Based Wildlife Conservation on Native American Lands: A Challenge of Scale and Governance**
Sean Matthews; Mark Higley; Jodi Hilty
- 4:00 PM **Crowd-Sourcing, Citizen Scientists, and Collecting Novel Data: The Search for the Eastern Spotted Skunk**
J. Clint Perkins; Alexandra A. Shaffer; Nick W. Sharp; D. Blake Sasse; Robert C. Dowler
- 4:20 PM **Designing Mesocarnivore Projects to Maximize their Scientific and Conservation Value: Lessons Learned from a Fisher Reintroduction**
Aaron Facka; Roger A. Powell
- 4:40 PM **Integrating Monitoring, Research and Management to Improve Conservation of Mammalian Mesocarnivores**
David Jachowski

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**Session 24: Contributed Papers
Biometrics and Population Modeling I**

Location: 15, 16 & 32

Moderator: Kim Pepin, USDA/APHIS/WS/NWRC, Fort Collins, CO

- 1:10 PM **Combining Individual-Based and Dynamic-Landscape Metapopulation Models to Identify Climate Change Threat to a Regional Songbird Population**
Thomas W. Bonnot; W. Andrew Cox; Frank R. Thompson III; Joshua J. Millspaugh
- 1:30 PM **Extending the Use of Conditional Occupancy Models to Understand the Role of Competitive Exclusion in an Endangered Plethodontid Salamander**
Staci M. Amburgey; David A.W. Miller; Evan H.C. Grant
- 1:50 PM **Estimating Denning Date of Wolves with Daily Movement and GPS Location Fix Failure**
Pat Walsh; Suresh Sethi; Bryce Lake; Buck Mangipane; Ryan Neilson; Stacy Lowe
- 2:10 PM **Modeling Plague Dynamics to Optimize Vaccination Strategies**
Robin E. Russell; Martin D. Grunnill; Katherine L.D. Richgels; Tonie E. Rocke
- 2:30 PM **An Evolving Sightability Model for a Low-Density Moose Population Using Distance Sampling**
Rachel E. Wheat; Jacqueline Frair
- 2:50 PM Break
- 3:20 PM **Evaluating the Roles of Propagule Size, Life History, and Environmental Conditions on the Establishment Success of an Invasive Species Using Transient Dynamics Models**
Michael A. Tabak; Ryan S. Miller
- 3:40 PM **A Range-Wide Species Status Assessment to Evaluate Past Trends and Future Viability of the Red-Cockaded Woodpecker**
Stephanie DeMay; Michael Marshall; Will McDearman; Jeffrey Walters
- 4:00 PM **Simulations Inform Design of Regional Occupancy-Based Monitoring for a Sparsely Distributed, Mobile Species**
Quresh S. Latif; Martha M. Ellis; Victoria A. Saab; Kim Mellen-McLean
- 4:20 PM **Identifying Limits to Red-Cockaded Woodpecker Population Growth**
Emily Brown; Cynthia Ragland; Paige F. B. Ferguson
- 4:40 PM **Using Spotlight Surveys and Distance Sampling to Estimate Density and Detection Probability of White-tailed Deer**
Andrew S. Norton; Dan J. Kaminski; Tyler M. Harms

**Session 25: Contributed Papers
Conservation and Ecology of Birds II**

Location: 18 & 30

Moderator: Robyn Bailey, Cornell University, Ithaca, NY

- 1:10 PM **Adaptations of Tidal Marsh Sparrows to a Changing Environment**
Alison R. Kocek; Jonathan B. Cohen; Bri Benvenuti; Alyssa Borowske; Chris S. Elphick; Christopher R. Field; Laura Garey; Thomas P. Hodgman; Adrienne I. Kovach; Rebecca A. Kern; Brian J. Olsen; Samuel G. Roberts; Katharine J. Ruskin; W. Gregory Shriver; Jennifer Walsh
- 1:30 PM **Shorebird Nest Attendance in Response to Research Activities**
Alicia K. Andes; Terry L. Shaffer; Mark H. Sherfy; Colin M. Dovichin; Susan N. Ellis-Felege
- 1:50 PM **Secretive Marshbird Response to Wetland Plant Management in Western Minnesota**
Nina Hill; David E. Andersen; Douglas H. Johnson; Tom Cooper
- 2:10 PM **Ecological State Change of Saline Lakes on the Southern High Plains**
David Haukos; Warren Conway; Destiney Hett; Brandon Weihs
- 2:30 PM **To Exclude Or Not? A Decision Support Tool for Piping Plover Management**
Abigail Darrah; Jonathan Cohen; Paul Castelli
- 2:50 PM Break
- 3:20 PM **Piping Plover Population Irruptions Following Habitat Creating Events**
Samantha G. Robinson; James D. Fraser; Daniel H. Catlin; Sarah M. Karpanty; Kelsi L. Hunt; Ruth Boettcher;

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Alexandra Wilke; Kevin Holcomb; Jon Altman

- 3:40 PM **Heading for Higher Ground: Adapting Marsh Bird Management as Sea Level Rises**
Paul J. Taillie; Christopher E. Moorman; Benjamin Poulter
- 4:00 PM **Demographic Consequences of Road Mortality to Snowy Plovers in Northwest Florida**
Maureen M. Durkin; Jonathan Cohen
- 4:20 PM **Developing Range-Wide Occupancy Models for King Rails: Optimizing Predictive Capabilities across Spatial Scales**
Bryan S. Stevens; Courtney J. Conway
- 4:40 PM **Gunnison Sage Grouse How Long Can the Crawford Population Persist?**
Douglas S. Ouren; Brian Cade; Melissa Siders; Ken Holsinger

Session 26: Contributed Papers**Conservation and Ecology of Mammals - Ungulates**

Location: 27, 29 & 31

Moderator: Jerod Merkle, University of Wyoming, Laramie, WY

- 1:10 PM **Using Occupancy to Understand the Process of Moose Recolonization in Northern Wisconsin**
Lucas Olson; Max Allen; Timothy Van Deelen
- 1:30 PM **Archery Hunting and Scouting Drives Early Fall Migration and Reduces High Quality Forage for Elk with Access to Protected Area Refuge**
Nate Mikle; Tabitha A. Graves; Edward M. Olexa
- 1:50 PM **A Framework for Estimating Elk Abundance in Arizona**
Kirby Bristow; Mathew Clement; Michelle Crabb; Larisa Harding
- 2:10 PM **Ecological Drivers of Elk Survival in Idaho**
Jon Horne; Mark Hurley; Erin Roche; Scott Bergen
- 2:30 PM **Physiological Stress in Reintroduced Elk Reveals Tolerance to Pulses of Increased Human Activity**
Colter Chitwood; Barbara J. Keller; Lonnie Hansen; Aaron M. Hildreth; Joshua J. Millspaugh
- 2:50 PM Break
- 3:20 PM **Mortality and Human Predation: How Sociality Influences Probability of Mortality of Large Mammals**
Brittany Slabach; John T. Hast; Philip H. Crowley; Will Bowling; R. Daniel Crank; Gabriel Jenkins; John J. Cox
- 3:40 PM **Behavioral and Nutritional Responses of Moose to Beetle-Killed Forests in Southeast Wyoming**
Alexander A. B. May; Matthew J. Kauffman; Kevin L. Monteith
- 4:00 PM **Do Winter Densities Influence Elk Movements and Trade-Offs in Habitat Selection on Winter Range?**
Evelyn Merrill; Joshua Killeen; Jed Pettit; Jodi Berg; Holger Bohm; Scott Eggeman; Mark Hebblewhite
- 4:20 PM **Drone and Thermal Imaging System as an Innovative Tool for Forest Ungulate Surveys**
Stanisław Pagacz; Julia Witczuk; Anna Zmarz; Maciej Cypel
- 4:40 PM **Fire-History Exerts Persistent Effects on Ungulate Behavior: Daily, Seasonal and Successional Patterns**
Derek B. Spitz; Mary Rowland; Darren Clark; Mike Wisdom; Taal Levi; Bruce K. Johnson

Session 27: Workshop**Communicating Conservation Using Social Media**

Organizers: Nicole Frey, Utah State University, Cedar City, UT; Sonja Jo Serna, New Mexico State University, Las Cruces, NM

Supported by: TWS Conservation Outreach and Education Working Group

Location/Time: 10/1:00 - 5:00 PM

**Advanced registration required for all Workshops*

Monday, September 25

Keynote: Establishing Wildlife Conservation Partnerships to Drive Results

Location/Time: Kiva Auditoriu/8:30 AM - 10:00 AM

See page 33 for details

Session 28: Workshop Range 101

Organizers: Bill Vodehnal, Nebraska Game and Parks Commission, Bassett, NE; Megan Clayton, Texas A & M AgriLife Extension Service, Corpus Christi, TX; Eric Thacker, Utah State University, Logan UT

Supported by: TWS Rangeland Wildlife Working Group, The Berryman Institute

Location/Time: 10/8:00 AM - 12:00 PM

**Advanced registration required for all Workshops*

Session 29: Posters **Student Research in Progress Poster*

Time: 9:00 AM - 5:00 PM

Location: Ballroom ABC (Member Activity Center)

- 1 **Factors Influencing Nest Survival of Mourning Doves in the Lower Rio Grande Valley, Texas**
Kelton W. Mote; Jordan C. Giese; Heather A. Mathewson; Thomas W. Schwertner; Jeff B. Breeden
- 2 **Teaching Natural Resource Management in a Multi-Cultural Context Through Experiential Learning**
Casey C. Day; Patrick A. Zollner; Jonathan H. Gilbert
- 3 **Baseline Genetic Diversity and Population Structure of Yellow-Billed Magpies Prior to West Nile Virus-Induced Population Decline**
Amelia Vazquez; Kyle Gustafson; Ben Harmeling; Holly Ernest
- 4* **Camera Traps as a Tool to Increase Public Participation in Biodiversity Monitoring**
Hollie A F Sutherland
- 5 **Sub-Saharan Africa: Wildlife, People and Culture - a Wildlife Biologist - Busman Holiday**
Michael Matthews
- 6 **Using GIS to Develop Priority Areas for the Restoration of Eastern Wild Turkeys in Texas**
Jason Anthony Estrella; Jason Hardin; Dave O'Donnell
- 7 **Assessment of Human-Common Leopard Conflict in Northwest Pakistan**
Muhammad Awais; Tariq Mahmood; Muhammad Waseem
- 8* **Shorebird Use of Military Lands in Interior Alaska**
Ellen Martin; Kim Jochum; Calvin Bagley; Paul F. Doherty
- 9 **Evaluating Radio Transmitter Attachments, Retention, and Their Effects on Bobwhite Body Mass and Flight Performance**
Byron R. Buckley; Brad Dabbert
- 10 **Fine Scale Population Trends of White-Winged Dove in Texas: 2008 - 2016**
Conor J. McInerney; Heather A. Mathewson; T. Wayne Schwertner; Shaun L. Oldenburger; Mike Frisbie
- 12* **Quantifying the Effects of Farm Bill Cost-Share Conservation Practices on Avian Species on Private Lands in South Carolina**
Jesse M. Wood; Amy K. Tegeler; Beth E. Ross
- 13 **Evaluation of the Conservation Reserve Program as a Conservation Practice for Lesser Prairie-Chickens in the Southern High Plains of Texas**
Samuel W. Harryman; Blake A. Grisham; Clint W. Boal; Samantha S. Kahl; Christian A. Hagen
- 14 **Compensatory Response of Common Carp Fecundity Following Removal Efforts in Utah Lake, Utah**
Kenen Goodwin; Jereme W. Gaeta; Kevin Landom
- 15 **When the Freezer Breaks: Will Climate Warming Impact the Persistence of Resident Birds in Alaska?**
Emily J. Williams; Laura M. Phillips; D. Ryan Norris; John M. Marzluff; Carol L. McIntyre

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- 16 **High versus Higher Elevations: Ecological Lessons from Breeding Sparrows**
Ross R. Conover
- 17* **Resource Selection and Movements of Feral Burros on the Fort Irwin National Training Center**
Talesha Karish; Gary Roemer; James Cain
- 18* **How Do Deer and Turkey Deal with Wild Pigs? A Study Using Occupancy Models**
Alexandra Lewis; Nancy Sandoval; Brian Williams; Mark Smith; Stephen Ditchkoff
- 19 **Predation and Parental Care at Blue-winged Teal Nests in North Dakota**
John Donald Palarski; Nickolas Conrad; Sam Krohn; Patrick Chastan; Kaylan Carrlson; Tanner Gue; Ryann Cressey; Susan Ellis-Felege
- 20 **Winter Diet of Montezuma Quail in Arizona and New Mexico**
Oscar E. López Bujanda; Alberto Macías Duarte; Reyna A. Castillo Gámez; Angel B. Montoya
- 21* **Assessing Species-Habitat Relationships in Priority Open Pine Ecological Systems in Mississippi**
Amber M. Owen; Kristine O. Evans; Michael T. Gray; Steve Reagan
- 23* **Survey and Analyses of Current Uses of Technology and Needs of West Virginia Natural Resource Police Officers**
Lauren Stollings; Hannah Warner; Darren Wood
- 24* **Survival and Reproduction of Eastern Wild Turkeys in Northeastern South Dakota**
Reina M. Tyl; Christopher T. Rota; Chadwick P. Lehman
- 25* **Relating Wind Patterns over the Gulf of Mexico to Landbird Stopover Distributions Along the Gulf Coast During Spring Migration**
Hannah L. Clipp; Jaclyn A. Smolinsky; Emily B. Cohen; Andrew Farnsworth; Peter P. Marra; Steve Kelling; Jeffrey J. Buler
- 26* **Grazing Impacts on Wetland-Dependent Waterfowl**
Marissa Cent; Todd Arnold
- 27* **Energy Infrastructure Effects on Predators and Prey: Common Ravens, Burrowing Owls, and Power Transmission Lines**
Aidan B. Branney
- 28* **The Anthropogenic Effects on the Urban and Rural Coyote Diet**
Emily Masterton
- 29 **Ring-Necked Pheasant Use of Spring Cover Crops in Western Kansas**
Alixandra Godar; Adela Annis; David Haukos; Jeff Prendergast
- 30 **Negative Search Results Refine Habitat Requirements and Redirect Habitat Creation for an Endangered Songbird**
Ken Tuininga; Peter Burke
- 31* **Breeding Bird Richness and Landscape Structure Relationships on South Texas Rangelands**
Janel L. Ortiz; April A.T. Conkey; Leonard A. Brennan; Humberto L. Perotto-Baldivieso; David B. Wester; Tyler Campbell
- 33 **Conservation Implications of Hummingbird-Flower Dynamics in the Aviary Setting**
Alicia Smith
- 34* **Flight Elevation of Migrating Swainson's Hawks and Risk of Encountering Wind Turbines**
Katheryn A. Watson; Clint W. Boal; Laurie M. Groen; James D. Ray
- 35 **Ageing Western Bluebirds Nestlings Using Morphometric Data and Feather Tract Development**
Aaron Skinner; Chuck Hathcock; Brent Thompson; Jesse Berryhill; Emily Phillips; Maria Musgrave
- 36* **The Effects of Conifer Removal and Transmitter Type on Greater Sage-Grouse Breeding Season Survival**
Andrew Olsen; John Severson; Jeremy Maestas; Todd Forbes; Dave Naugle; Christian Hagen
- 37 **The Botstiber Institute for Wildlife Fertility Control: Advancing an Emerging Field of Wildlife Management**
Stephanie Boyles Griffin
- 38 **Successes and Limitations of Estrogen-Induced Egg Aversion in Raccoons**
Raymond D. Dueser; Joel D. Martin; Nancy D. Moncrief
- 39 **Western Burrowing Owls Face Multiple Challenges Associated with Urban Living in Western Arizona**
Kerrie Anne T. Loyd; Morgan T. Beckwith; Joseph J. Osinski
- 41* **Is There a Relationship between Nest Temperature and Fledgling Age in Western Bluebirds**
Emily Phillips; Chuck Hathcock; Brent Thompson

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- 42 **Comparisons of Habitat Selection and Behaviors between Mallards and American Black Ducks in The Finger Lakes Region During Winter**
Adam J. Bleau; Jonathan Cohen; Michael Schummer
- 43 **Habitat Selection, Home Range, and Survival of Female Bachman's Sparrows in the Longleaf Pine Ecosystem**
Daniel Choi; Alexander Fish; Christopher Moorman; Christopher DePerno; Jessica Shillaci
- 45 **Effects of Grazing Management of Sharp-tailed Grouse Nest Survival in Mixed Grass Prairies**
Megan C. Milligan; Lance B. McNew; Lorelle I. Berkeley
- 46* **Population Ecology and Survey Methodology of the Virginia Rail and Sora in the Lake Erie Coastal Marshes of Northern Ohio**
James Hansen; Brendan Shirkey; John Simpson; Robert Gates
- 47* **Mapping and Modeling Feral Swine Distribution Across Canada Using Local Knowledge and Expert Elicitation**
Ruth A. Kost; Ryan K. Brook
- 48 **The Looming Crisis for Eastern Tidal Marsh Birds**
Mitch Hartley; Chris Elphick; Bryan D. Watts; Greg Shriver; Brian Olsen; Aimee Weldon
- 49* **The Good, the Bad, and the Ugly: Investigating Perceptions of Wildlife and Vegetation in Urban Greenspaces**
Andrew J. Mallinak; Charles Nilon; Robert Pierce; Sebastian Moreno
- 50 **Population Estimate for Black-Backed Woodpeckers in the Black Hills of South Dakota and Wyoming**
Elizabeth A. Matseur; Brian E. Dickerson; Frank R. Thompson; Joshua Millsbaugh
- 51 **Juvenile Survival and Dispersal in White-Headed Woodpecker**
Philip C. Fischer; Teresa J. Lorenz
- 52 **Factors Influencing Survival and Recovery Rates of White-winged Doves in Texas**
Jared D. Hall; Heather Mathewson; T. Wayne Schwertner; Shaun Oldenburger; Mike Frisbie
- 53 **Seasonal and Interspecific Landscape Use of Sympatric Greater Prairie-Chickens and Sharp-tailed Grouse**
Jamie E. McFadden; Tim L. Hiller; Larkin A. Powell; Walter H. Schacht
- 54 **Evaluation of Land Restoration Practices on Northern Bobwhite Survival and Land Use in North Central Texas**
Danielle Belleny; Heather Mathewson; Jeff Breeden; John Tomecek; T. Wayne Schwertner; Jim Giocomo
- 55 **Using Urban Landscapes to Teach Biodiversity and Conservation for Introductory Lab Courses**
Angela van Doorn; Christina Pondell
- 56* **GPS-GSM Technology to Inform Management of the Invasive Mute Swan in Michigan**
Randall T. Knapik; David R. Luukkonen; Scott R. Winterstein
- 57 **Effect of Nest Micro-Climate on Reproductive Success of Burrowing Owls Along a Latitudinal Gradient**
Carl G. Lundblad; Courtney J. Conway
- 58 **Survival of Ring-Necked Pheasants in Western Kansas Spring Cover Crops**
Adela Annis; Alixandra Godar; David Haukos; Jeff Prendergast
- 60* **Distribution and Habitat Associations of Snag Nesting Purple Martins in Western Oregon**
Lorelle Sherman
- 61 **Effects of Oil and Gas Development on Duck Production in the Prairie Pothole Region of North Dakota and Montana**
Mason Sieges; Kaylan Carrlson; Ryann Cressey; Tanner Gue; Johann Walker; Charles Loesch; Michael Szymanski
- 62* **Multi-Species Occupancy for an Early Successional Bird Community and Experimental Use of Conspecific Stimuli to Increase Detection for a Cryptic Species**
Laura D. Graham; Christopher M. Lituma
- 63 **Evaluating Dig Site Selection in Montezuma Quail**
Karlee Cork
- 64 **Weather-Induced Declines in Piñon Tree Condition and Response of a Declining Bird Species**
Kristine Johnson; Giancarlo Sadoti; Jacqueline Smith
- 65 **Collecting Non-Invasive Polar Bear Genetic Id Samples Along the Chukchi Sea Coast: Working with Alaska Natives**
Andrew Von Duyke; Kelly Nesvacil; Lori Quakenbush; Kimberly Titus
- 66 **Trends in Illegal Wildlife Trade: Analyzing Seizure Data in the Pacific Northwest**
Rosemary T. Hitchens; April Blakeslee

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- 67* **Falling for Fire Ants: Assessing Fire Ant Prevalence in a Burn-Mediated Ecosystems**
Angelina Haines; Christopher Lepczyk; Robert Gitzen; Theron Terhune
- 68 **User-Friendly Resource Design and Passive Extension Capacities: The Design of a Ground Squirrel Best Management Practices Website**
Niamh Quinn; Roger A. Baldwin; Monica Dimson
- 69* **The Effect of Season of Prescribed Burning on Avian and Plant Communities in Minnesota Lowland Brushland Habitat**
Annie Hawkinson; Rebecca Montgomery; Lee Frelich; Charlotte Roy; Lindsey Shartell
- 70* **Investigating Relationships between Breeding Ecology and Abundance in Songbirds of the Sagebrush-Steppe**
Kayla A. Ruth; Victoria J. Dreitz
- 71* **Effects of Hardwood Control on Breeding Birds in a Managed Loblolly Pine Forest**
Marian Fuller-Morris; Darren Miller; Scott Rush
- 72 **Monitoring of the Endangered Masked Bobwhite Quail Population in Mexican Desert Shrubland**
David Garcia-Solorzano
- 73* **Canada Warbler Response to Regenerating Seismic Lines**
Jocelyn Gregoire; Erin Bayne
- 74* **Cattle Ranching and Its Effect on Jaguar Conservation Adjacent to a Natural Protected Area in Northeastern Mexico**
Elizabeth J. Painter; Octavio C. Rosas-Rosas; Luis A. Tarango-Arámula; Juan Felipe Martinez-Montoya; Juan de Dios Guerrero-Rodríguez
- 75* **Measuring Ruffed Grouse Drumming Log Characteristics**
Jeffrey G. Williams; Samuel Lau; Heidi Putnam; Joseph Quehl
- 76* **People vs. Pig: A Look into the Human Side of the Alabama Wild Pig Conflict**
Ellary TuckerWilliams; Christopher Lepczyk; Wayde Morse
- 77* **Winter Survival and Habitat Selection by Translocated Northern Bobwhite in the New Jersey Pine Barrens: Preliminary Results**
Kaili R. Stevens; Christopher K. Williams; Theron M. Terhune; John P. Parke; John Cecil
- 78 **Do Birds Differentiate White Noise and Deterministic Chaos? A Playback Experiment**
Daniel T. Blumstein; Jessica Whitaker; Judith J. Kennen; Gregory A. Bryant
- 79 **Peoples Engagement in Wildlife Management with Special Reference to Kaziranga National Park, Assam**
Juri Goswami
- 80* **Evaluation of Wild Pig Behavioral Responses to Scent Exposure on Cowden Plantation, Jackson, South Carolina**
Samantha R. Hitchens
- 83* **Effects of Land Use Changes on American White Pelican Flock Size in the Mississippi Alluvial Valley**
Ciera A. Rhodes; D. Tommy King; Guiming Wang; Peter J. Allen
- 84* **Do Nutrient Acquisition Strategies Among Spring Migrants Differ Depending on Breeding Area Destination? A Test Using Lesser Snow Geese**
Drew N. Fowler; Mark P. Vrtiska; Keith A. Hobson; Elisabeth B. Webb
- 85* **Space Use by Cattle, and Its Cascading Effects on Lesser Prairie-Chicken Habitat Selection**
Christopher K. Gulick; Jonathan Lautenbach; David Haukos
- 86* **Factors Affecting Space Use of Sharp-tailed Grouse in Mixed Grass Prairies**
Megan C. Milligan; Lance B. McNew; Lorelle I. Berkeley
- 87 **Microhabitat Use of Migrating Northern Saw-whet Owls**
Ian Bierke; Logan Hubbard; Amanda Lang; Jake Shurba; Janelle Taylor
- 88* **Nesting Ecology of Bell's Vireo in Northeast Texas**
Natasha R. Lehr; Dean Ransom, Jr.

Monday, September 25

Session 30: Panel Discussion
Tribal Bison Conservation

Time: 10:30 AM - 12:10 PM
 Organizers: Patrick Toomey, InterTribal Buffalo Council, Rapid City, SD
 Supported by: Defenders of Wildlife, World Wildlife Fund, TWS Native Peoples' Working Group
 Location: 215

The InterTribal Buffalo Council (ITBC) is comprised of sixty-three federally recognized Tribes in a twenty state region. ITBC is committed to restoring bison to Tribal lands in a manner that promotes cultural enhancement, spiritual revitalization, ecological restoration, and economic development while remaining compatible with each member Tribe's traditional beliefs and practices. Collectively, member Tribes have restored over 25,000 animals to roughly 1,000,000 acres of Tribal lands. Tribal models for bison restoration efforts vary depending on Tribal resources, Tribal cultural practices, and Federal and State regulations for bison management and production. These models range from large, expansive, landscape-scale restoration efforts, to cultural heritage and food security/independence conservation. Most of these efforts, with the lone exception of landscape-scale restoration, are not viewed as wildlife conservation, but as commercial production. This panel is organized to challenge that perception and focus instead on how cultural use and economic sustainability are viable options within the Tribal context of bison management.

Session 31: Contributed Papers
Biometrics and Population Modeling II

Location: 220
 Moderator: Jay Gedir, New Mexico State University, Las Cruces, NM

10:30 AM **Estimating Florida Manatee Abundance from Sparse Data Using Integrated and Retrospective Population Models**
 Jeffrey A. Hostetler; Julien Martin; Michael Kosempa; Michael C. Runge; Catherine A. Langtimm; Holly H. Edwards

10:50 AM **Inferring Infection Hazard in Wildlife Populations by Linking Data across Individual and Population scales**
 Kim M. Pepin; Shannon L. Kay; Ben D. Golas; Susan A. Shriner; Amy T. Gilbert; Ryan S. Miller; Andrea L. Graham; Steven Riley; Paul Cross; Michael D. Samuel; Mevin B. Hooten; Jennifer A. Hoeting; James O. Lloyd-Smith; Colleen T. Webb; Michael G. Buhnerkempe

11:10 AM **Time Series Sightability Modeling of Animal Populations**
 Althea ArchMiller; Robert M. Dorazio; Katherine St. Clair; John Fieberg

11:30 AM **Bayesian Model-Based Age Classification Using Morphometrics and Capture Dates**
 Nathanael Lichti; Kenneth F. Kellner; Timothy J. Smyser; Scott A. Johnson

11:50 AM **Hunters, Harvest and Herd Health: Investigating The Sociological and Ecological Dynamics of CWD through Data Integration**
 Daniel Walsh; Mat Alldredge

Session 32: Contributed Papers
Conservation and Ecology of Mammals - Cervids I

Location: 230
 Moderator: Joshua Millspaugh, University of Montana, Missoula, MT

10:30 AM **Weather and Landscape Factors Affect White-tailed Deer Neonate Survival at Ecologically Important Life Stages in the Northern Great Plains**
 Eric S. Michel; Jonathan A. Jenks; Kyle D. Kaskie; Robert W. Klaver; William F. Jensen

10:50 AM **Juvenile Survival of Mule Deer in the Blue Mountains of Oregon**
 Nathan J. Jackson; Kelley M. Stewart; Darren A. Clark; Michael J. Wisdom

11:10 AM **Modeling White-tailed Deer Survival and Recruitment with Novel Spatial Capture-Recapture Models and Camera Data**
 Kristin N. Engebretsen; Michael J. Cherry; Elina Garrison; Karl V. Miller; Richard B. Chandler

11:30 AM **Responses of Female White-tailed Deer to Hunting Activity in Two Different Ecoregions of Missouri**
 Chloe A. Wright; Jon T. McRoberts; Joshua J. Millspaugh; Barbara J. Keller; Kevyn H. Wiskirchen

11:50 AM **Habitat Selection by Female Mule Deer: Tradeoffs Associated with Reproduction**
 Levi J. Heffelfinger; Kelley M. Stewart; Kevin T. Shoemaker; Neal W. Darby; Vernon C. Bleich

Monday, September 25**Session 33: Contributed Papers**
Conservation and Ecology of Birds - Raptors

Location: 235

Moderator: Kay Nicholson, Logan Simpson, Tempe, AZ

10:30 AM **Recent Colonization of North American Urban Landscapes by Accipiter Hawk**
Jennifer D. McCabe; Benjamin Zuckerberg10:50 AM **The Return of Bald Eagles: Spatiotemporal Dynamics of a Recovering Apex Predator and Shifting Management Impacts**
Jennyffer Cruz; Steven Windels; Wayne Thogmartin; Shawn Crimmins; Ben Zuckerberg11:10 AM **Survival and Dispersal of Juvenile Golden Eagles in the Southern Great Plains and Trans Pecos Regions**
Natasia Mitchell; Dale Stahlecker; Ben Skipper; Robert Murphy; Clint Boal11:30 AM **Dynamic Multistate Occupancy Models Indicate a Cost of Reproduction in Bald Eagles**
Tammy L. Wilson; Joshua H. Schmidt11:50 AM **First-Year Dispersal of Golden Eagles from Natal Areas in the Southwestern United States and Implications for Conservation**
Robert K. Murphy**Session 34: Symposium**
Wildfire and Spotted Owls: It's a Burning Issue

Organizers: William M. Block, US Forest Service, Rocky Mountain Research Station, Flagstaff, AZ; Joseph L. Ganey, US Forest Service, Rocky Mountain Research Station, Flagstaff, AZ; R. J. Gutiérrez, University of Minnesota, McKinleyville, CA; Shaula Hedwall, US Fish and Wildlife Service, Flagstaff, AZ; Serra Hoagland, US Forest Service, Rocky Mountain Research Station, Pablo, MT

Supported by: US Forest Service, Southwestern Region, Southwest Fire Sciences Consortium

Location: 240

10:30 AM **The Effects of Wildfire on Spotted Owls: The Elements of an Emerging Conservation Conflict**
Ralph J. Gutierrez; Gavin M. Jones; M. Zachariah Peery10:50 AM **Federal Wildland Fire Policy & Management**
Bryan Rice11:10 AM **Management of Spotted Owls and Their Habitat in the Western United States**
Shaula Hedwall11:30 AM **Native American Perspectives on Fire Effects on Spotted Owls**
Dee Randall; Serra Jeanette Hoagland11:50 AM **Using Fire as a Management Tool in Southwestern Forests**
Tessa Nicolet

12:10 PM Break

1:10 PM **Beyond 'Megafires': The Role of Fire Complexity and Spatial Patterns of Severe Fire on Spotted Owls**
Gavin Jones; R. J. Gutiérrez; Nicole F. Pietrunti; M. Z. Peery1:30 PM **California Spotted Owl Habitat Use Patterns in a Burned Landscape**
Stephanie A. Eyes; Susan L. Roberts; Matthew D. Johnson1:50 PM **California Spotted Owl-Wildfire Associations at Territory, Landscape and Bioregional Scales in the Sierra Nevada, California**
John J. Keane; Rahel Sollmann; Ross A. Gerrard; Claire V. Gallagher; Paula A. Shaklee; Thomas E. Munton; James Baldwin2:10 PM **Reconciling Forest change and Contemporary Fire Patterns with Owl Habitat Requirements in historically Frequent-Fire Forests**
Brandon Collins2:30 PM **Mosaic Landscapes: What Mixed Severity Fires, Repeated Fires and the Subsequent Landscapes Tell us about Habitat**
Camille Stevens-Rumann; Penelope Morgan

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- 2:50 PM Break
- 3:20 PM **Northern Spotted Owls and Wildfire in the Klamath Province of Northern California: Linkages between Fire Regimes and Habitat Quality**
Alan B. Franklin; Jeremy T. Rockweit; Peter C. Carlson
- 3:40 PM **Interactions between Mixed Severity Wildfire and Forest Types Used by Northern Spotted Owls**
Damon B. Lesmeister; David M. Bell; Raymond J. Davis; Matthew J. Gregory; Jody C. Vogeler
- 4:00 PM **Higher Fire Severity Drives Reduced Mexican Spotted Owl Occupancy and Reproduction on the Rodeo-Chediski Fire, Arizona**
Michael A. Lommler; Joseph L. Ganey; Paul Beier; Jamie S. Sanderlin; Samuel A. Cushman
- 4:20 PM **Effects of Fuel Treatments on Spotted Owls: Current Knowledge and Future Directions**
M. Zachariah Peery; Gavin Jones; R.j. Gutierrez
- 4:40 PM **The Role of Fire in Spotted Owl Biology: A Synthesis of the Current State of Knowledge**
William M. Block; Kevin McKelvey

Session 35: Contributed Papers
Conservation Planning and Policy I

- Location: 110
- Moderator: Mara Weisenberger, Bureau of Land Management, Las Cruces, NM
- 10:30 AM **Using a Single Species as an Umbrella to Conserve Many At-Risk Species: The Lesser Prairie-Chicken and Prairie Conservation**
Demi Gary; Krista Mougey; Nancy McIntyre; Kerry Griffis-Kyle
- 10:50 AM **Bird Community Integrity and Land Protection in a Mixed-Use Northern Forest**
Kathryn Frens; Andrew Crosby; William Porter
- 11:10 AM **Forestry Effects on Listed Bats**
Paola Bernazzani; Shawna Barry; Dale Sparks; Leo Lentsch
- 11:30 AM **A Regional Conservation Program for American Burying Beetle**
Lucas Bare; Paola Bernazzani; David Zippin; David Williams
- 11:50 AM **Integrating Biological, Economic, and Social Assessments of the Feasibility and Value of Maintaining a Sustainable Population of Elk**
Jennifer L. Murrow; Marion Deerhake; Katherine Heller; David Cobb; Brad Howard

Session 36: Contributed Papers
Conservation and Ecology of Mammals - Chiroptera

- Location: 120
- Moderator: Craig Reddell, New Mexico State University, Las Cruces, NM
- 10:30 AM **Examining the Effectiveness of the North American Bat Monitoring Program (NABat) Acoustic Survey Protocols**
Kevin A. Parker; Han Li; Matina Kalcounis-Rüppell
- 10:50 AM **Using Non-Invasive Methods to Compare Stress Levels in Urban Bats throughout the Chicago Metropolitan Area**
Matthew P. Mulligan; Mary Beth Manjerovic; Katherine Fowler; Rachel Santymire
- 11:10 AM **Understanding the Landscape Factors and Scale That Influence Urban Bat Activity**
Elizabeth W. Lehrer; Travis Gallo; Mason A. Fidino; Seth B. Magley
- 11:30 AM **Predicting Seasonal Distribution and Migratory Pathways for Neotropical Nectar-Feeding Bats**
Rachel A. Burke; Kathryn E. Stoner; Jennifer K. Frey; Christopher P. Brown
- 11:50 AM **Effects of Urbanization on Bat Habitat Use in Phoenix, Arizona: A Multi-Scale Landscape Analysis**
Tracy C. Bazelman; Carol L. Chambers; Jianguo Wu; Sam A. Cushman

Monday, September 25**Session 37: Contributed Papers****Conservation and Ecology of Mammals - Ursids**

Location: 130

Moderator: Chris Comer, Stephen F. Austin State University, Nacogdoches, TX

10:30 AM **Population Dynamics and Harvest Sustainability of Two Small, Reintroduced American Black Bear Populations**

Sean M. Murphy; John J. Cox; Ben C. Augustine; John T. Hast; Joseph M. Guthrie; Jayson H. Plaxico; Sutton C. Maehr; Michael Strunk; Tristan M. Curr

10:50 AM **Understanding Motivations for Human Behaviors to Limit Human-Wildlife Conflict**

Stacy Lischka; Tara Teel; Heather Johnson; Courtney Larson; Stewart Breck; Kevin Crooks

11:10 AM **Compounding Effects of a Natural Food Shortage and Human Development on a Large Carnivore Population along a Human Development-Wildland Interface**

Jared Laufenberg; Heather Johnson; Paul Doherty; Stewart Breck

11:30 AM **Human Development and Climate Affect Hibernation in Black Bears with Implications for Human-Bear Conflicts**

Heather E. Johnson; David L. Lewis; Tana L. Verzuh; Cody F. Wallace; Rebecca M. Much; Lyle K. Willmarth; Stewart W. Breck

11:50 AM **Combining Resource Selection Functions, Space Use, and Systematic Conservation Planning to Identify Conservation Priorities for Brown Bears in the Romanian Carpathians**

Mihai I. Pop; Ruben Iosif; Iulia V. Miu; Laurentiu Rozyłowicz; Viorel D. Popescu

Session 38: Contributed Papers**Conservation and Ecology of Birds III**

Location: 140

Moderator: Will Janousek, University of Montana, Missoula, MT

10:30 AM **The Effects of Beetle-Induced Tree Death on Forest Songbird Diversity in the Western United States**

William M. Janousek; Victoria J. Dreitz

10:50 AM **Monitoring Avian Response to Explosive Testing, Wildland Fire Mitigation Measures, and Precipitation**

Jesse Berryhill; Charles D. Hathcock; Brent Thompson

11:10 AM **Migratory Behavior and Dispersal of Burrowing Owls throughout North America**

Courtney J. Conway; David H. Johnson; Carl G. Lundblad; Julie L. Conley

11:30 AM **Scavenger Removal of Bird Carcasses at Simulated Wind Turbines: Does Carcass Type Matter?**

Travis L. DeVault; Thomas W. Seamans; Kimberly E. Linnell; Dale W. Sparks; James C. Beasley

11:50 AM **Woodpecker Nest Survival in Relation to a Mountain Pine Beetle Outbreak**

Victoria Saab; Matthew Dresser; Quresh Latif; Jay Rotella; Jonathan Dudley

Session 39: Contributed Papers**Conservation and Ecology of Birds - Game Birds I**

Location: 15, 16 & 32

Moderator: Daniel Greene, Texas Tech University, Lubbock, TX

10:30 AM **Lesser Prairie-Chicken Brood Ecology in Response to Land Management in the Sand Shinnery Oak Prairie Ecoregion**

Daniel U. Greene; Blake A. Grisham; Sarah R. Fritts; Clint W. Boal; David A. Haukos; Robert D. Cox; Willard R. Heck

10:50 AM **"Flushing Out" the Relationship between Grasslands, Conservation Reserve Program Enrollments and Greater Prairie-Chicken Populations in Minnesota**

Kalysta I. Adkins; Charlotte Roy; David E. Andersen; Robert G. Wright

11:10 AM **Lesser Prairie-Chicken Habitat Selection during Extreme Temperature Events**

Jonathan Lautenbach; David Haukos; Blake Grisham

11:30 AM **A Tale of Chicken Little and Little Brown Jobs: Umbrella Species Conservation for the Lesser Prairie-Chicken and Grassland Avifauna of the Southern Great Plains**

David C. Pavlacky; Anne M. Bartuszevige; Richard Iovanna; Christian A. Hagen; Fawn E. Hornsby

11:50 AM **Tradeoffs of Nest and Brood Habitat Availability for Lesser Prairie-Chickens**

Daniel S. Sullins; Joseph M. Lautenbach; David A. Haukos

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**Session 40: Contributed Papers
Human Dimensions I**

Location: 18 & 30

Moderator: Michael Mengak, University of Georgia, Athens, GA

10:30 AM **The Future of Hunting and Fishing: A Case for Small Game as a Recruitment Tool**

Loren D. Chase; Doug Burt

10:50 AM **Effects of Age, Period, and Cohort on Hunting and Fishing Expenditures and License Purchases**

Rebecca Chase; Loren Chase

11:10 AM **Using Age-Period-Cohort Modeling to Project Hunting Participation and Direct Assessment of Retention Intervention for Key Demographic Segments**

Brent A. Rudolph; Richelle Winkler; Chris Henderson; Phil Seng; Daniel Escher

11:30 AM **Factors Influencing the Motivations of Natural Resource Professionals and Students in Texas to Pursue a Career in the Field**

Maria F. Mejia; Kerry Griffis-Kyle; Tom Arsuffi

11:50 AM **Full STEAM Ahead: Using Place-Based Art to Evaluate 4Th and 5Th Grade Students' Knowledge of Trophic Levels**

April A. Conkey; Marybeth Green

**Session 41: Contributed Papers
New Technology I**

Location: 27, 29 & 31

Moderator: Kelsey Paolini, Mississippi State University, Mississippi State, MS

10:30 AM **Surveying Anuran Diversity and Their Breeding Activities via Call Monitoring: A Novel Device Developed Based on Machine-Learning Algorithms**

Michael D. Black; Thilina D. Surasinghe; Christian Brady; Nicholas Abreu; Amber Nieves; Perry Warner

10:50 AM **Developing and Testing a Software Defined Radio Telemetry System for Wildlife Tracking**

Michael R. Finley; Michael W. Shafer; Paul G. Flikkema

11:10 AM **Counting Cats: A User Friendly Tool for Identifying Individual Pumas from Footprints**

Sky Alibhai; Zoe Jewell; Jonah Wy Evans

11:30 AM **Transmitter Influences on Raptor Agility and Raptor Prey Selection**

Rebecca Perkins; Clint Boal

**Session 42: Symposium
Tribal Wildlife Management and Conservation in the Southwest II**

Organizers: Gizelle Hurtado, New Mexico State University, Las Cruces, NM; Sarah Rinkevich, U.S. Fish & Wildlife Service, Tucson, AZ; Serra Hoagland, U.S. Forest Service, Flagstaff, AZ; Chase Voirin, University of Arizona, Rio Rancho, NM; Joe Jojola, Bureau of Indian Affairs, Albuquerque, NM; John Nystedt, U.S. Fish & Wildlife Service, Flagstaff, AZ

Supported by: TWS Native Peoples Wildlife Management Working Group, Native American Fish & TWS Wildlife Society Southwestern Region

Location: 215

1:10 PM **Mule Deer Management and Conservation: Jicarilla Apache Nation, New Mexico**

Kyle J. Tator

1:30 PM **Economic Development of Big Game Hunting Programs**

Sam Diswood

1:50 PM **Eagle Aviary - Pueblo of Zuni**

Nelson Luna

2:10 PM **Development of Tribal Threatened and Endangered Species Program**

Samuel Diswood

2:30 PM **New Mexico Meadow Jumping Mouse on the Southern Ute Indian Reservation in Southwestern Colorado**

Aran S. Johnson; Jennifer L. Zahratka

Monday, September 25

- 2:50 PM Break
- 3:20 PM **Wild Horse and Burro Issues on Tribal Lands**
Brian Gewecke
- 3:40 PM **U.S. Fish & Wildlife Service, Southwest Region - Working with Tribes in the Southwest**
Joseph Early
- 4:00 PM **Statements of Relationship Promote Intergovernmental Partnerships in Conservation**
Russell Benford
- 4:20 PM **Tribal Wildlife Management at Isleta Pueblo**
Shauna Bally
- 4:40 PM **Panel Discussion**

Session 43: Contributed Papers
Conservation and Ecology of Birds IV

Location: 220

Moderator: Skylar Vold, Montana State University, Bozeman, MT

- 1:10 PM **Does Wild Bird Feeding Improve Nest Survival or Clutch Size of Target Species?**
Robyn L. Bailey; David N. Bonter
- 1:30 PM **Managed Housing Is a Critical Component to Population Persistence of the Eastern Purple Martin**
Blake A. Grisham; Daniel Raleigh; Daniel U. Greene; James D. Ray; Joe Siegrist
- 1:50 PM **Effects of Livestock Grazing Management on the Abundance of Grassland Birds in a Northern Mixed-Grass Prairie Ecosystem**
Skylar Vold
- 2:10 PM **Nonnative Grasses Decouple Density and Nest Success in Grassland Birds**
Erik M. Andersen; Robert J. Steidl
- 2:30 PM **Understanding Landscape Scale Habitat Associations and Mapping Core and Potential Breeding Habitat for the Tricolored Blackbird**
Chad Wilsey; Nicole Michel; Lotem Taylor; Samantha Arthur; Neil Clipperton
- 2:50 PM Break
- 3:20 PM **Grassland Bird Response to Annual Herbaceous Biomass Harvest on the Leopold Wetland Management District, Wisconsin**
BJ Byers; Christine Ribic
- 3:40 PM **Estimating the Effect of Perennial Vegetation in an Agricultural Landscape on Grassland Birds**
Julia Dale; Matt Stephenson; Lisa Schulte Moore; Robert Klaver
- 4:00 PM **Sandhill Crane Winter Fidelity on the Southern High Plains**
Kathryn J. Brautigam; Blake A. Grisham; William P. Johnson; Daniel P. Collins; Shaun L. Oldenburger; Jude R. Smith; Nichole D. Athearn; Warren C. Conway
- 4:20 PM **Effects of Biosolids on Grassland Wildlife in British Columbia**
Kirstie J. Lawson; Karen E. Hodges; Frank Doyle
- 4:40 PM **Using Stable Isotopes to Estimate Reliance on Agricultural Food Subsidies and Migration Timing for a Migratory Bird**
Matthew A. Boggie; Scott A. Carleton; Daniel P. Collins; John Vrandenburg; Christopher J. Srokae

Session 44: Symposium
Wildlife are Individuals, Too: Considering Inter-Individual Variation to Inform Management

Organizers: M. Colter Chitwood, University of Montana, Missoula, MT; Bradley S. Cohen, University of Georgia, Athens, GA; Michael J. Chamberlain, University of Georgia, Athens, GA; Joshua J. Millsbaugh, University of Montana, Missoula, MT

Location: 230

- 1:10 PM **Wildlife Are Individuals Too: Considering Inter-Individual Variation to Inform Management**
Melissa J. Merrick; John Koprowski

Monday, September 25

- 1:30 PM **Specialization in Foraging Strategies of Coyotes**
Seth D. Newsome; Erich M. Muntz; Evan C. Wilson; Stanley D. Gehrt
- 1:50 PM **Individual Variation in Avian Avoidance Behaviours in Response to Repeated, Simulated Vehicle Approach**
Travis DeVault, Thomas W. Seamans, Bradley F. Blackwell, Steven L. Lima, and Esteban Fernández-Juricic
- 2:10 PM **Fluctuating Expression of Individuality over the Reproductive Cycle: Relationships between Mate Availability and Breeding Behavior in Male White-Tailed Deer**
Tara Gancos Crawford; Bradley S. Cohen; Thomas J. Prebyl; Taylor N. Simoneaux; Michael J. Chamberlain; Karl V. Miller
- 2:30 PM **Individual Variation of Greater Sage-Grouse Resource Selection Drives Reproductive Fitness under a Conifer Removal Strategy**
Charles P. Sandford; Michel T. Kohl; Terry A. Messmer; David K. Dahlgren; Avery Cook; Brian R. Wing
- 2:50 PM Break
- 3:20 PM **Influence of Conspecifics on Individual Behavior: Group Decision-Making in a Fusion-Fission Society**
Jerod A. Merkle; Marie Sigaud; Daniel Fortin
- 3:40 PM **The Influence of Fear and Hunger on Individual-Based Decision-Making across a Landscape of Fear**
Michael Sheriff; Catherine E. Pritchard
- 4:00 PM **The Fat and Furious: Consequences of Risk-Sensitive Allocation of Resources in Long-Lived Herbivores**
Kevin L. Monteith
- 4:20 PM **Individual Behavior Differences Are Important Predictors of Natal Dispersal Distance in an Endangered Small Mammal**
Melissa J. Merrick; John L. Koprowski
- 4:40 PM **Proactive Use of Reactive Behaviour Could Enhance Coexistence with Wildlife**
Colleen Cassidy St. Clair

Session 45: Symposium

Climate-Wise Connectivity: How to Plan and Implement

Organizers: Annika Keeley, University of California, Berkeley, CA; Angela Larsen, University of North Carolina, Greensboro, NC; Matthew Ihnken, University of Michigan, Flint, MI; Suzie Prange, Ohio Department of Natural Resources, Athens, OH; Mary Rowland, US Forest Service, Pacific Northwest Research Station, La Grande, OR; Jan Schipper, Arizona Center for Nature Conservation/Phoenix Zoo, Phoenix, AZ; Laura Thompson, USGS National Climate Change and Wildlife Science Center, Reston, VA

Supported by: TWS Climate Change and Wildlife Working Group, TWS Forestry and Wildlife Working Group, TWS Biological Diversity Working Group, TWS Wildlife and Habitat Restoration Working Group

Location: 235

- 1:10 PM **What Is Climate-Wise Connectivity?**
Paul Beier
- 1:30 PM **Integrating Connectivity and Climate Change Science to Model Connectivity - a Systematic Review**
Annika Keeley; Adina Merenlender; Patrick Huber
- 1:50 PM **Linking Landscapes and Climates: Two Approaches to Modeling Connectivity for Climate Change**
Joshua J. Lawler; Caitlin E. Littlefield; Julia Michalak; Jenny McGuire; Brad H. McRae
- 2:10 PM **Adapting Connectivity Conservation to Climate Change: A Case Study from the Pacific Northwest**
Meade Krosby
- 2:30 PM **Prioritizing Corridors and Protected Area Expansions to Facilitate Species Range Shifts in Sonoma County, California**
Morgan Gray; Adina M. Merenlender
- 2:50 PM Break
- 3:20 PM **Nested Connectivity Models to Resolve Management Conflicts and Promote Climate Change Resilience Using Mule Deer and American Bullfrogs in the Sonoran Desert as Study System**
Joseph Drake; Nancy McIntyre; Kerry Griffis-Kyle
- 3:40 PM **Dispersal Limitation, Climate Change, and Practical Tools for Conservation in Intensively Used Landscapes**
Laura Coristine

Monday, September 25

4:00 PM **Multi-Scale Connectivity Approaches As a Means of Implementing Climate-Wise Connectivity Planning for the Mohave Ground Squirrel**
Thomas E. Dilts; Peter J. Weisberg; Marjorie D. Matocq; Kevin Shoemaker; Miranda Crowell; Eveline Larrucea; Kenneth Nussear; Phillip Leitner; Richard Inman; Todd Esque

4:20 PM **Climate-wise Connectivity on the Kenai Peninsula, Alaska**
Tracy A. Melvin

4:40 PM **Panel Discussion**

Session 46: Symposium**Landscape Conservation Planning: Making Conservation Real for People - Planning Is Easy, People Are Hard - Building Effective Landscape-Scale Conservation Efforts That Endures on the Landscape**

Organizers: Bill Bartush, Gulf Coast Prairie Landscape Conservation Cooperative, Lafayette, LA; Cynthia K. Edwards, Gulf Coast Prairie Landscape Conservation Cooperative, Lafayette, LA

Supported by: Landscape Conservation Cooperative Network, Partners for Conservation, Wildlife Management Institute

Location: 110

1:10 PM **The Human Aspects of Large-Scale Conservation in the Southeast Conservation Adaptation Strategy**
Cynthia K. Edwards; Bill Uihlein; Wylie Carr

1:30 PM **Engaging Partners through a Decision Support Framework to Accomplish Landscape Conservation Design in the Ozark Highlands**
Thomas W. Bonnot; Frank R. Thompson; D. Todd Jones-Farrand

1:50 PM **A Recipe for Coastal Resilience: Equal Parts Adaptation Science and Community Engagement**
Megan Cook; Cynthia Kallio Edwards; Jeff Burgett; Amy Holman; Karen Murphy; Kat Powelson; Steve Traxler

2:10 PM **Leopold's Land Ethic and Conservation Perceptions of Illinois Farmers**
Craig A. Miller; Jerry J. Vaske

2:30 PM **Conserving the Plains and Prairie Pothole Ecoregion: Use of an Easy Tool to Understand Landowners' Decisions**
Lily A. Sweikert; Larry Gigliotti

2:50 PM Break

3:20 PM **Understanding Iowa Landowners' Values, Attitudes & Behaviors Toward Wildlife & Wildlife Habitat**
Larry M. Gigliotti; Lily A. Sweikert

3:40 PM **Integrating Human Information into Conservation Planning and Design: A Tale of Two Joint Venture Human Dimensions Efforts**
Jonathan Hayes

4:00 PM **A Monarch's View of the City: Social Science Applications in an Urban Monarch Butterfly Conservation Project**
Alexis Winter

4:20 PM **Engaging Landowners in Conservation – Case Studies from the Northeast**
Steven G. Fuller; Bridget MacDonald

4:40 PM **Panel Discussion: Landowner Perspectives on Conservation Partnerships to Sustain Working Landscapes for People and Nature**
Steve Jester; Jim Stone; Bill Sproul; Reese Thompson

Session 47: Symposium**Wild Horses and Burros: Interactions with Wildlife, Habitats, and Land Managers**

Organizers: Bill Vodehnal Nebraska Game and Parks Commission, Bassett, NE; Paul Griffin, Bureau of Land Management, Fort Collins, CO

Supported by: TWS Rangeland Wildlife Working Group, The Berryman Institute

Location: 120

1:10 PM **The Wild Free-roaming Horses and Burros Act (1971): Public Land Multiple Use, and Management Challenges**
Alan Shepherd

1:30 PM **Feral Horse Research and Management in the Northern Great Basin**
Gail H. Collins

Monday, September 25

- 1:50 PM **Synecology of Free-Roaming Horses: Multi-Scale Relationships with Mammals, Reptiles, Plants, and Soils of Sagebrush Habitats**
Erik Beever
- 2:10 PM **Wild Horse Management Program**
Brian Gewecke
- 2:30 PM **Influences of Feral Horses on Native Wildlife in the Great Basin**
Brock R. McMillan; Lucas K. Hall; Robert N. Knight; Randy T. Larsen
- 2:50 PM Break
- 3:20 PM **Wild Horses, Livestock, and Wildlife Use of Springs in Northeastern California**
Laura K. Snell; Roger A. Baldwin; David F. Lile
- 3:40 PM **The Influence of Feral Burros and Other Factors on Desert Tortoise Presence in the Western Sonoran Desert**
Kristin Berry; Lisa M. Lyren; Tracy Y. Bailey; Julie L. Yee
- 4:00 PM **Well Digging by Wild Burros Increases Water Availability, Local Wildlife Abundance, and Creates Riparian Germination Nurseries in the Sonoran Desert**
Erick Lundgren
- 4:20 PM **In Support of Wildlife Professionals: Advocating Science-Based Management of Horses and Burros**
Keith A. Norris
- 4:40 PM **Panel Discussion**

Session 48: Contributed Papers
Wildlife Damage Management

Location: 130

Moderator: Sam Smallidge, New Mexico State University, Las Cruces, NM

- 1:10 PM **Civil Airports from a Landscape Perspective: A Multi-Scale Approach with Implications for Reducing Bird Strikes**
Morgan B. Pfeiffer; Tavis L. DeVault
- 1:30 PM **Efficacy of Translocation as a Management Tool for Urban Mule Deer in Utah**
Channing R. Howard; David N. Koons; Mark K. Brunson; Mary L. Connor
- 1:50 PM **Spatio-Temporal Strategies for Efficient Planning of Feral Swine Population Management**
Kim M. Pepin; Amy J. Davis; Kurt C. Vercauteren
- 2:10 PM **Testing the Effectiveness of Bear-Resistant Containers to Reduce Black Bear-Human Conflicts**
Heather Johnson; David Lewis; Stacy Lischka; Stewart Breck
- 2:30 PM **Changes in Feral Swine Activity in Response to Prescribed Burning in the William B. Bankhead National Forest, Alabama**
Patience Knight; Helen Czech; William Stone
- 2:50 PM Break
- 3:20 PM **Predicting Spatial Factors Associated with Livestock Depredations by the Mexican Wolf in Arizona and New Mexico**
Reza Goljani A; Jennifer K. Frey; David L. Bergman; Stewart W. Breck; James W. Cain; John Oakleaf; Julia B. Smithr
- 3:40 PM **A Call for Science-Based Metrics of Success for Management Actions Addressing Invasive Species**
Amy Davis; Bruce Leland; Michael Bodenchuk; Kurt Vercauteren; Kim Pepin
- 4:00 PM **Challenges to Developing Deterrents to Mountain Lion Depredation: A Future for Lions and Livestock?**
Lynn Cullens; Dan Maher
- 4:20 PM **Anthraquinone as a Vole Repellent: Not Just for the Birds?**
Roger A. Baldwin; Ryan Meinerz; Gary W. Witmer; Scott J. Werner
- 4:40 PM **Hunter and Nonhunter Disease Risk Perceptions over Time**
Craig A. Miller; Jerry J. Vaske

MONDAY

Monday, September 25**Session 49: Symposium****Genetics to Genomics: What We've Learned over the Last 10 Years and What's Next for Wildlife**

Organizers: Kristin Brzeski, Princeton University, Princeton, NJ; Randall DeYoung, Caesar Kleberg Wildlife Research Institute Texas A&M University-Kingsville, Kingsville, TX; Emily Latch, University of Wisconsin-Milwaukee, Milwaukee, WI

Supported by: TWS Molecular Ecology Working Group

Location: 140

- 1:10 PM **Genetics to Genomics: What We've Learned and What's Next for Wildlife Management**
Emily Latch
- 1:30 PM **SNP-Based Assessment of Genetic Diversity and Population Structure in Northern Bobwhite**
Damon L. Williford; Randy W. DeYoung; Leonard A. Brennan
- 1:50 PM **High-Throughput Sequencing Used to Compare Neutral and Adaptive Genetic Variation among Tamaulipan Ocelot Populations**
J. P. Leonard
- 2:10 PM **Optimizing Disease Management of Prairie Dogs with Population Genomics**
Rachael Giglio; Tonie Rocke; Jorge Osorio; Emily Latch
- 2:30 PM **Conservation Genomics of Declining Cascades Frogs at the Southern Edge of Their Range**
Bennett Hardy; Emily K. Latch; Karen L. Pope
- 2:50 PM Break
- 3:20 PM **Importance of Genomics and Hybrid Phenotypes in the Mallard Complex: Establishing a Working Field Key Requires Vetting Phenotypic Characters with Genomic Techniques**
Philip Lavretsky
- 3:40 PM **Population Genetic Inferences in Eastern Coyotes: Comparing Microsatellites to Genome-Wide SNPs to Elucidate Patterns of Genetic Diversity and Admixed Ancestry**
Elizabeth Heppenheimer
- 4:00 PM **Beyond Population Genomics- Ecological Epigenetics and Application to Wildlife Management**
Kristin E. Brzeski
- 4:20 PM **Sage-Grouse Management in the Genomics Age: Insights Into Local Genetic Adaptation and Population Differentiation**
Kevin P. Oh; Cameron L. Aldridge; Sara J. Oyler-McCance
- 4:40 PM **Molecular Underpinnings of Sarcoptic Mange Susceptibility and Severity in Yellowstone Wolves**
Alexandra DeCandia; Quin Pompei; Emily Almberg; Daniel Stahler; Bridgett vonHoldt

Session 50: Contributed Papers**Conservation and Ecology of Mammals - Carnivores**

Location: 15, 16 & 32

Moderator: David Jachowski, Clemson University, Clemson, SC

- 1:10 PM **A Novel Approach to Estimation of American Badger Density Using Spatially Explicit Capture-Recapture Models and Automatic Cameras at Water Sources in the Chihuahuan Desert**
Robert Harrison; Matthew Gould
- 1:30 PM **Occupancy Dynamics of River Otter as a Function of Stream and Riparian Communities**
Angela Holland; Eric Hellgren; Clayton Nielsen; Eric Schaubert
- 1:50 PM **Too Close for Comfort? Inbreeding Dynamics in a Small Mountain Lion Population in Greater Los Angeles**
John F. Benson; Jeff A. Sikich; Devaughn L. Fraser; Robert K. Wayne; Holly B. Ernest; Seth P.D. Riley
- 2:10 PM **Resting Microsite Use by Fishers and Boreal Martens: Role of Thermal Stress across Species and Regions**
Michael J. Joyce; Andrzej Zalewski; John D. Erb; Ron A. Moen
- 2:30 PM **Quantifying Rest Structure Reuse Rates by Pacific Martens on the Lassen National Forest, California**
Matthew Delheimer; Katie Moriarty; Marie Martin; Patrick Tweedyn
- 2:50 PM Break

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- 3:20 PM **Distinguishing Reintroduction from Recolonization with Genetic Testing**
Frances Stewart; John Volpe; John Taylor; Jeff Bowman; Philippe Thomas; Margo Pybus; Jason T. Fisher
- 3:40 PM **Niche Overlap of Competing Carnivores Across Climactic Gradients and the Conservation Implications of Climate Change at Geographic Range Margins**
Jody M. Tucker; William J. Zielinski; Kerry M. Rennie
- 4:00 PM **Fisher Reproductive Parameters in the Southern Sierra Nevada Relative to the Broader Range**
Rebecca E. Green; Kathryn L. Purcell; Craig M. Thompson; Douglas A. Kelt; Heiko U. Wittmer
- 4:20 PM **Subsistence Livelihoods Have Low Impact on Mammalian Occupancy in Southeastern Nicaragua Despite Widespread Declines**
Lauren T. Phillips; Gerald R. Urquhart; Robert A. Montgomery
- 4:40 PM **Finding the Eastern Spotted Skunk: Developing a Non-Invasive Hair Snare Method for the Collection of Eastern Spotted Skunk Genetic Material**
Brian S. Wuertz; Geriann Albers; Colleen Olfenbuttel; Casey Gray; Ryan Sparks; Andrew Kota; Liesl Erb

Session 51: Contributed Papers
Human Dimensions II

- Location: 18 & 30
- Moderator: Loren Chase, Arizona Game and Fish Department, Phoenix, AZ
- 1:10 PM **Modeling Retention Rates of Learn to Hunt Participants in Wisconsin**
Emily E. Iehl
- 1:30 PM **Do Wildlife Value Orientations Inform Management Preferences for Wild Pigs?**
Erin E. Harper; Stephanie Shwiff; Jessica Tegt
- 1:50 PM **Impact of Multiple Platforms on Chronic Wasting Disease Communication Strategies**
Chad Stewart
- 2:10 PM **Conservation and Utilization of the White-tailed Mexican Deer as a Detonator of Social Welfare in the Sierra de Huautla, Biosphere Reserve, Central Mexico**
David García-Solórzano
- 2:30 PM **Hazards to Birds from Open Metal Pipes**
Charles Hathcock; Jeanne M. Fai
- 2:50 PM Break
- 3:20 PM **The Attitudes They Are A-Changin': Using Discrete Choice Experiments to Understand Deer Hunter Preferences**
Leslie E. McInenly; David C. Fulton; Louis Cornicelli
- 3:40 PM **Using Hunter and Birdwatcher Trips to Inform Habitat Delivery**
Anthony Roberts; Patrick Devers; Scott Knoche; Paul Padding; Robert Raftovich
- 4:00 PM **Designing Multimodal Texts to Engage Non-Specialists in the Protection of Predators**
Fabiola C. Rodríguez Estrada; Antonio A. Rodríguez Rosales
- 4:20 PM **Piping Plovers Taste Like Chicken: Conservation Planning to Reduce Human-Wildlife Conflict**
Shawna Barry; Paola Bernazzani; David Zippin
- 4:40 PM **Approaches to Preventing Illegal Releases of Boars in the Wild**
Stefano Giacomelli; Michael Gibbert; Roberto Viganò

Monday, September 25

Session 52: Contributed Papers Conservation and Ecology of Mammals I

Location: 27, 29 & 31

Moderator: TBAI

- 1:10 PM **Behavioral Responses in the Endangered Sonoran Pronghorn to Variation in Short- and Long-Term Risk Arising from Border-Related Human Activity**
Stephanie E. Doerries; David A. Christianson
- 1:30 PM **Mitochondrial, Microsatellite, and Genomic Single Nucleotide Polymorphisms Markers for Assessing Landscape-Scale Population Structure and Diversity in Bighorn Sheep across Wyoming, United States**
ESierra M. Love Stowell; Roderick B. Gagne; Holly B. Ernest
- 1:50 PM **Disentangling the Gordian Knot of Mountain Lion Predation on Bighorn Sheep**
Eric M. Rominger
- 2:10 PM **When, Where, and Why Do Contacts Occur? Investigating Interactions between Bighorn Sheep in and Around Glacier National Park**
Marie I. Tosa; Tabitha A. Graves; Mark J. Biel; Daniel W. Carney; Barb Johnston; Paul C. Cross; Kim A. Keating
- 2:30 PM **Evaluation of Aerial Population Estimation Techniques for Pronghorn in Texas**
Caroline L. Ward; Randy W. DeYoung; Timothy E. Fulbright; David G. Hewitt; Shawn S. Gray
- 2:50 PM Break
- 3:20 PM **Resource Selection in Desert Bighorn Sheep: Trade-Offs Associated with Recruitment**
Marcus Blum; Kelley Stewart; Mike Cox; Brian Wakeling; Brian Wakeling
- 3:40 PM **Desert Bighorn Sheep Behavioral Responses to Recreation and Urban Visitor Use of the Pusch Ridge Wilderness Area, Arizona**
Brett C. Blum
- 4:00 PM **Role of Harvest and Environmental Factors on Horn Size of Mountain Sheep**
Tayler N. LaSharr; Ryan A. Long; James R. Heffelfinger; R. Terry Bowyer; Vernon C. Bleich; Paul R. Krausman; Justin M. Shannon; Kevin L. Monteith
- 4:20 PM **Effects of Sampling Time on Bone Marrow Fat Estimates**
Jacob Kay; James W. Cain III
- 4:40 PM **Quantifying Endocrine Response to Anthropogenic Stressors Associated with Border Activity in Free Ranging Pronghorn**
David Christianson; Stephanie Doerries; Susannah Woodruff; Lisette Waits

Session 53: Workshop Training Students to Attend a Professional Conference? Educational Workshop for Leading a Similar Course

Organizers: Elizabeth Flaherty, Purdue University, West Lafayette, IN; Patrick Zollner, Purdue University, West Lafayette, IN; Vanessa Quinn, Purdue Northwest, Westville, IN; Darren Wood, West Virginia University, Morgantown, WV; Rachael Urbanek, University of North Carolina Wilmington, Wilmington, NC

Supported by: TWS Native People's Wildlife Management Working Group

Location/Time: 10/1:00 PM - 5:00 PM

*Advanced registration required for all Workshops

Tuesday, September 26

Plenary: Paradigm Shifts, Diversity and Inclusion, and Feet in Several Worlds

Location/Time: Kiva Auditorium/8:30 AM - 10:00 AM
 See page 34 for more details

Session 54: Posters **Student Research in Progress Poster*

Time: 9:00 AM - 5:00 PM

Location: Ballroom ABC (Member Activity Center)

- 1 **Ghosts of Caribou Herds Past: Evaluating Historical Herd Crashes using Genetics**
Kraren H. Manger
- 2* **Antler Characteristics and Age Structure of Mule Deer in Texas**
Carolina Medina-Nava
- 3 **Investigating the Effects of Landscape Connectivity on the Occurrence of Chronic Wasting Disease in Michigan**
Hunter Stanke; Jonathan Cook; Sonja Christensen; William F. Porter; David M. Williams
- 4* **Impacts of Land-Use Change on Riparian Bird and Bat Communities in the Ecuadorian Andes**
Elyce N. Gosselin; Rodrigo Cisneros; Leonardo Ordoñez; David Roon; Lisette Waits
- 5* **Evaluating Private Lands Conservation Practices for Gopher Tortoise and Savanna-Like Ecosystems in the Southeastern Coastal Plain**
Thomas J. Prebyl
- 8 **Survey Olive Ridley Turtle in Cuthbert Bay Sanctuary of Middle Andaman Forest Division, Andaman Nicobar Islands, India**
M. Rajkumar
- 9 **Evaluation of White-tailed Deer Population in the Nelsonville Bypass, Ohio, and Use of Mitigation Structures**
Devon Cottrill; Steven Porter; Matthew Trainer; Eileen Wyza; Robert Wiley; Jeffrey Roush; Nicole Dake; Viorel D. Popescu
- 10* **Layering Landscapes of Fear: The Role of Predation Risk and Human Disturbance in a California Large Mammal Community**
Kaitlyn M. Gaynor; Alex McInturff; Justin S. Brashares
- 11 **Prevalence and Distribution of Raccoon Roundworm in a Semi-Urban Landscape in Northwest Missouri as Determined by Fecal Flotation Analysis**
Bridgette French-Harbison; Cary D. Chevalier; Bethany Bolander; Cassie Daldrup; Rachael Domann; Eli Eber; Cody Phillips; Nina Gray; Jessica Gunderson; Chris Kelley; Jaime Lynch; Stephanie Malone; Nick Williams
- 12 **Influence of White-tailed Deer on Oak and Hickory Regeneration in Southern Illinois**
Clayton K. Nielsen; Ryan Leeson; Eric Holzmueller; Devon Oliver
- 13* **An Individual-Based Model of Hispid Cotton Rat Response to Habitat Variables in a Biofuel Feedstock Production System**
Angela L. Larsen; Volker Grimm; Jessica A. Homyack; T. Bently Wigley; Darren A. Miller; Matina C. Kalcounis-Rueppell
- 14 **Consumption and Assimilation Patterns of the Eastern Box Turtle, a Diet Generalist**
Miranda Figueras; Kent Hatch; Timothy Green; Russell Burke
- 15* **Influence of Prairie Dog Colonies on Vegetation and Cattle Movement in the Marathon Basin**
Graduate R. Assistant; Whitney J. Gann; Louis A. Harveson; Bonnie J. Warnock; Ryan O'Shaughnessy
- 16 **Telemetr: A Modular Telemetry Data Management System**
Mitchell A. Gritts; Cody McKee
- 17* **Development and Analysis of Avian Index of Biological Integrity for Kentucky Wetlands**
Kaitlyn Kelly; David Brown
- 18 **Estimating Sizes of Ocelot Populations in Coastal Tamaulipas, Mexico**
Mitch Sternberg; Rogelio Carrera-Treviño; Francisco Illescas-Martínez; Luis F. Martínez-García; Angel O. Salinas-Andrade; Luis J. Peña; Thomas deMaar
- 19* **Linking Wildlife Communities to Prescribed Fire on Camp Bland Joint Military Installation in Northern Florida**
Marcelo H. Jorge; Elina P. Garrison; Mike L. Conner; Michael J. Cherry

Tuesday, September 26

- 20 **Bisphenol a Contamination in Yellow-Bellied Sliders**
Robert B. Cromer; Kayla McDavid
- 21 **Amphibians Hit the Road: Assessing Roadway Mortality and Ecopassage Utilization Along a Two-Lane Highway**
Charlene B. Hopkins; Shawn R. Kuchta; Willem M. Roosenburg
- 22* **Occupancy of Co-Occurring Mountain Plover, Burrowing Owl, and Swift Fox on a Disturbed Short-Grass Prairie**
Ryan A. Parker; Tyler Michels; Diana Tomback; Angela Dwyer; Laurel Hartley; Michael B. Wunder
- 23* **The Influence of Environmental Variables, Age, and Sex on Eastern Gray Squirrel Capture Probability and Population**
Jacob Shurba; Heidi Putnam; Nathaniel Yost
- 24 **Prediction of Emperor Penguin Population at Northern Antarctic Peninsula**
Mikhail Akshin Bakhtiyarov
- 25 **Effects of Differential Management Practices on Managed Wetlands within the California Central Valley**
Dustin Howland
- 26* **Infectivity and Transmission of Reticuloendotheliosis Virus in Northern Bobwhite**
Melissa K. Hopkins; Jeff Breeden; Dustin Edwards; T. Wayne Schwertner
- 27* **Examining Reptile and Amphibian Detection Methods at Schenck Memorial Forest, Raleigh, North Carolina**
Daniel J. Guinto
- 28 **Modeling the Effects of White-Nose Syndrome on the Bat Community of Wisconsin**
Jordan J. Meyer; Robin E. Russell; Scott E. Hygnstrom; Jason D. Riddle; Christopher J. Yahnke
- 30 **Coastal Habitat Restoration on Edwin B. Forsythe National Wildlife Refuge National Wildlife Refuge**
Paul M. Castelli; Amy Drohan; Marc Virgilio; Vinny Turner; Virginia Rettig; Richard Albers
- 31 **Does Urbanization Ameliorate the Effect of Endoparasite Infection in Merriam's Kangaroo Rat?**
Gizelle Hurtado; Ghislaine Mayer; Karen Mabry
- 32 **Recording Ultrasonic and Infrasonic Southern Flying Squirrel Responses**
Katherine A. Rexroad; Brandon J. Enck; Sara L. Fischer
- 33* **Ticks and Tick-Borne Pathogens in the Southeastern United States**
Madeleine A. Pfaff; Michael J. Yabsley; Joseph L. Corn
- 34 **ASK Yourself Where You Best Fit on the Wildlife health Team - Identification of Key Attitudes, Skills, and Knowledge for Upcoming Wildlife Health Professionals**
Julie Wittrock; Tricia Fry; Michele Anholt; Colleen Duncan; Adam Herring; Craig Stephen
- 35* **An Investigation into the Health of Polar Bears in the Southern Beaufort Sea**
Tricia L. Fry; Todd Atwood; Colleen Duncan; Kelly Patyk; Tony Goldberg
- 36* **Abundance, Activity Patterns, and Interactions Among Ocelots, Bobcats, Cattle, Nilgai, Feral Hog, and Javelinas**
Shelby B. Carter; Michael E. Tewes; Jason V. Lombardi; Justin P. Wied; John P. Leonard; Alfonso Ortega-Sanchez; Tyler A. Campbell
- 37 **The Structural Complexity Index: A Nonparametric Descriptor of Habitat Heterogeneity for Wildlife Research and Management**
Larkin A. Powell; Maggi Sliwinski; Walter Schacht; Edward J. Raynor
- 38 **Simultaneous Estimation of Individual and Population Level Resource Selection Coefficients and Home Range Size Using Random-Effects Poisson Process Models**
Daniel A. Crawford; Richard B. Chandler; Michael J. Cherry; Elina P. Garrison; Brian D. Kelly; L. Mike Conner; Karl V. Miller
- 39 **The NASA Applied Sciences Program Transitioning Research to Applications: Case Studies Focused on Terrestrial and Aquatic Wildlife**
Maury Estes; Jay Skiles; Cindy Schmidt; Woody Turner
- 41 **Prevalence of *Batrachochytrium dendrobatidis* in Two Sympatric Tree Frog Species, *Hyla cinerea* and *Hyla versicolor***
Andrea Villamizar-Gomez; Thanchira Suriyamonkol; Kaitlyn N. Forks; William E. Grant; Hsiao-Hsuan Wang; Michael R.J. Forstner; Ivana Mali
- 42 **Public Trust Thinking: Comparing Public Ownership of Wildlife in Italy and the United States**
Darragh Hare; Stefano Giacomelli; Michael Gibbert; Bernd Blossey
- 43 **Comparison of Sex Ratios of Western Painted Turtles Based On Long-Term Capture Records versus Sex Ratios Calculated from Single-Season Capture Records in Clay County, Minnesota**
Donna M. Stockrahm; Jessica L. Loeffler

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- 44* **Population Dynamics of a Recolonizing American Black Bear Population Under Hunting Pressures in Southeastern Oklahoma**
Erica Perez; W. Sue Fairbanks; Morgan Pfander
- 46* **A Closer Look at Modeling Vertebrate Richness Using Local Habitat Heterogeneity: A Multi-Scale Approach for Multiple Taxa**
William J. Cooper
- 47 **Reducing Bat Fatalities at Wind Facilities Through Smart Curtailment**
Lauren A. Hooton; Crissy Sutter; John Goodrich-Mahoney; Sue Schumacher
- 48* **Improving Line Transect Distance Sampling for Estimating Gopher Tortoise Populations**
Heather E. Gaya; Lora L. Smith; Clinton Moore
- 49* **Carnivore Communities Structure and Activity Patterns in a Restored Tall Grass Prairie**
Jena Staggs; Abby Williams; Matthew Gompper
- 51* **Analysis of Allelic Variation in Prion Protein Gene of Texas Mule Deer**
Gael A. Sanchez; Randall DeYoung; Damon Williford; David Hewitt; Timothy Fulbright; Humberto Perotto-Baldivieso; Louis Harveson; Shawn Gray
- 52* **Feasibility of Remote Mark-Recapture Methods on Fisher in Clarion County, Pennsylvania**
Laken S. Ganoë; Carol Bocetti; Jeff Larkin; W. D. Walter
- 53 **Twenty Years of the Modern Vaginal Implant Transmitter Then and Now**
Justin R. Dion; Jacob L. Bowman; Jacob M. Haus; Joseph E. Rogerson
- 54* **Characterizing Intertidal Flat Habitat in Northern Brazil**
Daniel Merchant; Richard G. Lathrop; Larry Niles
- 55* **Burrowing Arthropods as Bio-Indicators in Sustainable Forest Management**
Dacotah B. Ateah
- 57 **Habitat Suitability of Restored Wetlands for Aquatic Turtles in West Virginia**
Alissa L. Gulette; James T. Anderson; Joseph Hatton; Donald J. Brown
- 58 **The Use of the TRACT Tool to Prioritize and Rank the National Wildlife Refuge System's Land Acquisitions**
Keenan Adams; Ken Fowler; Sean Fields; Kathy Fleming; Brad Andres; Mike Estey; Connie Rose; Julie Reeves; Delissa Padilla; Sarena Selbo; Mindy Rice
- 59* **Establishing a Reliable Population Survey for Bobcats in the State of Oklahoma**
Kalyann Branham; Wendelyn S. Fairbanks
- 60* **High-Resolution GPS Tracking of Hunters and Black-tailed Deer in California**
Alex McInturff; Kaitlyn Gaynor; Justin Brashares
- 61 **Evaluating the Success of Captive Propagation for the Conservation of the Endangered Houston Toad**
Anjana Parandhaman; Madeleine J. Marsh; Shashwat Sirsi; William W. Keitt; Michael R. J. Forstner
- 62 **A Comparison of White-tailed Deer Recruitment Rates to Relative Predator Abundance in Maryland**
Eric Ness; Jacob Bowman; Brian Eyler
- 63* **Efficacy of Timed vs. Triggered Shots Using Reconyx PC900 Game Cameras**
Holly Jones; Mariah Maser; Dr. Rachael E. Urbanek; Colleen Olfenbuttel; Geriann Albers
- 64 **Measuring Predator Abundance Using Scent Stations and Trail Cameras in the Rolling Plains of Texas**
Bryan D. Bingham; Grady Bergquist; Chris Taborsky; Matthew C. McEwen; C. Brad Dabbert
- 65* **Efficacy of Sodium Nitrite Based HOGGONE in a Controlled Free Range Setting**
John C. Kinsey; Justin A. Foster; Kurt C. VerCauteren; Nathan P. Snow; Simon Humphreys; Linton Staples; Janis K. Bush
- 66 **Identifying Resting Locations of Small, Elusive, Forest-Dwelling Carnivores Using GPS Clusters**
Katie M. Moriarty; Caylen Cummins; Bruce Hollen
- 67 **Management and Monitoring Wildlife and Its Habitat on Melrose Air Force Range**
Charles E. Dixon
- 68* **Geospatial Analysis of Wildlife Crimes in West Virginia**
Michael Miglore; Hannah Warner; Lauren Stollings; Darren Wood
- 69* **Lyme Disease in the Adirondacks: Are Dogs Good Sentinels for Lyme Disease in Essex and Franklin County?**
Ashley G. Hodge

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- 70* **Patterns of Infection of American Marten by the Nematode Parasite *Soboliphyme Baturini* in Interior Alaska**
Steven Guerin; Elisa Gagliano; Emma Fries; Mariel L. Campbell; Kerry L. Nicholson; Joe Cook
- 71* **Home on the Range: Terrestrial Ecology of the Endangered Sonoran Tiger Salamander**
Colin W. Brocka; John L. Koprowski
- 72 **Effects of Environmentally Relevant Mixtures of Major Ions and Coal-Contaminated Sediment on Freshwater Mussels**
Garrett S. Rhyne
- 73 **Arizona Game and Fish Department International Wildlife Collaborations**
Francisco J. Abarca; Cynthia Soria
- 74 **Using Tablets to Collect Avian Spot Mapping Data**
John R. Stanek; Jenna E. Stanek
- 76* **Climate Change Implications from an Anuran Annual Cycle Perspective**
Cassandra Thompson; Viorel Popescu
- 77* **Comparison of Three Techniques for Estimating Population Size of Raccoons on Ruler's Bar Hassock, New York**
Jeanette Rodriguez
- 78* **Tools of the Trade: Herpetofauna as Models for Conservation**
Brian R. Blais; John L. Koprowski

Session 55: Panel Discussion**Communicating Conservation across Cultures**

Time: 10:30 AM - 12:10 PM

Organizers: William C. Dunn, Big Picture Conservation LLC, Albuquerque, NM; September Myres, Sundance Consulting, Inc., Pocatello, ID

Supported by: Big Picture Conservation LLC, Sundance Consulting, Inc.

Location: 215

A symposium at the 2016 TWS Annual Conference entitled "Women and Minorities in Wildlife Science" revealed that diversity in the wildlife profession lags well behind that of the American public at large. One reason may be that conservation professionals are not communicating to ethnic and cultural communities of America about the meaning and importance of conservation such that interest in it increases. In this symposium, we will build on the discussion from the 2016 meeting with an ultimate goal of increasing diversity in our professional ranks and interest in conservation among all communities that comprise the American public. First, we will define what communication is and what makes it effective. Then, we will explore how to use communication to honor and meet the values, beliefs, desires and needs of four communities that need to be important contributors to conservation. These communities are (1) Native Americans, who throughout their existence have been tightly interwoven with the natural world and whose lands are important to conservation; (2) Hispanics, the fastest-growing ethnicity in America, not only in numbers but arguably also in influence; (3) Evangelical Christians, a politically influential community whose core beliefs speak to the high value of nature, and (4) Millennials, the generation that will soon be carrying on the legacy of conservation.

Session 56: Contributed Papers**Fire Science and Management**

Location: 220

Moderator: James Biggs, New Mexico Highlands University, Las Vegas, NM

- 10:30 AM **Demographic Response of Northern Bobwhites to Pyric Herbivory of Non-Native Grassland**
Eric D. Grahmann; Timothy E. Fulbright; Fidel Hernandez; Michael W. Hehman; David B. Wester; Alfonso Ortega-Santos; Blake A. Martin
- 10:50 AM **American Black Bear Movements in Response to Wildfire in Eastern Tennessee**
Jessica Giacomini; Coy Blair; Joseph D. Clark; Lisa Muller
- 11:10 AM **Building Consensus for Forest Restoration through Wildfire Risk Assessment**
Steven Bassett
- 11:30 AM **Prescribed Rangeland Fire's Influence on Northern Bobwhite Quail Chick Food Resources**
Britt Smith; Robin Verble-Pearson; Brad Dabbert
- 11:50 AM **Wildfire Mapping and Damage Analysis in Grand Bay National Estuarine Research Reserve, Mississippi Using a Small Unmanned Aerial System with a Multispectral Payload**
Sathishkumar Samiappan; Cary D. McCraine; Gray Turnage; Lee Hathcock; Robert Moorhead

Tuesday, September 26

Session 57: Contributed Papers

Conservation and Ecology of Birds - Game Birds II

Location: 230

Moderator: Blake Grisham, Texas Tech University, Lubbock, TX

- 10:30 AM **Thermally Usable Space May Become Limiting for Northern Bobwhites**
Benjamin R. Olsen; Timothy E. Fulbright; Fidel Hernandez; Eric D. Grahmann; David B. Wester; Michael W. Hehman
- 10:50 AM **Spatiotemporal Variation in Multiscale Space Use by Wild Turkeys**
Ryo Ogawa; Jerrold L. Belant; Adam B. Butler; Scott A. Rush; Darren A. Miller; Guiming Wang
- 11:10 AM **Density Estimation and Habitat Modeling for Pheasant Population Restoration in Pennsylvania**
Lacey Williamson; Scott Klinger; Duane Diefenbach; David Walter
- 11:30 AM **Wild Turkey Space Use and Movement in Response to Temperature**
Allison Rakowski; R. Dwayne Elmore; Craig A. Davis; Samuel D. Fuhlendorf
- 11:50 AM **Resource Selection by American Woodcock during Fall Migration at Cape May, New Jersey**
Brian B. Allen

Session 58: Contributed Papers

Conservation and Ecology of Mammals - Cervids II

Location: 235

Moderator: Colter Chitwood, University of Montana, Missoula, MT

- 10:30 AM **Reproductive Effort and Success of Male White-tailed Deer: Trade-Offs in Time Spent Foraging Vs Mate-Search**
Aaron M. Foley; Randy DeYoung; David Hewitt; Matthew Schnupp
- 10:50 AM **Genetic Contribution of Northern Stock Sources to Free-Range Populations of White-tailed Deer in Southcentral United States**
Jordan L. Youngmann; Steve Demarais; Randy W. DeYoung; Bronson Strickland; Johnathan Bordelon; Chris Cook; William McKinley
- 11:10 AM **While Males Fight, Females Choose: Male Phenotypic Quality Informs Female Mate Choice in Mammals**
Daniel L. Morina; Steve Demarais; Bronson K. Strickland; Jamie E. Larson
- 11:30 AM **Do Antler Point Restrictions Make a Notable Impact?**
Rebecca L. Cain; Brent Rudolph; William F. Porter; David M. Williams
- 11:50 AM **Evaluation of Selective Harvest on Phenotypic, Demographic, and Genotypic Traits in White-tailed Deer**
Masahiro Ohnishi; Randy W. DeYoung; Don A. Draeger; Charles A. DeYoung; Bronson Strickland; Steven Lukefahr; David G. Hewitt

Session 59: Contributed Papers

Conservation Planning and Policy

Location: 240

Moderator: Sam Smallidge, New Mexico State University, Las Cruces, NM

- 10:30 AM **Meet WiLA and What It Took to Make Meaningful New Wildlife Legislation in the Northwest Territories, Canada**
Robert Gau; Christine Glowach; Lynda Yonge
- 10:50 AM **Addressing Ecological, Economic, and Social Tradeoffs of Refuge Expansion in a Constrained Landscape**
Marjorie R. Liberati; Chadwick D. Rittenhouse; Jason C. Vokoun
- 11:10 AM **Planning for Urban Biodiversity: A Global Review of Biodiversity and Ecosystem Service Plans**
Charles H. Nilon; Myla F.J. Aronson; Sarel S. Cilliers; Cynnamon Dobbs; Lauren J. Frazee; Mark A. Goddard; Karen M. O'Neill; Debra Roberts; Emilie K. Stander; Peter Werner; Marten Winter; Ken P. Yocomo
- 11:30 AM **Maximizing Our Effectiveness: State Fish and Wildlife Agencies and the Public Trust**
Terra A. Rentz; Jacqueline Frair
- 11:50 AM **Slow Dancing Under the Methane Cloud - the Uneasy Relationship of Policy and Biology in the Gas Patch**
James Ramakka

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Session 60: Contributed Papers Conservation and Ecology of Reptiles and Amphibians I

- Location: 110
- Moderator: Clarissa Starbuck, Northern Arizona University, Flagstaff, AZ
- 10:30 AM **Modeling Qualitative Vulnerability of Desert Amphibians and Reptiles to Climate Change**
Kerry L. Griffis-Kyle; Krista Mougey; Sharmistha Swain; Matt Van Landeghem; Joseph Drake; Samantha Kahl
- 10:50 AM **Timber Rattlesnake Habitat Use and Selection: A Thermal Landscape Perspective**
William E. Peterman; Andrew S. Hoffman
- 11:10 AM **The Rocky Reality of Roadways and Rattlesnakes**
Garrett P. Sisson; Willem M. Roosenburg; Shawn R. Kuchta
- 11:30 AM **Snakes Move in Mysterious Ways: Daily Activity Patterns and Movements of Northern Mexican Gartersnakes**
Tiffany A. Sprague; Heather L. Bateman; Erika M. Nowak
- 11:50 AM **Species Distribution and Occupancy Models for Informing Reptile Conservation**
Daniel Martin; Larissa Bailey; Cameron Aldridge; Robert Reed; Daniel Manier

Session 61: Symposium Managing Prairie and Shrubland Grouse Populations in the 21st Century: Revisiting the Declining and Small Population Paradigms

- Organizers: Cameron Aldridge, Colorado State University, Fort Collins, CO; Jeffrey Beck, University of Wyoming, Laramie, WY; Clait Braun, Grouse Inc., Tucson, AZ; Steve Hanser, U.S. Geological Survey, Reston, VA; Peter Coates, U.S. Geological Survey, Dixon, CA
- Location: 120
- 10:30 AM **Small Populations: Lessons Learned from the Attwater's Prairie-Chicken**
Michael E. Morrow; John E. Toepfer
- 10:50 AM **Small Populations of Prairie Grouse; Causes, Consequences, and Challenges**
Michael A. Schroeder
- 11:10 AM **Comprehensive Habitat Requirements and Migration Strategies of a Small Greater Sage-Grouse Population**
Aaron C. Pratt; Kurt T. Smith; Jeffrey L. Beck
- 11:30 AM **Landscape Context Is Critical for Conservation of Greater Prairie-Chickens in Nebraska**
Larkin A. Powell; Mary Bomberger Brown; Walter H. Schacht
- 11:50 AM **Greater Sage-Grouse Reproductive Habitat Selection, Survival, and Male Lek Counts in Response to Wind Energy Infrastructure**
Chad LeBeau
- 12:10 PM Break
- 1:10 PM **Importance of Increased Reproduction in the Success of Sharp-Tailed Grouse Translocations and Efficacy of Artificial Insemination**
Steven R. Mathews; Peter S. Coates; Shwan Espinosa; David J. Delehanty
- 1:30 PM **Patterns of Genomic Diversity Loss in Declining Prairie Grouse Populations and Its Implication on Fitness**
Jeff A. Johnson
- 1:50 PM **Managing Genetic Diversity in Small Populations of Sage-Grouse: Promise and Pitfalls**
Sara Oyler-McCance
- 2:10 PM **Lesser Prairie-Chicken Population Dynamics: the Good the Bad and the Ugly**
Christian Hagen
- 2:30 PM **The Effects of Conifer Encroachment on Greater Sage-Grouse Demography and Tree Removal as a Management Strategy**
John P. Severson; Pete Coates; Mark Ricca; Brian Prochazka; Christian Hagen
- 2:50 PM Break
- 3:20 PM **Potential Restorative Benefits of Tree Removal and Sagebrush Restoration for Gunnison Sage-Grouse**
Jeffrey L. Beck; Kevin E. Doherty; Jacob D. Hennig; Jonathan B. Dinkins; Kathleen A. Griffin; Avery A. Cook; Jeremy D. Maestas; David E. Naugle

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- 3:40 PM **Understanding the Broad-Scale Implications of Livestock Management on Sage-Grouse Population Trends Using Public Records**
Adrian P. Monroe; Cameron L. Aldridge; Timothy J. Assal; Kari E. Veblen; David A. Pyke; Michael L. Casazza
- 4:00 PM **The Adverse Impacts of Wildfire to Greater Sage-Grouse Population Numbers in the Great Basin: Inferences for Management Actions**
Mark A. Ricca; Peter S. Coates; Brian G. Prochazka; Matthew L. Brooks; Kevin E. Doherty; Erik J. Blomberg; Christian A. Hagen; Cameron L. Aldridge; Steven Hanser; David A. Pyke; Michael L. Casazza
- 4:20 PM **Simulating the Causes and Fates of Small and Declining Sage-Grouse Populations Using Spatially Explicit Individual-Based Modeling Approaches**
Julie A. Heinrichs; Cameron L. Aldridge
- 4:40 PM **A Data-Driven Decision Point Tool to Signal Sage-Grouse Population Declines at Multiple Spatial Scales for Adaptive Management**
Peter S. Coates; Mark A. Ricca; Brian G. Prochazka; Cameron L. Aldridge; Steve E. Hanser; Kevin E. Doherty

Session 62: Contributed Papers
Wildlife Disease and Toxicology II

- Location: 130
- Moderator: Susan Shriner, National Wildlife Research Center-USDA, Fort Collins, CO
- 10:30 AM **Pathogen-Mediated Selection in Free-Ranging Elk Populations Infected by Chronic Wasting Disease**
Ryan J. Monello; Nathan L. Galloway; Jenny G. Powers; Sally Madsen-Bouterse; Mary E. Wood; William H. Edwards; Katherine I. O'Rourke; Margaret A. Wild
- 10:50 AM **Drought as a Risk Factor for Hemorrhagic Disease in the Eastern United States**
Sonja Christensen; Mark Ruder; David Williams; William Porter; David Stallknecht
- 11:10 AM **The Poor Get Richer? Spatial and Temporal Analysis of Genotypes Associated with Delayed Progression of Chronic Wasting Disease**
Darren M. Wood; Amy B. Welsh; James M. Crum; Christopher W. Ryan
- 11:30 AM **Genetic Susceptibility of Eastern Cervid Populations to Chronic Wasting Disease**
William Miller; W. David Walter
- 11:50 AM **Advent and Increasing Prevalence of Chronic Wasting Disease in Elk at Wind Cave National Park, South Dakota**
Glen A. Sargeant; Margaret A. Wild; Daniel E. Roddy; Gregory M. Schroeder

Session 63: Contributed Papers
Conservation and Ecology of Mammals II

- Location: 140
- Moderator: Rachael Urbanek, University of North Carolina Wilmington, Wilmington, NC
- 10:30 AM **Resource Utilization of American Marten in the Hiawatha National Forest in the Upper Peninsula of Michigan**
Brad Silet; Gary Roloff; Eric Clark; Joe Lautenbach; Russell Aikens; Aimee Baier; John Powell; Steve Sjogren
- 10:50 AM **Influence of Manatees' Diving on Their Risk of Collision with Watercraft**
Holly H. Edwards; Julien Martin; Charles J. Deutsch; Robert G. Muller; Stacie M. Koslovsky; Alexander J. Smith; Margaret E. Barlas
- 11:10 AM **Indirect Effects of Human Disturbance: How Risk-Averse Behavior Affects Use of the Foodscape**
Samantha Dwinell; Hall Sawyer; Jill Randall; Jeffrey L. Beck; Gary L. Fralick; Kevin L. Monteith
- 11:30 AM **Seasonal Shifts in Marine Mammal Core Use Areas and Vessel Traffic in the Alaskan Arctic Ocean**
Benjamin K. Sullender; Melanie Smith
- 11:50 AM **Can Community Driven Conservation Improve Small Mammal Diversity and Health in Eastern Madagascar?**
Jordan Broadhead; Sarah Zohdy

Tuesday, September 26

Session 64: Contributed Papers**Conservation and Ecology of Mammals III**

Location: 15, 16 & 32

Moderator: Steven Castleberry, University of Georgia, Athens, GA

10:30 AM **The Inefficiency of Harvest-Based Selection In Ungulates**

James Heffelfinger; Kevin Monteith; Ryan Long; R. Terry Bowyer; Vernon Bleich; Paul Krausman; Tayler LaSharr

10:50 AM **The Landscape of Fear May Play a Minimal Role in the Spatiotemporal Distribution of Urban Mammals**

Travis Gallo; Mason Fidino; Elizabeth Lehrer; Seth Magle

11:10 AM **A Dollar Out of Fifteen Cents: Estimating Fosa (*Cryptoprocta ferox*) Density in Northeastern Madagascar from Sparse Data**

Asia Murphy; Brian Gerber; Marcella Kelly; Sarah Karpanty; Felix Ratelolahy; Zach Farris

11:30 AM **Habitat Use and Movement Patterns of Wildlife on the Kenai Peninsula, Alaska Informs Mitigation Strategies for Highways**

Lowell H. Suring; William L. Gaines; James S. Begley

11:50 AM **Wildlife Movement Models for Conservation Planning along Linear Barriers**

Eric Abelson

Session 65: Contributed Papers**Human Dimensions III**

Location: 18 & 30

Moderator: Ken Boykin, New Mexico Cooperative Fish and Wildlife Research Unit, Las Cruces, NM

10:30 AM **Predation Services: A Framework for Studying the Costs and Benefits of Carnivores and their Prey**

Sophie L. Gilbert; Robin Naidoo

10:50 AM **Sustainability Evaluation of Terrestrial Hunting Systems in Japan, South Korea and Taiwan**

Arthur Mueller

11:10 AM **Perceptions of Wildlife Habitat Management Practices on New Jersey Wildlife Management Areas**

Catherine Tredick; Daniel Moscovici; Joseph Russell

11:30 AM **A National Analysis of Reptile Biodiversity and Ecosystem Services within the Protected Areas of the United States**

Kenneth G. Boykin; William G. Kepner; Alexa J. McKerrow; Anne C. Neale; Kevin J. Gergely

11:50 AM **Citizen Reporting of Wildlife Disease Outbreaks**

Caitlin N. Ott-Conn; Tyler R. Petroelje; Thomas M. Cooley; Julie R. Melotti

Session 66: Contributed Papers**New Technology II**

Location: 27, 29 & 31

Moderator: Kathryn Stoner, New Mexico State University, Las Cruces, NM

10:30 AM **Beyond Capture: Development of a Visual Body Condition Index for Mule Deer Using Camera Traps**

Rachel A. Smiley; Tony W. Mong; Kevin L. Monteith; Matthew J. Kauffman; Chadwick D. Rittenhouse

10:50 AM **Picture This: Monitoring Migratory Elk Using Remote Photography**

Travis Zaffarano; Doug McWhirter; Aly Courtemanch; Greg Anderson; Matthew Kauffman

11:10 AM **Developing and Testing a Software Defined Radio and UAV System for Wildlife Tracking**

Kellan M. Rothfus; Matthew Robinson; Gabriel Vega; Michael Shafer; Paul Flikkema

11:30 AM **Excel, Geodatabase, and Spatial Tool Workflows to Promote Rapid Organization and Analysis of Data Collected from Platform Transmitter Terminals**

Krista Mougey; Cathy Nowak; Dan Collins; Blake Grisham

Tuesday, September 26

Session 67: Contributed Papers
Conservation Communication

- Location: 10
- Moderator: Nicole Wood, Central Michigan University, Mount Pleasant, MI
- 10:30 AM **The Fisherman and the Fishing Cat: How Coastal Lives Depend on a Wild Cat's Habitat**
 Ashwin Naidu; Sujeevan K. Bullard; Mallika Vijayakumar
- 10:50 AM **Communicating Conservation: How Biologists Can Use Video to Engage the Public**
 Corey J. Shaw
- 11:10 AM **Non-Lead Hunting Education: A Collaborative Solution**
 Leland Brown
- 11:30 AM **Recent Developments in Midwest Grassland Bird Conservation**
 Kelly VanBeek; Thomas Will
- 11:50 AM **Mirror, Mirror: Examining the Reflection of Hunting and Fishing Through Advertisements**
 Ashley Tanner; Evan Tanner; Samuel Fuhlendorf

Session 68: Symposium
Freedom to Roam - Wildlife Connectivity in Action from Data to Implementation and Assessment I

- Organizers: Melissa Merrick, University of Arizona, Tucson, AZ; Julie Mikolajczyk, Arizona Game and Fish Department, Phoenix, AZ
- Supported by: TWS Southwest Section Geospatial Advisory Group, TWS Southwest Section, TWS Biometrics Working Group
- Location: 215
- 1:10 PM **Foundational Principles of Managing Landscapes for Wildlife Movement and Habitat Connectivity: The State of the Practice of Modeling Wildlife Connectivity**
 Sam Cushman
- 1:30 PM **Inference about Landscape Connectivity Using Spatial Occupancy Models**
 Chris Sutherland
- 1:50 PM **Density-Weighted Connectivity for Landscape Management and Connectivity Conservation**
 Angela K. Fuller; Jeffrey A. Royle; Dana J. Morin; Yexiang Xue; Bistra Dilkina; Amrita Gupta; Chris Sutherland; Carla Gomes
- 2:10 PM **Genetic Data to Estimate Connectivity for US-Mexico Border Species**
 Melanie Culver
- 2:30 PM **From Swamp Tigers to Desert Lions: Wild Cats as Flagship Species for Landscape Conservation**
 Ashwin Naidu
- 2:50 PM Break
- 3:20 PM **Estimating Connectivity in a Metapopulation System**
 Paige Howell; Blake Hossack; Erin Muths; Brent Sigafus; Richard Chandler
- 3:40 PM **Graph-Theoretic Approaches to Connectivity and Dynamic Spatial Processes**
 Joseph Drake; Xavier Lambin; Chris Sutherland
- 4:00 PM **Circuitscape Connectivity Modeling with gflow**
 Paul Leonard; Rob Baldwin
- 4:20 PM **Focal Species and Landscape Naturalness Approaches to Modeling Habitat Connectivity**
 Meade Krosby
- 4:40 PM **Panel Discussion**

Tuesday, September 26

Session 69: Contributed Papers Invasive Species

Location: 220

Moderator: Timothy Smyser, USDA/APHIS/WS/NWRC, Fort Collins, CO

1:10 PM **Genetic Origins of United States Feral Swine Populations**

Timothy J. Smyser; Michael S. Robeson; Hendrik-Jan Megens; Mirte Bosse; Martien A.M. Groenen; Samuel R. Paiva; Danielle A. de Faria; Harvey D. Blackburn; Brandon S. Schmit; Antoinette J. Piaggio

1:30 PM **Biotic and Abiotic Factors Predicting the Global Distribution and Population Density of an Invasive Large Mammal**

Jesse Lewis; Matthew Farnsworth; Chris Burdett; David Theobald; Miranda Gray; Ryan Miller

1:50 PM **Do Common Forest Management Techniques Facilitate Exotic Plant Invasions?**

Donald P. Chance; Johannah R. McCollum; Garrett M. Street; Bronson K. Strickland; Marcus A. Lashley

2:10 PM **What If Everything You Thought You Knew About "Feral" Cats Was Wrong?**

Peter J. Wolf

2:30 PM **Impacts of Invasive Mute Swans on the Avian Diversity of Great Lakes Coastal Wetlands**

Nicole J. Wood; Thomas M. Gehring; Donald G. Uzarski

2:50 PM Break

3:20 PM **Comparing Depredation by Feral Swine between Simulated and Natural Turkey Nests**

Heather N. Sanders; Nathan P. Snow; David G. Hewitt; Kurt C. Vercauteren; Humberto L. Perotto-Baldivieso

3:40 PM **Quantifying Site-Level Elimination Certainty of an Invasive Species through Occupancy Analysis of Camera-Trap Data**

Amy Davis; Ryan McCreary; Jeremiah Psiropoulos; Gary Brennan; Terry Cox; Andrew Partin; Kim Pepin

4:00 PM **Monitoring the Eradication of European Mouflon Sheep from the Kahuku Unit of Hawai'i Volcanoes National Park**

Steven C. Hess; Seth W. Judge; Jonathan K. Faford; Dexter Pacheco; Christina R. Leopold

4:20 PM **Do Feral Swine Alter the Island Biogeography of Native Wildlife in Agro-Ecosystem Forest Patches?**

Matthew R. Ivey; Dr. Marcus Lashley; Dr. Bronson K. Strickland; Dr. Michael E. Colvin

4:40 PM **Spatiotemporal Drivers of Habitat Selection by Feral Pigs in an Agricultural Landscape**

Kelsey Paolini; Garrett M. Street; Bronson K. Strickland; Jessica L. Tegt; Kurt C. VerCauteren

Session 70: Symposium

A New Day for Bison? - Ecological Restoration in the 21st Century

Organizers: Paul Santavy, Wildlife and Habitat Restoration Working Group, Lewistown, MT; Keith Aune, Wildlife Conservation Society, Bozeman, MT; Steve Torbit, U.S. Fish and Wildlife Service, Lakewood, CO; Tom France, National Wildlife Federation, Missoula, MT

Supported by: TWS Wildlife and Habitat Restoration Working Group, Wildlife Conservation Society, U.S. Fish and Wildlife Service, National Wildlife Federation

Location: 230

1:10 PM **Why Restore Wild Bison?**

Tom France

1:30 PM **Current Conservation Status and Future Opportunities for Plains Bison Restoration**

Keith Aune

1:50 PM **Historical Context and Threats to Wild Plains Bison Sustainability**

Harold Picton

2:10 PM **Wild Plains Bison Genetics and Management**

Cynthia Hartway

2:30 PM **Plains Bison Restoration - Keys to Success on the Ground**

Kyran Kunkel

2:50 PM Break

Tuesday, September 26

- 3:20 PM **Role of Partnerships on the Restoration of Plains Bison**
Luis Ramirez
- 3:40 PM **The Missing Link in the Ecological Restoration of Bison, State Management**
Bill Bates
- 4:00 PM **Tribal Role in the Ecological Restoration of Plains Bison**
Ervin Carlson
- 4:20 PM **Federal Role in the Ecological Restoration of Plains Bison**
Glenn Plumb
- 4:40 PM **The Department of Interior's Bison Conservation Working Group Meta-Populations and Ecological Restoration**
Stephen C. Torbit

Session 71: Symposium

#CalloftheScicomm: How Science Communication via Social Media Can Benefit Your Career and Your Research

Organizers: Auriel Fournier, University of Arkansas, Fayetteville, AR; Nicole Wood, Central Michigan University, Mount Pleasant, MI

Location: 235

- 1:10 PM **#Scicomm-Unity: Representation and Finding Community through Social Media #Scicomm**
Shelby Bohn
- 1:30 PM **Using #Scicomm to Create Buy-In**
Marcus Gray
- 1:50 PM **Creative Visual Experiences for Your Research**
Natalie Rogers
- 2:10 PM **#Scienceandle: How Podcasting Science May Help Scientists Earn Public Trust**
Madhusudan Katti
- 2:30 PM **Reaching Kids with Your Science: Strategies from eMammal Citizen Science to Foster Future Conservationists**
Stephanie Schuttler; Rob Dunn; William J. McShea; Robert Costello; Roland Kays
- 2:50 PM Break
- 3:20 PM **Scicomm: Normalizing Science for Future and Contemporary Success**
Imogene Cancellare
- 3:40 PM **Busting Out of the Bubble: Outreach to New Audiences**
David Steen
- 4:00 PM **A Carnivore-Based Soap Opera: Using Stories and Social Media to Disseminate Research**
Asia Murphy
- 4:20 PM **Live Streaming Your Science: Engaging Scicomm via Periscope and Facebook Live**
Nicole Wood
- 4:40 PM **Panel Discussion**

Session 72: Symposium

The Role of Research and Adaptive Management in Creating Effective Wildlife Mitigation along Roads

Organizers: Patricia Cramer, Independent Wildlife Researcher, Logan, UT; Scott Sprague, Arizona Game and Fish Department, Phoenix, AZ

Supported by: TWS Urban Wildlife Working Group

Location: 240

- 1:10 PM **Arizona Wildlife and Transportation Program at Arizona Game and Fish Department: 15 Years in the Making**
Scott C. Sprague; Jeffrey W. Gagnon; Chad D. Loberger; Kari S. Ogren; Susan L. Boe
- 1:30 PM **Growth of a Wildlife-Vehicle Collision Mitigation Program - the Pathway for New Mexico Department of Transportation**
James Hirsch; Trent Botkin

Tuesday, September 26

- 1:50 PM **Wildlife and Roads in the Lonestar State**
Stirling Robertson; Robin Gelston
- 2:10 PM **Collaboration and Research on SH 9 as a New Paradigm for Doing Business in Colorado**
Michelle Cowardin
- 2:30 PM **Partnerships, Collaboration, and Research Drive Wildlife and Roads Program in Utah**
Daniel Olsen; Ashley Green; Patricia Cramer
- 2:50 PM Break
- 3:20 PM **Helping Carnivores and Ungulates across Idaho Roads Through Data Collection, Planning, and Research**
Gregg Servheen
- 3:40 PM **Research Drives Designs of Crossing Structures to Move Mule Deer and Pronghorn across Highways in Wyoming**
Thomas Hart; Scott Gamo
- 4:00 PM **Nevada: the Fast Track of Wildlife Road Mitigation and Research in Only a Few Years**
Nova Simpson
- 4:20 PM **Arizona Success Stories of Developing Wildlife Crossing Structures and Other Mitigation Based on Research of Elk, Mule Deer, Pronghorn Antelope, and Desert Bighorn**
Jeffrey W. Gagnon; Scott C. Sprague; Chad D. Loberger; Kari S. Ogren; Susan L. Boe
- 4:40 PM **The Importance of Data Collection, Collaboration, and Research in Building a Statewide Wildlife and Transportation Program**
Patricia C. Cramer

Session 73: Symposium**Lessons Learned from Long-Term Conservation Research of Amphibians and Reptiles**

Organizers: Leland J. S. Pierce, New Mexico Department of Game and Fish, Santa Fe, NM

Supported by: Partners in Amphibian and Reptile Conservation

Location: 110

- 1:10 PM **Conservation of Chiricahua Leopard Frogs in Southwestern New Mexico**
Randy D. Jennings; Michelle R. Christman; Bruce L. Christman
- 1:30 PM **A Boreal Toad Stronghold in the Bonneville Basin Desert, Utah**
Paul Thompson
- 1:50 PM **Going the Distance: Endurance and Serendipity in Long-Term Studies**
Jeff Lovich
- 2:10 PM **Revelations about Long-Term Research from a 25-Year Program on Ecological and Conservation Scaling in the Dunes Sagebrush Lizard**
Lee A. Fitzgerald
- 2:30 PM **Amphibian and Reptile Communities Provide Insight into Understanding the Effects of Non-Native Vegetation and Restoration of Southwestern Riparian Habitats**
Heather L. Bateman
- 2:50 PM Break
- 3:20 PM **The Monitoring Plan and Successes of Multi-Year Monitoring of Flat-Tailed Horned Lizards in California, Arizona, and Mexico**
Daniel J. Leavitt; Robert E. Lovich
- 3:40 PM **The Long Goodbye - Status of a Sky Island Poster Child**
Larry K. Kamees; Charles W. Painter; Bill Radke; Andrew T. Holycross
- 4:00 PM **Long-Term Collaborative Rattlesnake Research and Monitoring Leads to Educational Opportunities for Visitors in the Verde Valley National Monuments**
Erika Nowak
- 4:20 PM **Panel Discussion**

Tuesday, September 26

Session 74: Workshop

Ready Set Go! Federal Employment Workshop

Organizers: Diana Doan-Crider, Animo Partnership in Natural Resources, TX; William Quinn, St. Edward's University, TX; Berlinda Baca, US Forest Service, Albuquerque, NM

Supported by: USDA Forest Service

Location/Time: 130/1:00 PM - 5:00 PM

**Advanced registration required for all Workshops*

Session 75: Symposium

Assessing Wildlife Habitat to Guide Conservation Planning and Restoration

Organizers: Stu Tuttle, USDA Natural Resources Conservation Service, Flagstaff, AZ

Supported by: USDA NRCS

Location: 140

1:10 PM **Existing Methods of Assessing Wildlife Habitat on Private Property during the NRCS Conservation Planning Process**

Stuart Tuttle

1:30 PM **Connecting Arizona's Wildlife Species to Ecological Site Descriptions - a New Model**

Ali Lenton; Paul Beier; Marcus Miller; Stuart Tuttle

1:50 PM **MOM Knows Best: Mouse Occupancy Modeling Reveals Habitat of an Endangered Rodent**

Carol Chambers; Valerie Horncastle; Garrett Billings; Judith Springer

2:10 PM **Tracking *Escherichia coli* Infections of the Endangered New Mexico Meadow Jumping Mouse**

Austin Dikeman; Daniel Sanchez; Viacheslav Fofanov; Faith Walker; Carol Chambers

2:30 PM **Salad Within: Genetically Identifying Diet of an Endangered Species**

Daniel Sanchez; Austin L. Dikeman; Faith M. Walker; Valerie Horncastle; Carol L. Chambers

2:50 PM Break

3:20 PM **Geomorphic Analysis of New Mexico Meadow Jumping Mouse Habitat**

Marcus Miller; Stu Tuttle; Barry Southerland; Carol L. Chambers

3:40 PM **Identifying Habitat Resources for Conservation of Riparian Birds on Working Landscapes**

Robert J. Steidl; Erik Andersen; Larry D. Howery; George Ruyle; Zachary Smalls; Stuart Tuttle

4:00 PM **Effects of Time-Controlled, Livestock Grazing on Habitat of Southwestern Willow Flycatchers in West-Central Arizona**

Zachary Smalls; Larry Howery; Stuart Tuttle; George Ruyle; Robert Steidl

4:20 PM **Integrating Information on Riparian Systems and Processes to Improve Evaluation of Habitat for Riparian Obligate Species on Private Lands**

Matthew Johnson; Jennifer Holmes; Erika M. Nowak

4:40 PM **Assessing Wildlife Use of Livestock Water Sources in the Eastern US**

Nancy L. Buschhaus; Russell L. Milam; Daniel A R Taylor; Stuart R. Tuttle; Marcus Miller

Session 76: Contributed Papers

Conservation and Ecology of Birds - Waterfowl I

Location: 15, 16 & 32

Moderator: Douglas Osborne, University of Arkansas-Monticello, Monticello, AR

1:10 PM **TBA**

1:30 PM **Habitat Selection of Wintering Waterfowl Communities at Anahuac National Wildlife Refuge**

Tiffany C. Lane; Blake A. Grisham; Jena A. Moon; David A. Haukos; Warren C. Conway

1:50 PM **Long-Term Trends and Future Projects of Weather Severity Indices for Dabbling Ducks in Eastern North America**

Michael L. Schummer; Michael Notaro; Lena Van Den Elsen Van Den Elsen; John Coluccy; Michael Mitchell

Tuesday, September 26

- 2:10 PM **Adaptive Nest Site Selection Influences Cinnamon Teal Nest Survival in Colorado**
Casey M. Setash; William L. Kendall; David Olson
- 2:30 PM **Body Condition of Arctic Geese Wintering in Arkansas**
Ethan R. Massey; Douglas C. Osborne
- 2:50 PM Break
- 3:20 PM **Quantifying Changes and Drivers of Mottled Duck Density in Texas**
Beth E. Ross; David A. Haukos; Patrick Walther
- 3:40 PM **Habitat Selection of Adult Female Mallards in the Lake St. Clair Region during Autumn and Winter**
Matthew D. Palumbo; Scott A. Petrie; Michael L. Schummer
- 4:00 PM **Hybridization and Population Structure of the Chihuahuan Desert Endemic Mexican Duck**
Joshua I. Brown; Philip Lavretsky
- 4:20 PM **Determining Hybrids and Rates of Hybridization: Population Genomics of Lesser and Greater Scaup**
Philip Lavretsky
- 4:40 PM **Survival and Reproductive Success of Mottled Ducks on the Upper Texas Coast**
Trey McClinton; Heather A. Mathewson; Stephen K. McDowell; Jared D. Hall

Session 77: Contributed Papers
Wildlife Disease and Toxicology III

Location: 18 & 30

Moderator: Amanda Veals, University of Arizona, Tucson, AZ

- 1:10 PM **More Offal than We Thought: Extended Availability of Lead to Wildlife from Hunter-Discarded Gut Piles**
Margaret G. Rheude
- 1:30 PM **Evaluating the Role of Elk Migration and Weather Variability On the Commingling Risk of Elk and Livestock: Implications for Brucellosis Transmission in Montana**
Nathaniel Rayl; Jerod Merkle; Kelly Proffitt; Emily Almberg; Jennifer Jones; Paul Cross
- 1:50 PM **Climate-Induced Behavioral Changes Influence Exposure of an Arctic Apex Predator to Pathogens and Contaminants**
Todd Atwood; Colleen Duncan; Kelly Patyk; Pauline Nol; Jack Rhyan; Matthew McCollum; Melissa McKinney; Andrew Ramey; Jitender Dubey
- 2:10 PM **High Seroprevalence of *Toxoplasma gondii* in Two Large Mammals of the Central Appalachians, USA**
John J. Cox; Sean M. Murphy; Brittany Slabach; John T. Hast; Ben C. Augustine; Joseph McDermott; Joseph M. Guthrie; Sutton C. Maehr; Oliver C. H. Kwok; Jitender P. Dubey
- 2:30 PM **Prevalence of *Toxoplasma gondii*, *Leptospira spp.*, and *Parvovirus spp.* in North American River Otter throughout North Carolina**
Charles W. Sanders; Christopher S. DePerno; Colleen Olfenbuttel
- 2:50 PM Break
- 3:20 PM **Impacts of Exotic Lice on Hair Loss Syndrome Prevalence and Fawn Survival**
Brooke Berger; Greg Gerstenberg; Daniel Barton; Richard N. Brown
- 3:40 PM **Model Recommendations Meet Management Reality: Implementation and Evaluation of a Network-Informed Vaccination Strategy for Endangered Hawaiian Monk Seals**
Stacie Robinson; Michelle Barbieri; Jason Baker; Bert Harting; Charles Littnan; Meggan Craft
- 4:00 PM **Effects of Sylvatic Plague on Northern Idaho Ground Squirrels**
Amanda R. Goldberg; Courtney J. Conway; Diane Evans Mack; Greg Burak; Dean E. Biggins
- 4:20 PM **Spatial Ecology of Gray Foxes: Informing Rabies Management in the Southwest**
Amanda M. Veals; John L. Koprowski; Kurt C. VerCauteren; David L. Bergman
- 4:40 PM **The Importance of Raccoon Movement in Determining the Effectiveness of a Vaccination Barrier Against the Spatial Spread of Raccoon Rabies**
Kim M. Pepin; Stacey Elmore; Erin E. Rees; Rich Chipman; Amy T. Gilbert

Tuesday, September 26

Session 78: Contributed Papers

Conservation and Ecology of Mammals - Carnivores

Location: 27, 29 & 31

Moderator: Robert Klaver, USGS Iowa Cooperative Fish and Wildlife Research Unit, Ames, IA

1:10 pm **Preliminary Predation Patterns of Cougars and Wolves in an Area of Sympatry**

Elizabeth K. Orning; Katie M. Dugger; Darren A. Clark

1:30 PM **Variable Effects of Harvest within and Across Wolf Packs in the Rocky Mountains**

Sarah B. Bassing; Dave E. Ausband; Mike S. Mitchell; Paul M. Lukacs; Mike K. Schwartz; Greg Hale; Lisette P. Waits

1:50 PM **Assessing Translocation Strategies for Swift Fox in the Northern Great Plains**

Donelle Schwalm; Kristy Bly

2:10 PM **Resource Selection by Coastal Wolves Reveals the Seasonal Importance of Seral Forest and Suitable Prey Habitat**

Gretchen H. Roffler; David P. Gregovich; Kristian R. Larson

2:30 PM **TBA**

2:50 PM Break

3:20 PM **Estimating Recruitment of Wolves with Limited Data**

Allison C. Keever; Michael S. Mitchell; Kevin M. Podruzny; Angela D. Luis; James T. Peterson

3:40 PM **Using Genetic Pedigree Reconstruction to Support Recovery of the Wild Mexican Gray Wolf Population**

Jennifer R. Adams; Colby Gardner; Dyan Straughan; Maggie Dwire; Sherry Barrett; Lisette P. Waits

4:00 PM **Estimating Black Bear Density Using DNA from Hair Snares in Northeastern Mexico**

Juan P. Fimbres-Macias; Victor Riojas-Valdez; Diana E. Zamora-Avila; Rogelio Carrera-Treviñ

4:20 PM **Harvest and Group Effects on Pup Survival in Gray Wolves**

David Ausband; Mike Mitchell; Carisa Stansbury; Jennifer Stenglein; Lisette Waits

4:40 PM **Trophic Ecology and Activity Patterns of Mountain Lion and Culpeo Fox in Chilean Central Andes**

Christian T. Osorio Popiolek; Ana S. Muñoz; Nicolás Guarda; Marcella Kelly; Cristian Bonacic

Session 79: Workshop

Developing a Workflow to Maximize Reproducibility and Research Impact: Managing Data, Computer Code, and Projects for Success

Organizers: John Fieberg, University of Minnesota, St. Paul, MN; Althea ArchMiller, University of Minnesota, St. Paul, MN

Supported by: TWS Biometrics Working Group

Location/Time: 10/1:00 PM - 5:00 PM

**Advanced registration required for all Workshops*

Wednesday, September 27

Keynote: Business Fundamentals for Restoring Natural Infrastructure

Location/Time: Kiva Auditorium/8:30 AM - 10:00 AM

See page 35 for more details

Session 80: Posters * Student Research in Progress Poster

Time: 9:00 AM - 5:00 PM

Location: Ballroom C

- 1* **Snowshoe Hare in Lower Michigan: the Shifting Range of a Climate-Sensitive Species**
Spencer West
- 3 **Summer Forage Quality Differs for Migrants and Residents in a Partially Migratory Population of Elk**
Kristin J. Barker; Michael Mitchell; Kelly M. Proffitt; Jesse DeVoe; Craig Jourdonnais; Philip Ramsey
- 4* **An Ounce of Prevention: Quantifying the Effects of Prevention Measures on Wolf Behavior**
Rebecca Much; Stewart Breck; Nathan Lance; Peggy Callahan
- 5* **Distribution and Habitat Associations of Pacific Fisher, American Marten, and Sierra Nevada Red Fox in the Klamath Network Parks**
Marisa Specht; Joan Hagar
- 6* **Understanding the Relative Role of Nutrition and Predation Risk in Regulating Sympatric Ungulate Populations in Southwest Wyoming**
Katey Huggler; Matthew M. Hayes; Patrick Burke; Mark Zornes; Dan Thompson; Kevin Spence; Kevin L. Monteith
- 7* **Furthering Population Genetics Study of Interior Alaskan Marten**
Elise Stacy; Kris Hundertmark; Kerry Nicholson
- 8 **Distribution of Swift Fox and Sympatric Canid Species in the Dakotas**
Emily L. Mitchell; Tammy L. Wilson; Donelle Schwalm; Jonathan A. Jenks
- 9* **Effects of an Abnormal Hydrologic Event on Space Use, Resource Selection, and Movement of White-tailed Deer in Southern Florida**
Heather N. Abernathy; Richard B. Chandler; Elina P. Garrison; Daniel A. Crawford A. Crawford; Brian D. Kelly D. Kelly; Kristin Engerbretsen; David B. Shindle; Karl V. Miller; Mike L. Conner; Michael J. Cherry
- 10* **Influence of Movement and Resource Use on Reproductive Success of Elk in a Restored Landscape**
Sharon E. Smythe; James W. Cain III; Warren C. Conway; Mark A. Peyton; Robert R. Parmenter
- 11* **Micro- and Macro-Habitat Factors of Ocelot Occupancy**
Jason V. Lombardi; Michael E. Tewes; Humberto L. Perotto; Justin P. Wied; John P. Leonard; Jose Mata; Daniel Kunz; Tyler A. Campbell
- 12* **Understanding the Maintenance of Partial Migration: A Test of the Fitness Balancing Hypothesis with Mule Deer in South-Central Wyoming**
Anna C. Ortega; Matthew Kauffman; Patrick Burke
- 13* **The Effects of Predator Presence on White-tailed Deer Foraging**
Joseph Fischer
- 14* **Potential Effects of Gas and Oil Development on Mule Deer Survival and Fawn Rearing Resource Selection in North Dakota**
Brett Skelly; Chris Rota; John Edwards; Joshua Millsbaugh
- 15* **Cougars in Utah's Cache County: Approaching the Beast from Multiple Perspectives**
Margaret A. Hallerud; David C. Stoner; Daniel R. MacNulty
- 16* **Integrating Landscape Genetics and Simulations to Guide Restoration of New England Cottontail Populations in a Fragmented Landscape**
Melissa L. Bauer; Adrienne I. Kovach; Heidi Holman
- 17 **The Effects of Mixed-Severity Wildfires on Fisher Population Dynamics**
David S. Green; Sean M. Matthews; Laura L. Finley; Roger A. Powell

Wednesday, September 27

- 18 **Assessing Changes in Bat Activity in Response to an Acoustic Deterrent - Implications for Decreasing Bat Fatalities at Wind Facilities**
Cole T. Lindsey
- 19* **Evaluation of Home Range, Habitat Selection, and Denning Behavior of Urban Striped Skunks in North Dakota**
Anna Schneider; Amy Gilbert; Brett Goodwin; Michael Niedzielski; Jason Boulanger
- 20 **Ecological Parameters of Black Bear in the Northwest of Cumbres De Monterrey National Park, Nuevo Leon, Mexico**
Mercedes A. Salinas Camarena
- 21* **Comparative Lynx Density Estimation and Ecological Implications**
Darcy Doran-Myers
- 22* **A Study of Social Development in African Painted Dog Pups**
Rikki Curto; Victoria L. Jackson
- 23* **Oka' Yanahli Nature Preserve Baseline Mammal Survey**
Wendy S. Monterroso; Victoria L. Jackson
- 24 **Disentangling Drivers of Pocket Mouse Occupancy in the Sagebrush Sea**
Kristina Harkins; Merav Ben-David; Doug Keinath
- 25* **Fisher Population Status, Habitat Use, and Competition with Pine Marten in Southeast Alaska**
Caitlin Kupferman; Anthony Crupi; Sophie Gilbert
- 26 **The Effects of Climate Change on Mammals in the Northeastern Forests of the United States**
Toni Lyn Morelli; Rebecca Rowe; Stephen DeStefano; Alexej Siren; Keith Nislow; Mary Ratnaswamy
- 27 **Mountain Lion Kill Rates and Competition with Black Bears in New Mexico**
Arthur J. Anaya; James W. Cain III; James R. Biggs; Mark Peyton
- 28 **Predicting Habitat Use by Bats to Protect Bats and Inform Wind Energy Development**
Clarissa A. Starbuck; Carol L. Chambers
- 29* **Desert Bighorn Sheep Occupancy Modeling: Do Sheep Use Different Terrain in Response to Human Disturbance?**
Andrew M. Antaya
- 30 **Influence of Introgressive Hybridization on Morphology of Coyotes in Pennsylvania**
Uma Ramakrishnan; Vincent Buonaccorsi; Kelsey Barth
- 31 **Microclimatic Conditions in Lassen National Forest, California: Implications for the Pacific Marten**
Marie E. Martin; Katie M. Moriarty
- 32 **Identifying Home Range and Resource Selection Patterns of a Reintroduced Elk Population: Black River State Forest, Wisconsin**
Travis Bryan
- 33* **Den Site Selection of Florida Spotted Skunks in a Dry Prairie Ecosystem**
Stephen N. Harris
- 34* **Diet Composition and Prey Selectivity of Gray Wolves in Prince Albert National Park, Saskatchewan, Canada**
Justin R. Shave; Andrew E. Derocher; Seth G. Cherry
- 35 **Population Dynamics of Mule and White-tailed Deer in the Chihuahuan Desert**
Cuau Vital-García; Martha P. Olivas-Sánchez; Fernando Rodríguez; Michelle Lugo-Castro
- 36* **A Mother Knows Best? Implications of Female Caribou Habitat Selection on Calf Survival on a Multi-Predator Landscape**
Gillian Fraser; Jason T. Fisher; John Volpe
- 37 **Pacific Fisher Distribution and Detectability in Southwestern Oregon**
Brent R. Barry; Katie Moriarty; Taal Levi
- 38 **Population Size and Habitat of Indian Gazelle in Nizampur Area, District Nowshera, Khyber Pakhtunkhwa, Pakistan**
Saif Ullah
- 39* **Estimating Site Occupancy, Species Richness, and Activity Patterns of Mesocarnivores by Using Baited and Un-Baited Camera Traps In Oka' Yanahli Preserve in Johnson County, Southcentral Oklahoma**
Dineesha L. Premathilake; Victoria Jackson
- 40 **Survival and Movements of Rehabilitated Black Bear Cubs Released in North Carolina**
Casey A. Gray; Colleen Olfenbuttel

Wednesday, September 27

- 42 **The Effects of Land Use and Food Availability on Gelada Habitat Use in the Simien Mountains National Park, Ethiopia**
Julie C. Jarvey; Bobbi S. Low; Jacinta C. Beehner
- 43* **The Adaptability and Disease Patterns of an Urban Coyote Population in the Mojave Desert**
Craig D. Reddell; Gary W. Roemer; James W. Cain
- 45* **Influence of Life-History Stage, Movement State, and Resource Dispersion on Swift Fox Habitat Use in the Northern Great Plains**
Andrew Butler; Kristy Bly; Heather Harris; Bob Inman; Axel Moehrensclager; Donelle Schwalm; David Jachowski
- 46* **Woodland Caribou Habitat Considerations along the Lake Superior Coast**
Jack McClinchey
- 47* **Using Distance Measurements to Assess How Fishers Respond to Fuel Reduction Treatments in an Oregon Forest**
Tessa Smith; Eric Gese; Pat Terletzky; Craig Thompson
- 48 **Mating System and Social Structure of the Florida Bonneted Bat**
James Austin; Jeffery Gore
- 49 **Comparing Apples and Oranges? Capture-Recapture versus Occupancy Modeling in Determining Abundance and Density of Bobcats in West Virginia**
Thomas F. Rounsaville; Rich E. Rogers; Amy B. Welsh; Christopher W. Ryan; James T. Anderson
- 50* **Why Are Midden Attractive? Impacts of Red Squirrels on Biodiversity**
Marina Morandini; John L. Koprowski
- 51* **Cyclicality in Mount Graham Red Squirrels, a Clue to Developing an ex situ Propagation for Release Program**
Stuart A. Wells
- 52 **Ten New Locations of the Endangered New Mexico Meadow Jumping Mouse Detected on Tribal Lands in Southwestern Colorado**
Jennifer L. Zahratka; Aran S. Johnson; Erin M. Lehmer; Steven D. Fenster; Steve L. Whiteman
- 53* **Using Aerial Surveys and Wildlife Cameras to Quantify Abundances of White-tailed Deer in Eastern Connecticut**
Jennifer Kilburn; Tracy Rittenhouse; Andrew LaBonte; Howard Kilpatrick
- 54 **Utilizing Non-Invasive Techniques to Determine Genetic Variation and Demographics of Snowshoe Hare in Michigan**
Genelle Uhrig; Eric Clark; Emily Latch
- 55 **Deer Population Responses to a High-Severity Wildfire**
Jennifer L. Brazeal; Ben Sacks
- 56 **Forecasting Consequences of Changing Sea Ice Availability for Pacific Walruses**
Mark S. Udevitz; Chadwick V. Jay; Rebecca L. Taylor; Anthony S. Fischbach; William S. Beatty; Shawn R. Noren
- 57 **Follow the Bear: Expanding Understanding of Black Bear Ecology across Variable Densities and Landscapes**
Jennifer Smith; David Williams; Michael Wegan; Dwayne Etter; William Porter
- 58* **Effects of Woody Encroachment on Anti-Predator Behavior and Communication in the Harris' Antelope Ground Squirrel**
Alexandra Burnett
- 59* **Eleven Years Weather Retrospective Study in Mule Deer Population Dynamics in Chihuahua**
Michelle Lugo-Castro; Cuauhcihuatl Vital-Garcia; Fernando Rodriguez
- 60* **Conserving an Endangered Pollinator through Bat-Friendly Agave Management Programs in Northeast Mexico**
Kristen Lear; Jeffrey Hepinstall-Cymerman; Elizabeth King; Laura German; Clint Moore; Meredith Welch-Devine; Jose Juan Flores Maldonado
- 61* **Rangeland Suitability Model for the Texas State Bison Herd in Caprock Canyons State Park**
aLisa M. McAnally; Heather A. Mathewson; Thomas W. Schwertner; Jefferey B. Breeden; Donald Beard
- 62* **Assessing High Risk Habitats for White-tailed Deer in Virginia**
Matt Lacey
- 65* **Carnivore Territoriality: Individual-Based Modeling of Economic Selection of Wolf Territories**
Sarah N. Sells; Michael S. Mitchell; Angela D. Luis; Kevin M. Podruzny
- 66* **Characteristics of American Marten Habitat Use: A Resource Selection Function for Michigan's Northern Lower Peninsula**
Angela Kujawa; Paul Keenlance; Alexandra Locher; Robert Sanders; Joseph Jacquot
- 67* **Diets of Kit-Rearing Female Martens in West Michigan: She Ate What?!**
Cory Highway; Paul Keenlance

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- 68 **A Novel Method for Individual Identification of Bobcats and Population Estimate Using Remote Sensor Cameras**
Matthew T. Fountain; Micaela Szykman Gunther
- 69* **Understanding the Terrestrial Carnivore Community Composition and Distribution in Southeastern Ohio**
Mackenzie E. Rich; Cassandra M. Thompson; Viorel D. Popescu; Suzanne Prange
- 70* **The Influence of Anthropogenic Water on Puma Habitat Use and Prey Selection in Arid Ecosystems**
Hunter Prude
- 71 **Using Fine Resolution Vegetation Data from Lidar and Ground Based Sampling to Describe Pacific Marten Resting Habitat**
Patrick J. Tweedy; Katie M. Moriarty; John D. Bailey; Clinton W. Epps; Brian Wing
- 72 **Bobcat Home Range Size, Home Range Overlap, and Habitat Utilization in Northern Wisconsin**
Catherine C. Dennison; Nicholas Forman; Nathan M. Roberts
- 74* **Lambing Habitat and Juvenile Recruitment in Sierra Nevada Bighorn Sheep**
Shannon Forshee
- 75 **Assessing Revisitation and Structural Changes Over Time in Pacific Marten Rest Structures**
Bryce Woodruff; Katie Moriarty
- 76* **Thriving in the Boreal: Identifying the Drivers of White-tailed Deer Seasonal Habitat Selection and Movement in Northern Alberta Canada**
Siobhan Darlington; Jason T. Fisher; John P. Volpe
- 77 **Using Non-Invasive Hair Snares to Monitor American Marten 30-years Post-Reintroduction**
Jill C. Witt; Karen Ickes; Anjela Sullenger; Dominika Mazzola; Joseph Susic; Jennifer Adams; Robert Sanders; Ari Cornman
- 78 **Using Cheetahs to Determine the Functional Response of a Mesocarnivore**
Anne Hilborn; Marcella Kelly; Sarah Durant
- 79 **Assessing Spatio-Temporal Patterns, of Human -Carnivore Conflict in and Around Pir Lasura National Park, Azad Jammu and Kashmir, Pakistan**
Faraz Akrim; Tariq Mahmood
- 80 **Understanding Mechanisms of Diet Selection in White-tailed Deer**
Jacob Dykes; Marcus Lashley; Bronson Strickland; Steve Demarais; Dan Reynolds
- 81 **Application of the Bighorn Sheep Risk of Contact Tool and Best Available Science to a Domestic Sheep Allotment Analysis Process: the Fisher-Ivy/Goose Allotment, Rio Grande National Forest**
Randal Ghormley; Dale Gomez
- 82 **Trapping Protocol for Difficult to Detect Small Mammals**
Douglas A. Keinath; Kristina Harkins; Merav Ben-David
- 83* **Estimating Density of Sitatunga in the Mayanja River of Central Uganda Using Spatially Explicit Capture Recapture**
Camille H. Warbington; Mark S. Boyce
- 84 **Mule Deer Habitat Preference in Chihuahua, Mexico**
Martha Patricia Olivas; Cuauhcihuatl Vital García; Juan Pedro Flores Margez; Miroslava Quiñonez Martínez; Antonio De la Mora Covarrubias
- 85* **The Status of Scientific Knowledge on Sulawesi Mammals: A Review of the Empirical Literature and Recommendations for Future Studies**
Bayu W. Broto; Alessio Mortelliti
- 86 **The American Black Bear and Baited Hair-Snares: A Quantitative Ethogram and Behavioral Analysis**
Steven M. Gurney; Jennifer B. Smith; Dwayne R. Etter; David M. Williams
- 87 **Phylogeography of Black Bears in the Northeastern United States**
Catherine C. Sun; Matthew P. Hare; Angela K. Fuller; Jeremy E. Hurst
- 88* **Spotted Skunks among Us: A Tri-State Cooperative Project for Monitoring a Poorly Understood Carnivore in the Southern Appalachians**
Robin Y. Eng; Joseph W. Butfiloski; Colleen Olfenbuttel; Nikole Castleberry; Katrina Morris; David S. Jachowski
- 89* **Migration Choices and How They Effect Survival of a Large, Migratory Herbivore**
Jerrod L. Merrell; Kelley M. Stewart; Shelly D. Blair
- 90* **Mitigating Respiratory Disease Persistence and Transmission in Wild Bighorn Sheep Populations**
Tyler Garwood; Chad Lehman; Frances Cassirer; Thomas Besser; Daniel Walsh; Jonathan Jenks

Wednesday, September 27

- 91* **Influence of Natural and Anthropogenic Disturbances on Multi-Scale Black Bear Habitat Selection**
Susan M. Bard; James W. Cain III
- 92* **Evaluation of Non-Invasive Fecal Sampling for Monitoring Bobcats and Ocelots in South Texas**
Daniel R. Taylor; Randy W. DeYoung; Michael E. Tewes; Terry L. Blankenship; Tyler A. Campbell
- 93* **Resource Selection and Home Range Analysis of the American Black Bear in the Ozark Mountains of East-Central Oklahoma**
Elliot Lustig; W. Sue Fairbanks; Sara Lyda
- 94* **Microsatellite Primer Redesign for Lion Genetic Analysis**
Caitlin Curry; James Derr

Session 81: Panel Discussion**The Impact of Drought and Other Climate Driven Disturbances on Wildlife in the Western United States**

Time: 10:30 AM - 12:10 PM

Organizers: Dixie Porter, U. S. Forest Service, Washington, D.C.; Cynthia West, U. S. Forest Service, Washington, D.C.; Karen Dante Wood, U.S. Forest Service, Billings, MT

Supported by: U.S. Forest Service

Location: 215

Concerns over long-term drought effects in the United States have been growing as climate projections of hotter, drier conditions in some areas of the country are being realized. Forests and grasslands are being negatively altered due to the effects of drought and other climate driven disturbances such as wildfires, insects and disease, invasive species, and other stressors. Chief among the resources found on these landscapes are wildlife with many species being threatened, endangered or considered a species of conservation concern. Threats to wildlife are far ranging and include habitat fragmentation, habitat loss related to water quality and quantity availability, snow pack, changes in hydrologic regime, invasive species and disease. This panel discussion will explore the impact of drought and other climate driven disturbances on wildlife in western landscapes using data from current vulnerability assessments conducted in the Northern Rockies and the Intermountain Region. This session will provide land managers with a better understanding of future climate projections and adaptation strategies and tactics to employ to restore and increase the resiliency of our forest and grassland ecosystems.

Session 82: Contributed Papers**Cultural Aspects of Wildlife Conservation**

Location: 220

Moderator: Sharon Smythe, Texas Tech University, Lubbock, TX

- 10:30 AM **Changing "Cat-Titudes": The Effects of Messaging When Advocating Feral Cat Colony Control**
Maureen R. McClung; Lindsay A. Kennedy; Jessica Bonumwezi; Brynn Davis; Regan Hatwig; Kevin J. Kracjir; Chris Wakim
- 10:50 AM **On the Dependence of Tribal Livelihoods on Coastal Mangrove Forests in Andhra Pradesh, India**
Santosh Edupuganti; Appa Rao Allaparathi; Pradeep K. Narsupalli; Ashwin Naidu
- 11:10 AM **Cultural Aspects of Wildlife Conservation in Ancient India**
Kishor S. Dere
- 11:30 AM **Reintroducing the Vicuña to Ecuador: Symbols, Values, and the Politics of Conservation**
Brian E. McLaren; Andrea Garrido; Bacilio Pomaina; Luis Alberto Tuaza
- 11:50 AM **Essential Elements Required for Working with American Indians**
Jonathan H. Gilbert

Session 83: Symposium**Conserving Nature's Stages and Helping Wildlife Move between Them**

Organizers: Mark Anderson, The Nature Conservancy, Boston, MA; Paul Beier, Northern Arizona University, Flagstaff AZ

Location: 230

- 10:30 AM **Achieving Climate Connectivity in a Fragmented Landscape**
Jenny McGuire; Joshua Lawler; Brad McRae; Tristan Nuñez; David Theobald

Wednesday, September 27

- 10:50 AM **Building Ecological Resilience through Coordinated Riparian Conservation**
Alexander K. Fremier; Amanda T. Stahl; Barbara Cosens
- 11:10 AM **Using Abiotic Diversity to Prioritize Biodiverse Core Areas and Define Corridors between Them**
Paul Beier
- 11:30 AM **Capturing Species-Specific Corridors with Land Facets**
Kathy Zeller; Megan Jennings
- 11:50 AM **Go with the Flow: Measuring Landscape Permeability to Design Conservation Networks That Facilitate Range Shifts**
Mark Anderson

Session 84: Panel Discussion

The Generation Gap: Opportunities for Five Generations to Work in Harmony

Time: 10:30 AM - 12:10 PM

Organizers: Krysten Zummo-Strong, Pheasants Forever Inc./NRCS/CPW, Burlington, CO; Emily Williams, Denali National Park & Preserve, Denali Park, AK; Lorelle Berkeley, Montana Fish, Wildlife, & Parks, Helena, MT

Supported by: TWS Early Career Professional Working Group

Location: 235

“Who are these young kids, constantly on their phone? They don’t know what a hard day’s work is!”; “Why won’t that old man try something new for once?” These pervasive statements express the friction faced among different generations of wildlife professionals due to a lack of understanding of the other’s experience, values, and goals. This friction almost always causes a suspicion of other generations and leads to a less effective work place. For businesses, this resistance is detrimental to a functional office, but in the field of conservation, this tension can lead to an inability to bring about effective management practices; thereby doing a disservice to the wildlife and habitats we aim to protect. To better understand one another and allow for an open dialogue, a panel of wildlife professionals from each of the generations will be available to discuss values, career goals, their experiences interacting with other generations, lessons learned, and thoughts on how to bridge differences to become better conservationists. Panel members will include members of the: Veteran, Baby-Boomer, Generation-X, Generation-Y, and Millennial generations, ranging from a retired biologist through the up and coming student. All members are highly encouraged to attend and participate in this discussion to learn from generations and perspectives different from your own.

Session 85: Symposium

Connecting Wildlife and Science: Borderlands and Beyond

Organizers: Dave Christianson, University of Arizona, Tucson, AZ; Johnathan Derbridge, University of Arizona, Tucson, AZ; Melissa Merrick, University of Arizona, Tucson, AZ

Supported by: TWS International Wildlife Management Working Group

Location: 240

- 10:30 AM **Noninvasive Genetic Monitoring of Sonoran Pronghorn along the United States-Mexico Border**
Lisette Waits; Susannah Woodruff; Paul Lukacs; Stephanie Doerries; Miguel Grageda; Jennifer Adams; John Hervert; James Atkinson
- 10:50 AM **An Overview of Advances in Connectivity Conservation at the Borderlands of Sonora and Chihuahua**
Juan Carlos Bravo
- 11:10 AM **Border Impacts on Wildlife**
Miguel Angel Grageda; Tyler Coleman
- 11:30 AM **Wildlife Conservation in Mexico: Challenges and Risks**
Karla Pelz Serano
- 11:50 AM **Protected Areas and the Agricultural Frontier in the Colombia: A New Artificial Border for Carnivores?**
I. Mauricio Vela-Vargas; José F. González-Maya; Angela P. Hurtado-Moreno; Diego Andres Zárrate-Charry; J. Sebastian Jiménez-Alvarado; Catalina Moreno; Mauricio González

Wednesday, September 27**Session 86: Contributed Papers
Natural Resources Management**

Location: 110

Moderator: Madeleine A. Rubenstein, U.S. Geological Survey, Reston, VA

10:30 AM **Climate Change and Evolutionary Adaptive Capacity (EVAC): Bridging the Gap between Science and Application**
Laura Marie Thompson10:50 AM **Use of Fiber-Optic Distributed Temperature Sensing to Characterize Changes in Thermal Patterns within a Fragmented Grassland**
Evan P. Tanner; Samuel D. Fuhlendorf; John Polo11:10 AM **Spatial Challenges of Using Local Scale Monitoring Programs for Landscape Level Applications**
Mindy Rice11:30 AM **Incorporating Wildlife Research into the Rio Grande Water Fund**
Sarah Hurteau; Laura McCarthy11:50 AM **New Mexico Habitat Stamp Program: an Agency-Public Partnership for Wildlife Conservation on Federal Lands**
Reuben Teran**Session 87: Contributed Papers
Conservation and Ecology of Mammals IV**

Location: 120

Moderator: Marcella Kelly, Virginia Tech University, Blacksburg, VA

10:30 AM **Floods to Fire: Evaluating Sitatunga Space-Use During Varying Hydrologic Conditions**
Camille H. Warbington; Mark S. Boyce10:50 AM **Savanna Elephant Numbers Are Only a Quarter of Their Expected Values**
Ashley S. Robson; Morgan J. Trimble; Andrew Purdon; Kim Young-Overton; Stuart L. Pimm; Rudi J. van Aarde11:10 AM **Spatiotemporal Dynamics in Space Use of Mongolian Gazelle: Conservation Implication of Nomadic Movements**
Nandintsetseg Dejid; Chloe Bracis; Kirk Olson; Thomas Mueller11:30 AM **Movement Ecology, Habitat, and Nutrient Transfer Dynamics of the Common Hippopotamus**
Tristan Nunez; Douglas J. McCauley; Justin Brashares11:50 AM **Ecosystem Engineering by Subterranean Insects Buffers Large Mammals Against Climate Warming**
Ryan Long; Elyce Gosselin; Savannah Kollasch; Warren P. Porter; Robert M. Pringle**Session 88: Contributed Papers
Conservation and Ecology of Wildlife Communities I**

Location: 130

Moderator: David King, USDA-Forest Service, Amherst, MA

10:30 AM **Impact of Vehicular Traffic on Vertebrate Mortality in and around Two National Parks of Sri Lanka: Conservation Concerns & Insights for Park Management**
Thilina D. Surasinghe; Suranjan Karunarathna; Sudeera Ranwala; Majintha Madawala10:50 AM **Effects of Wildfire on Avian Communities in the Arizona Sky Islands**
Jamie S. Sanderlin; William M. Block; Joseph L. Ganey; Jose M. Iniguez; Samuel Cushman11:10 AM **Native Bees in Managed Shrublands in the Green Mountains, Vermont**
David I. King; Joan C. Milam11:30 AM **Wanna Get Buzzed Out on the Range? Pyric Herbivory Increases Pollinator Diversity and Creates Bumble Bee Habitat**
Shelly Wiggam; Chyna K. Pei; Gregory Zolnerowich; Lee W. Cohnstaedt; Brian P. McCornack11:50 AM **Understanding Spatial and Temporal Distribution of Red Foxes in Piping Plover Nesting Habitat in Southern New Jersey**
Michelle Stantial; Jonathan Cohen

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Session 89: Contributed Papers
Conservation and Ecology of Reptiles and Amphibians II

- Location: 140
 Moderator: Abby Lawson, Clemson University, Clemson, SC
- 10:30 AM **Combining Citizen Science and Traditional Research Reveals Trends in Northeastern Diamondback Terrapin Populations**
 Stephanie Egger; A. Brett Bragin; Barbara Brennessel; Michael Farina; Sandra J. Garren; Alexandra Kanonik; Drew P. McQuade; Noga Neeman; Charlotte B. Sornborger; John Wnek; Russell L. Burke
- 10:50 AM **Drought Affects Growth and Sex Ratio of Painted Turtles in a Long-Term Study in Nebraska**
 Larkin A. Powell; Ellen Dolph; Charrissa Zuerlein
- 11:10 AM **Movements, Behaviors, and Response to Fire Events of Eastern Box Turtles in East Tennessee**
 Katie Harris; Craig Harper; Joseph Clark; Dwayne Elmore
- 11:30 AM **Comparison of Survey Methods Enabling Estimates of Population Size and Population Demographics of Rio Grande Cooter**
 Ivana Mali; Adam Duarte; Dan H. Foley III; Michael R.J. Forstner
- 11:50 AM **Nesting Location Determines Emergence Success of Eastern Box Turtle Hatchlings in a Heavily Altered Landscape**
 Tracy A. Melvin; Gary Roloff; Alicia Ihnken

Session 90: Contributed Papers
Biometrics and Population Modeling III

- Location: 15, 16 & 32
 Moderator: Gary Roemer, New Mexico State University, Las Cruces, NM
- 10:30 AM **Estimating Bird Species' Responses to Sandhill Habitat Restoration in the Southeastern United States: Single-Visit Surveys, an Unbalanced Design, and Varying Methodologies**
 Bryan L. Nuse; Matt Elliott; Clinton T. Moore
- 10:50 AM **Timing of Predation and Carnivore Movement in an Urban-Wildland Interface**
 Frances Buderman; Mevin Hooten; Mat Alldredge
- 11:10 AM **A Bayesian Hierarchical Model of Loggerhead Sea Turtle Nest Success Response to Extreme High Tide Events**
 Alicia Wilson
- 11:30 AM **Estimating the Survival of Dependent Young from Repeated Counts: A Hierarchical Bayesian Approach**
 Timothy P. Lyons; Kirk W. Stodola; Thomas J. Benson
- 11:50 AM **Data Weighting for Integrated Population Models**
 Charles R. Henderson; Paul M. Lukacs; Mark A. Hurley

Session 91: Contributed Papers
Conservation and Ecology of Mammals V

- Location: 18 & 30
 Moderator: Jennifer Frey, New Mexico State University, Las Cruces, NM
- 10:30 AM **Assessing Snowshoe Hare Distribution and Abundance in the Face of Climate Change**
 Shawn M. Cleveland; Brian Underwood
- 10:50 AM **Scared to Death: the Lethal Effects of Non-Lethal Predator Exposure**
 Michael Sheriff
- 11:10 AM **A Survey of the Parasites of the Native New England Cottontail, the Introduced Eastern Cottontail and Cottontail Habitat in the Lower Hudson Valley**
 Samantha L. Mello; Jonathan B. Cohen; Christopher M. Whipps
- 11:30 AM **Movement and Dispersal in a Rare Native Lagomorph and a Common Invasive Competitor: Implications for Metapopulation Management**
 Amanda E. Cheeseman; Jonathan B. Cohen; Sadie J. Ryan; Christopher M. Whipps

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11:50 AM **Restoration of a Rare Lagomorph: Current Status and Approach for Monitoring Remnant New England Cottontail Populations**
Adrienne I. Kovach

Session 92: Contributed Papers**Conservation and Ecology of Mammals - Cervids III**

Location: 27, 29 & 31

Moderator: Sara Hansen, Washington Department of Fish and Wildlife, Spokane Valley, WA

10:30 AM **White-tailed Deer Fawn Space Use in Central Iowa**
Patrick G. McGovern; Julie A. Blanchong; Stephen J. Dinsmore

10:50 AM **Evaluating The Influence of White-tailed Deer on Forest Regeneration at Landscape Scales in New York**
David W. Kramer; Mark Lesser; Rachel Wheat; Martin Dovciak; Jeremy E. Hurst; Jaqueline Frair

11:10 AM **Seasonal Effects of Coyote Abundance on White-tailed Deer Foraging Behavior in the Georgia Piedmont**
William D. Gulsby; Michael J. Cherry; James T. Johnson; L. Mike Conner; Karl V. Miller

11:30 AM **Sociality of Adult Female White-tailed Deer Following Parturition**
Jacob M. Haus; Jacob L. Bowman; Justin R. Dion; Joseph E. Rogerson

11:50 AM **Landscape-Level Patterns in White-tailed Deer Fawn Survival in North America**
Tess Gingery; Duane Diefenbach; Bret D. Wallingford; Christopher S. Rosenberry

Session 93: Contributed Papers**Conservation and Ecology of Birds - Waterfowl II**

Location: 10

Moderator: Ethan Massey, University of Arkansas-Monticello, Monticello, AR

10:30 AM **Spring Migration Strategies of Mallards and American Black Duck That Winter in the Finger Lakes Region**
Justin M. Droke; Michael Schummer; Jonathan Cohen

10:50 AM **Using Camera Technology to Validate Waterfowl Nest Monitoring Protocols**
Sam R. Krohn; John Palarski; Nickolas Conrad; Ryann Cressey; Kaylan Carrlson; Tom Buhl; Susan Ellis-Felege

11:10 AM **Impacts of Spatiotemporal Variation in Migration Chronology on the Fall Inventory of Midcontinent White-fronted Geese**
Douglas C. Osborne; Ryan J. Askren

11:30 AM **From Bluebills to Bivalves: Lesser Scaup Diets and Population Trends on Lake Pontchartrain**
Clay M. Stroud; Kevin M. Ringelman; Michael A. Poirrier; Claire E. Caputo

11:50 AM **Variables Influencing the Wintering Distribution of Black Scoters in the South Atlantic**
Hannah M. Plumpton; Emily D. Silverman; Beth E. Ross

Session 94: Workshop**Do the Genetics 101: Matching Techniques and Technologies to Research Questions in Wildlife Genetics**

Organizers: Stacie Robinson, NOAA National Marine Fisheries Service, Honolulu, HI; Lisette Waits, University of Idaho, Moscow, ID; Emily Latch, University of Wisconsin-Milwaukee, Milwaukee, WI; Randy DeYoung, Texas A&M University-Kingsville, Kingsville, TX; Stephen Spear, The Wilds, Cumberland, OH; Darren Wood, West Virginia University, Morgantown, WV; Liz Kierepka, Trent University, Peterborough, ON, CAN

Supported by: TWS Molecular Ecology Working Group

Location/Time: 10/1:00 PM - 5:00 PM

**Advanced registration required for all Workshops*

Wednesday, September 27

Session 95: Symposium

Freedom to Roam - Wildlife Connectivity in Action from Data to Implementation and Assessment II

Organizers: Melissa Merrick, University of Arizona, Tucson, AZ; Julie Mikolajczyk, Arizona Game and Fish Department, Phoenix, AZ

Supported by: TWS Southwest Section Geospatial Advisory Group, TWS Southwest Section, TWS Biometrics Working Group

Location: 215

1:10 PM **Tying Together the Legs of Connectivity Analysis - Roadkill, Camera Traps, Genetics, GIS, and Theory**
Fraser Shilling

1:30 PM **Developing and Implementing Linkage Conservation Plans**
Paul Beier

1:50 PM **Evaluating the Effectiveness of Corridors and Corridor Structures Using Genetic Data**
Lisette P. Waits

2:10 PM **ESRI's Green Infrastructure Initiative**
Ryan Perkl

2:30 PM **Wildlife Connectivity Planning in Arizona**
Julie Mikolajczyk

2:50 PM Break

3:20 PM **Case Study: Implementation of Tijeras Canyon Corridor in NM**
Kurt Menke

3:40 PM **Sustaining Ungulate Migrations: New Tools to Identify and Conserve Corridors across Multiple-Use Landscapes**
Jerod Merkle; Matthew J. Kauffman

4:00 PM **Case Study: Implementing Wildlife Crossings in Arizona**
Scott C. Sprague; Jeffrey W. Gagnon; Chad D. Loberger; Kari S. Ogren; Susan L. Boe

4:20 PM **Connecting Habitat across New Jersey**
Gretchen Fowles; Brian Zarate; MacKenzie Hall; Karina DiLeo

4:40 PM **Panel Discussion**

Session 96: Contributed Papers

Conservation and Ecology of Mammals VI

Location: 220

Moderator: Julie Young, USDA-WS-NWRC-Predator Research Facility, Logan, UT

1:10 PM **Elk Selection for Vacant Predator Niches Favors Coexistence with Wolves and Cougars in Northern Yellowstone National Park**
Michel T. Kohl; Toni K. Ruth; Daniel R. Stahler; Mathew C. Metz; Douglas W. Smith; Daniel R. MacNulty

1:50 PM **The Jaguar in El Cielo Biosphere Reserve, Tamaulipas, Mexico**
Rogelio Carrera-Trevino; Ivan Lira-Torres; Luis Martinez-Garcia; Martha Lopez-Hernandez

1:50 PM **Fear of the Human "Super Predator" Reduces Feeding Time in a Large Carnivore**
Justine A. Smith; Justin Suraci; Michael Clinchy; Ayana Crawford; Devin Roberts; Liana Zquette; Chris Wilmers

2:10 PM **Habitat Use Patterns of Mountain Lions in Relation to Behavioral State: Implications for Connectivity**
Laura C. Gigliotti; Marc R. Matchett; David Jachowski

2:30 PM **A Novel Application of Dynamic Occupancy Models with False Positive Errors to Quantify the Seasonal Use of Sugarcane Farmlands in Northern India by Tigers**
Rekha Warriar; Barry R. Noon

2:50 PM Break

3:20 PM **Estimating Detection of Prey Items in Bobcat Diet Using an Occupancy Framework**
Summer D. Higdon; Dana J. Morin; Jennifer L. Holub; David M. Montague; Michael L. Fies; Lisette P. Waits; Marcella J. Kelly

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- 3:40 PM **Landscape and Habitat Use for a Large Carnivore in the City: Use and Selection for Mountain Lions around Los Angeles**
Seth P. D. Riley; John F. Benson; Jeffrey A. Sikich
- 4:00 PM **Feeding Ecology of Neotropical Jaguars: New Perspectives from Next-Generation Sequencing**
Claudia Wultsch; Marta DeBarba; Lisette P. Waits; Howard Quigley; Marcella J. Kelly; Konstantinos Krampis
- 4:20 PM **Foraging Behavior of Coyotes under Intraguild Predation Risk by Cougars: an Experimental Approach**
Julie K. Young; Peter Mahoney
- 4:40 PM **Threats to Fishing Cats and Smooth Coated Otters in Godavari Mangroves**
Srikanth Manneपुरi; Ananth Reddy

Session 97: Symposium**Farm Bill Conservation Programs: Perspectives on Delivery and Wildlife Benefits**

Organizers: Cameron Kovach, The Wildlife Society, Bethesda, MD; Tom Franklin, National Bobwhite Conservation Initiative, Washington, DC; Andrew Schmidt, Association of Fish and Wildlife Agencies, Washington, DC; Keith Norris, The Wildlife Society, Bethesda, MD; Jim Inglis, Pheasants Forever/Quail Forever, Upper Sandusky OH; Ariel Wiegard, Theodore Roosevelt Conservation Partnership, Washington, DC; Ed Arnett, Theodore Roosevelt Conservation Partnership, Washington, DC

Supported by: The Wildlife Society, National Bobwhite Conservation Initiative, Pheasants Forever/Quail Forever, Association of Fish and Wildlife Agencies, Theodore Roosevelt Conservation Partnership

Location: 230

- 1:10 PM **Farm Bill Alphabet Soup: an Overview of Title II Conservation Programs**
Andrew Schmidt
- 1:30 PM **A Landowner's Perspective on Participation and Results from Farm Bill Conservation Title and other Conservation Partnerships, Jim Stone, Rancher, Ovando, Montana**
Jim Stone; Steve Jester
- 1:50 PM **Estimating the Economic Benefit of the Hunting Access Program in Nebraska**
Jennifer R. Foggia; Lindsey N. Messinger; Joseph J. Fontaine
- 2:10 PM **Efficacy of USDA Rangeland Conservation Practices: Is It Time for an Evidence-Based Platform?**
David D. Briske
- 2:30 PM **Changing the Paradigm of Conservation Delivery: Using Technology to Identify the Economic Opportunities of Strategic Conservation**
Mark McConnell
- 2:50 PM Break
- 3:20 PM **Conservation Effects Assessment Project Wildlife Component**
Charles Rewa
- 3:40 PM **Outcomes Not Acres: Quantifying Conservation Benefits of the NRCS-Led Sage Grouse Initiative**
David Naugle; Jeremy Maestas; Tim Griffiths; Thad Heater; Galon Hall
- 4:00 PM **National Bobwhite Conservation Initiative - CRP: from the Farm House to the White House**
Thomas Dailey
- 4:20 PM **Conservation Consternation- Wait for Results Or Act Now? Putting Actionable Science to Work**
Christian A. Hagen
- 4:40 PM **An Interactive Tool for Evaluating the Effectiveness of Management Actions to Improve Habitat for Golden-Winged Warblers**
Casey Lott

Wednesday, September 27

Session 98: Symposium

Advancing Wildlife Conservation and Renewable Energy: A Synthesis of Energy System Technologies and Identifying Effects on Wildlife

Organizers: Tabor Allison, American Wind Wildlife Institute, Marshfield, VT; Timothy M. Green, Brookhaven National Lab, Upton, NY; Jerry A. Roppe, Avangrid Renewables, Portland, OR; Susan Rupp, Enviroscapes Ecological Consulting, LLC, Gravette, AR; Thomas Ryon, National Renewable Energy Lab, Golden, CO; Lee Walston, Argonne National Lab, Argonne, IL

Supported by: TWS Renewable Energy Working Group

Location: 235

- 1:10 PM **Advancing Wildlife Conservation and Renewable Energy**
Steve Grodsky
- 1:30 PM **State Siting and Land Assessment for Renewable Energy Projects**
Davia Palmeri
- 1:50 PM **Solar Energy: A Technology with Multi-Scale Opportunities to Integrate Wildlife Conservation**
Brian B. Boroski
- 2:10 PM **Wind Energy: Effects on Birds**
David Drake
- 2:30 PM **Wind Energy: Effects on Bats**
Amanda M. Hale; Cris D. Hein
- 2:50 PM Break
- 3:20 PM **Effects of Harvesting Forest-Based Biofuels on Wildlife: What Have We Learned?**
Jessica Homyack; Jake Verschuyl
- 3:40 PM **Perennial Grasses and Agricultural Residue**
Susan P. Rupp
- 4:00 PM **Waterpower and Wildlife: Hydropower and Marine Hydrokinetic Energy**
Henriette I. Jager; Lindsay M. Wickman
- 4:20 PM **Renewable Energy Policy Directives: Long-Term Implications for Wildlife Conservation**
Edward B. Arnett
- 4:40 PM **Panel Discussion**

Session 99: Symposium

Wetlands, Water, & Wildlife: Finding Common Ground among Diverse Stakeholders

Organizers: Adam Janke, Iowa State University, Ames, IA; Sammy King, USGS Louisiana Cooperative Fish and Wildlife Research Unit, LSU AgCenter, Baton Rouge, LA; Adonia Henry, Scaup & Willet LLC, King Salmon, AK

Supported by: TWS Wetlands Working Group

Location: 240

- 1:10 PM **It's the Water: A Plea for Integrating Wildlife and Water-Resource Conservation Planning**
Adam Janke; Sammy King; Adonia Henry
- 1:30 PM **Minnesota's New Riparian Buffer Law**
Jason Garms
- 1:50 PM **LCC Mississippi Basin / Gulf Hypoxia Planning Tool - Precision Conservation Blueprint V15**
Kristin Shaw; Kelley Myers; Gwen White; Bill Bartush; Michael Schwartz
- 2:10 PM **Aligning Actions for Water Quality, Wildlife Habitat, and People in the Chesapeake Watershed**
Jennifer A. Greiner; Christina Ryder
- 2:30 PM **Draining the Swamp: Water and the Future of Floodplain Forests of the Southeastern United States**
Sammy King; Richard F. Keim
- 2:50 PM Break

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- 3:20 PM **It All Goes Downstream: Effects of Altered Riverine Flow on an Estuarine Foundation Species**
Megan La Peyre
- 3:40 PM **Wetlands in the Middle Rio Grande, NM: Historic Processes, Perturbations and Fixes**
Paul L. Tasjhan
- 4:00 PM **Central Valley California Duck Clubs, Water Districts, and Rice: Opportunities to Enhance Wildlife Habitats**
Frederic A. Reid; Mark Petrie; Catherine Hickey; John M. Eadie
- 4:20 PM **The Klamath Basin Walking Wetlands: Utilizing Wetlands as a Functional Agricultural Tool**
Dustin Taylor
- 4:40 PM **Using Migratory Waterbirds as a Model for Linking Regional Water Issues**
Bruce Dugger; Megan Zarzycki

Session 100: Contributed Papers**Conservation and Ecology of Mammals VII**

- Location: 110
- Moderator: Chris Comer, Stephen F. Austin State University, Nacogdoches, TX
- 1:10 PM **Assessing Site Occupancy of the Oscura Mountains Colorado Chipmunk Using Camera Traps**
Ian E. Perkins-Taylor; Jennifer K. Frey
- 1:30 PM **Fight! Fight! Fight! Tail Wounds as Indicators of Agonistic Behavior and Predation Attempts in America Beavers**
Steve Windels
- 1:50 PM **Habitat Characteristics of the Hoary Marmot: Assessing Distribution Limitations in Montana**
Ben Y. Turnock; Andrea R. Litt; John M. Vore; Christopher M. Hammond
- 2:10 PM **Protected Avian Predators Challenge Continued Survival of an Endangered Endemic Forest Mammal**
Emily A. Goldstein; Melissa J. Merrick; John L. Koprowski
- 2:30 PM **Rodent Response to Harvesting Wood for Energy**
Sarah Fritts; Chris E. Moorman; Steve M. Grodsky; Dennis W. Hazel; Jessica A. Homyack; Chris B. Farrell; Steven B. Castleberry; Emily H. Evans; Daniel U. Greene
- 2:50 PM Break
- 3:20 PM **What to Eat in a Warming World: Do Increased Temperatures Necessitate Hazardous Duty Pay?**
Embere Hall; Anna Chalfoun
- 3:40 PM **Does Lack of Nest-Building Foundations Limit an Arboreal Folivore in Young Forest?**
Mark Linnell; James Swingle; Damon Lesmeister; John Bailey; Eric Forsman
- 4:00 PM **Range-Wide Conservation Genomics of Black-tailed Prairie Dogs**
John A. Erwin; Robert Fitak; Melanie Culver
- 4:20 PM **Landscape Genetics of American Beaver within Coastal Oregon Basins**
Jimmy Taylor; Vanessa Petro; Clinton Epps; Tyler Creech; Rachel Crowhurst

Session 101: Symposium**Mobile Apps in Conservation Science**

- Organizers: Jason A. Estrella, Texas Parks and Wildlife, Tyler, TX; Virginia Seamster, New Mexico Department of Game and Fish, Santa Fe, NM
- Supported by: TWS Geospatial Advisory Committee-Southwest Section, TWS Southwest Section
- Location: 120
- 1:10 PM **The Utilization of Cybertracker for Resource Management in Texas**
Jason A. Estrella
- 1:30 PM **21st Century Wildlife Management: Data Collection Using Mobile Applications**
Bronson Strickland; Steve Demarais; Jason Price
- 1:50 PM **Mobile Apps in the Classroom: Preparing the Next Generation**
Ken Boykin

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- 2:10 PM **Using Citizen Science to Guide Management and Public Engagement**
Sam Kieschnick
- 2:30 PM **An App for Mapping Invasive Plants By Citizen Scientists in Texas**
Hans Landel
- 2:50 PM Break
- 3:20 PM **Cybertracker and Survey123: Pros and Cons for Use in White-Tailed Deer Distance Sampling**
Cristy Burch
- 3:40 PM **Interagency Field Data Collection Using Collector for ArcGIS**
Julie Mikolajczyk
- 4:00 PM **Birding By Day, Batting By Night: Two Mobile Apps from Wildlife Acoustics Help Citizen Scientists and Nature Enthusiasts Identify and Learn About Local Bird and Bat Species**
Sherwood Snyder
- 4:20 PM **Digital Technology and the Modern Conservation Professional: Are We Bleeding the Soul and More of Natural History Study?**
Dave Holdermann
- 4:40 PM **Panel Discussion**

Session 102: Contributed Papers

Conservation and Ecology of Wildlife Communities II

Location: 130

Moderator: Leland Pierce, New Mexico Department of Game and Fish, Santa Fe, NM

- 1:10 PM **Regenerating Clearcuts and Post-Harvest Treatments Increase Spruce-Fir Avian Assemblages and Richness in Managed Stands**
Brian W. Rolek; Daniel J. Harrison; Cynthia S. Loftin; Petra B. Wood
- 1:30 PM **Metabarcoding with Environmental DNA to Identify Wildlife Species Potentially Attracted to Uranium Mine Containment Ponds as a Water Source in the Arid Southwest US**
Katy Klymus; Catherine Richter; Nathan Thompson; Jo Ellen Hinck
- 1:50 PM **A Global Estimate of Net Secondary Productivity: Wildlife in a Changing World**
Garrett M. Street; Gordon G. McNickle
- 2:10 PM **Development of Multi-Species, Long-Term Monitoring Programs for Resource Management**
Jeremy A. Baumgardt; Michael L. Morrison; Leonard A. Brennan; Brian L. Pierce; Tyler A. Campbell
- 2:30 PM **Predicting the Fundamental Niche and Global Distribution of Hermatypic Coral Reefs Using Machine Learning Algorithms**
Vitalis Dubininkas; Stanley Mastrantonis
- 2:50 PM Break
- 3:20 PM **Emergent Wetland Bee Communities in the Lower Mississippi Alluvial Valley of Arkansas**
Phillip L. Stephenson
- 3:40 PM **Data, Sweat, Policy, Law and Ethics - Sharing Wildlife Data in the Instant Access Age**
Kimberly Titus
- 4:00 PM **A General Decision Framework for Quantifying Urbanization Gradients**
Benjamin J. Padilla; Chris Sutherland
- 4:20 PM **Prairie Songbird Responses to Bison Grazing at the National Bison Range and Yellowstone National Park**
Danielle A. Fagre; Victoria J. Dreitz, PhD
- 4:40 PM **Livestock Grazing Effects on Western Terrestrial Vertebrates: A Systematic Review and Meta-Analysis**
Daniel C. Barton; Tim Bean; Abigail Rutrough

Wednesday, September 27**Session 103: Contributed Papers****Conservation and Ecology of Reptiles and Amphibians III**

- Location: 140
- Moderator: Stu Tuttle, Natural Resources Conservation Service, Flagstaff, AZ
- 1:10 PM **Impacts of Stream Disturbances on an Appalachian Stream Salamander Assemblage**
William Sutton; Michael Osborne; Jeff Bailey; Thomas Pauley
- 1:30 PM **Connectivity Vs Isolation: A Case Study of Gene Flow in an Imperiled Salamander**
Eric Hoffman; Steve A. Johnson; Sarah May; Anna Farmer; Stacey Lance
- 1:50 PM **Seasonal Growth Rates and Responses to Increasing Temperature across Five Red-Backed Salamander Populations**
David J. Muñoz; David AW Miller; Chris Sutherland; Evan H. Campbell Grant; Tanya Matlaga
- 2:10 PM **Searching for a Giant Salamander: Distribution of the Common Mudpuppy in Southeast Ohio Using Environmental DNA**
Merri K. Collins; Shawn R. Kuchta
- 2:30 PM **TBA**
- 2:50 PM Break
- 3:20 PM **Spatial Use and Survivorship of Translocated Wild-Caught Texas Horned Lizards**
Devin R. Erxleben; Kelly J. Mitchell; Jesse M. Meik; Nathan D. Rains; James C. Martin
- 3:40 PM **Climate and Recruitment in Pond-Breeding Amphibians**
Robert Newman
- 4:00 PM **Habitat Suitability for the Eastern Massasauga Rattlesnake throughout Southern Michigan**
Stephanie A. Shaffer
- 4:20 PM **Comparison of Road Surveys and Circuit Theory to Predict Hotspot Locations for Implementing Road-Effect Mitigation**
Sean P. Boyle; Jacqueline D. Litzgus; David Lesbarrères
- 4:40 PM **Lethal and Sub-Lethal Effects of Predators on Pathogen Transmission and Trophic Cascades**
Lexington K. Eiler; Michael Chislock; Zachary Compton; Turner DeBlieux; Samantha Gallagher; Brian Tornabene; Kelton Verble; Jason T. Hoverman

Session 104: Contributed Papers**Biometrics and Population Modeling IV**

- Location: 15, 16 & 32
- Moderator: Eric Schaubert, Southern Illinois University Carbondale, Carbondale, IL
- 1:10 PM **Novel Application of Adaptive Sampling Principles to Spatial Capture-Recapture**
Alec Wong; Jeffrey A. Royle; Angela Fuller
- 1:30 PM **Open Population Spatial Capture-Recapture Models - Promises and Challenges Capture-Recapture Models - Promises and Challenges**
Rahel Sollmann; Beth Gardner; Jerrold Belant
- 1:50 PM **Quantifying Spatial Variation in Growth in a Recovering Grizzly Bear Population**
Tabitha Graves; Amy MacLeod; J. Andrew Royle; Kevin McKelvey; John Boulanger; Katherine Kendall
- 2:10 PM **Monitoring Matters**
Douglas H. Johnson
- 2:30 PM **Generalized Spatial Partial Identity - a Generalization and Extension of Current Spatial Capture-Recapture Models with Latent Individual Identities**
Ben C. Augustine; J. Andrew Royle; Marcella J. Kelly
- 2:50 PM Break
- 3:20 PM **Identifying Unique Individuals Using Natural Pelt Patterns to Estimate Population Abundance with Mark-Resight Models**
Ben S. Teton; Jesse S. Lewis; Christina Tombach Wright; Mike White; Hillary Young

Wednesday, September 27

- 3:40 PM **Novel Methods to Estimate Abundance of Unmarked Animals Using Camera Trap Data**
Anna K. Moeller; Paul M. Lukacs; Jon Horne
- 4:00 PM **Single Survey Bobcat Density Estimation Using Fecal DNA and Spatial Capture Recapture**
Dana J. Morin; Lisette P. Waits; David C. McNitt; Marcella J. Kelly
- 4:20 PM **Are Forecasts of Future Abundance for Rare And Declining Species Valid for Population Viability Analyses?**
Edward O. Garton; Christian A. Hagen
- 4:40 PM **Optimal Dynamic Sampling of a Spreading Population**
Perry J. Williams; Mevin B. Hooten; Jamie N. Womble; George G. Esslinger; Michael R. Bow

Session 105: Contributed Papers

Conservation and Ecology of Bird - Game Birds III

- Location: 18 & 30
- Moderator: Blake Grisham, Texas Tech University, Lubbock, TX
- 1:10 PM **Identifying Disturbance Thresholds to Assess Effectiveness of Core Area Conservation Metrics for Greater Sage-Grouse**
Kurt T. Smith; Christopher P. Kirol; Jeffrey L. Beck; Nicholas E. Graf; Jonathan B. Dinkins; Chad W. LeBeau; Thomas L. Maechtle; Andrew L. Sutphin
- 1:30 PM **Effects of Spring Cattle Grazing on Nest Survival of Greater Sage-Grouse in Southern Idaho**
Andrew R. Meyers; Courtney J. Conway; David D. Musil; Karen Launchbaugh; Shane Roberts
- 1:50 PM **Short-Term Demographic Response of Greater Sage-Grouse to Habitat Treatments**
Jason R. LeVan; Kurt T. Smith; Jeffrey L. Beck
- 2:10 PM **Prey for Sage-Grouse: Impacts of Livestock Grazing**
David M. Gotsch; Courtney J. Conway; David D. Musil; Shane B. Roberts
- 2:30 PM **Greater Sage-Grouse Habitat and Demographic Response to Grazing by Non-Native Ungulates**
Phillip A. Street; Tessa L. Behnke; Levi Jaster; James S. Sedinger
- 2:50 PM Break
- 3:20 PM **Sharp-tailed Grouse Occupancy Dynamics in Areas Open and Closed to Hunting in Michigan**
David R. Luukkonen; David Jentoft
- 3:40 PM **Effect of Wind Turbine Presence on Pheasant Distribution in Central Iowa**
James N. Dupuae Jr.; Stephen J. Dinsmore; Julie A. Blanchong
- 4:00 PM **Assessing the Umbrella Effect of Greater Sage-Grouse Management on Golden Eagles in the Western United States**
Jason D. Carlisle; Geoffrey Bedrosian; Trent L. McDonald
- 4:20 PM **Factors Affecting Nesting Propensity in Greater Sage-Grouse**
Tessa L. Behnke; Phillip A. Street; James S. Sedinger
- 4:40 PM **Species Distribution Models for the Dusky Grouse in the American Southwest: Implications for Conservation and Climate Change**
Joseph A. Youtz; Reza A. Goljani; Jennifer K. Frey

Session 106: Symposium

Mexican Wolf Conservation: Two Decades of Reintroduction and the Future of Recovery

- Organizers: Julia B. Smith, Arizona Game and Fish Department, Pinetop, Arizona
- Location: 27, 29 & 31
- 1:10 PM **Mexican Wolf Recovery**
Sherry Barrett; Tracy Melbihess; Maggie Dwire; John Oakleaf
- 1:30 PM **Survival and Dispersal Rates of Mexican Wolves**
John K. Oakleaf; James W. Cain III; Colby M. Gardner; Sherry Barrett; Cyrenea B. Piper
- 1:50 PM **The Critical Role of the Mexican Wolf Species Survival Plan Facilities: A Binational Collaborative Effort**
Pamela Maciel

Wednesday, September 27

- 2:10 PM **Livestock Depredation by Mexican Wolves and Non-Lethal Mitigation Techniques**
David L. Bergman; Alan May; Stewart W. Breck
- 2:30 PM **Livestock Management, Calving Season, and Conflict Avoidance with Wolves on the X Diamond Ranch**
Wink Crigler
- 2:50 PM Break
- 3:20 PM **Genetic Management and Setting Recovery Goals for Mexican Wolves in the Wild**
Larisa E. Harding; Jim Heffelfinger; David Paetkau; Esther Rubin; Jeff Dolphin; Anis Aoude
- 3:40 PM **Cross-Fostering: A Novel Tool for Mexican Wolf Recovery**
Julia B. Smith
- 4:00 PM **Mexican Wolf Reintroduction Efforts in Northern Mexico**
Carlos A. Lopez Gonzalez; Nalleli E. Lara Diaz; Cristian Aguilar Miguel; Carmen Garcia Chavez; Socorro Vera Ramirez
- 4:20 PM **Mexican Wolf Habitat Suitability Analysis in the Southwestern United States and Mexico**
Enrique Martinez-Meyer; Alejandro Gonzalez-Bernal; James Heffelfinger; Julian A. Velasco; Tyson L. Swetnam; Zaira Yaneth Gonzalez-Saucedo; Jorge Ignacio Servin; Carlos Alberto Lopez-Gonzalez; Nalleli Elvira Lara-Diaz; Cristian Aguilar-Miguel; Carmen Chavez-Garcia; Stewart Liley; John K. Oakleaf
- 4:40 PM **Perils of Recovering the Mexican Wolf Outside of Its Historical Range**
Eric A. Odell; James R. Heffelfinger; Steven S. Rosenstock; Chad Bishop; Stewart Liley; Alejandro Gonzalez-Bernal; Julian A. Velasco; Enrique Martinez-Meyer