



2016 Colorado Chapter of The Wildlife Society Annual Winter Meeting

**Doubletree Hotel, Colorado Springs, CO
February 3-5, 2016**

DRAFT

Wednesday February 3, 2016

8:00 Registration opens

9:00 – 4:00 Known-Fate Survival Workshop

Peter J. Mahoney (PhD candidate, Utah State University) and Dr. John F. Benson (University of California, Los Angeles)

The goal of this workshop is to help wildlife professionals develop the necessary skills to conduct rigorous survival analysis and to appropriately interpret the results using data from their own study systems. The presenters will walk attendees through the analytical steps from data collection and organization to survival modeling and estimation.

Researchers who regularly monitor animals with telemetry will find the methods particularly applicable. Attendees will be exposed to non-parametric (Kaplan-Meier), semi-parametric (Cox proportional hazards), and fully parametric known-fate models. We will provide a brief discussion of the underlying theory, application, and relative trade-offs of each type of model. In addition, we will go into detail on the use of semi-parametric models in a competing risks framework.

Wildlife Forensics (Workshop is FULL as of 1/12/16)

Carleen Gonder, founder and executive director for Wildlife Field Forensics of Ovando, Montana and Tony Latham, Retired Idaho Fish and Game Regional Investigator; Salmon, ID

Topics include decomposition analysis for wildlife time of death estimates, forensic entomology, and a hands-on demonstration with wildlife carcasses, using GPS for evidentiary purposes, firearms forensic evidence, and will have a firearms evidence hands-on practical. The workshop will provide basic knowledge for determining time of death in wildlife, cause of death, and provide tools that assist with research, biological management, and law enforcement decisions.

6:00 p.m. Welcome Social

Thursday February 4, 2016

7:30 Registration opens
8:00-5:00 Poster Session (poster presenter Q & A during breaks)

Plenary: Technology in Wildlife Management and Research

8:30 **Welcome**
Tony Gurzick, President CCTWS

8:45 **Capture to Web Apps: How Customized Software Can Up Your Game**
Paul Lukacs, University of Montana

9:30 **Unmanned Aircraft Systems Operations**
Brian D. Richardson, FAA Safety Team Program Manager, NM Region, Denver FSDO

10:00 **BREAK**

10:30 **Enhanced Bacterial Pathogen Detection Using Optimized Sample Collection, Culture and Laboratory Diagnostics**
Hally Killion, Wyoming Game and Fish Department, Wildlife Health Laboratory
Jessica Jennings-Gaines, Wyoming Game and Fish Department, Wildlife Health Laboratory
Mary Wood, Wyoming Game and Fish Department, Wildlife Health Laboratory
Hank Edwards, Wyoming Game and Fish Department, Wildlife Health Laboratory
(Speaker)

11:00 **The process of integrating infrared technology into wildlife management and research.**
Gifford Gillette, Wildlife Management Institute

11:30 **Experimental Infrared Survey Flight**
Wendy Figueroa, Colorado Parks and Wildlife

12:00 **LUNCH**

12:30 **CCTWS Business Meeting and Office Election Results**
Tony Gurzick, CCTWS President

1:30 **Land-Use Change within Mule Deer Ranges is Associated with Reductions in Recruitment**
Heather E. Johnson, Colorado Parks and Wildlife (presenter)
Jessica R. Sushinsky, Wildlife Conservation Society and Colorado State University
A. Andrew Holland, Colorado Parks and Wildlife
Eric J. Bergman, Colorado Parks and Wildlife
Trevor Balzer, Colorado Parks and Wildlife
James Garner, Colorado Parks and Wildlife
Sarah E. Reed, Wildlife Conservation Society and Colorado State University

- 1:50 **Lessons Learned During the Design and Construction of Phase 1 of the State Highway 9 Wildlife and Safety Improvement Project**
Michelle Cowardin, Wildlife Biologist, Colorado Parks and Wildlife (presenter)
Bryan Roeder, Environmental Research Leader, Colorado Department of Transportation
Julia Kintsch, Principal & Conservation Ecologist, ECO-resolutions LLC
- 2:10 **Population Viability of a Small, Isolated Population of Mountain Lions Relative to Interactions between Demographic, Genetic, and Landscape Processes**
John F. Benson¹ (presenter), Peter J. Mahoney², Jeff A. Sikich³, Laurel E.K. Serieys⁴, John P. Pollinger⁴, Robert K. Wayne⁴, Holly B. Ernest⁵, and Seth P.D. Riley^{3,4}
¹La Kretz Center for California Conservation, Institute of Environment and Sustainability, University of California, Los Angeles; ²Department of Wildland Resources, Utah State University; ³National Park Service, Santa Monica Mountains National Recreation Area; ⁴Department of Ecology and Evolutionary Biology, University of California, Los Angeles, ⁵University of California, Davis.
- 2:30 **Birth Site Selection by Mule Deer and Predation Site Characteristics in a Natural Gas Development Area**
Mark E. Peterson, Colorado State University (presenter)
Charles R. Anderson, Jr., Colorado Parks and Wildlife, Mammals Research Section
Paul F. Doherty, Jr., Colorado State University
- 2:50 **Bacterial pathogen transmission from domestic to wild cats**
Annie Kellner¹ (presenter) Valeria Scorza², Scott Carver³, Michael Lappin², Kevin R. Crooks⁴, Sue VandeWoude⁵, Michael F. Antolin¹
¹Department of Biology, Colorado State University
²Department of Clinical Sciences, Colorado State University
³School of Biological Sciences, University of Tasmania
⁴Department of Fish, Wildlife, and Conservation Biology, Colorado State University
⁵Department of Microbiology, Immunology, and Pathology, Colorado State University
- 3:10 **Break**, refreshments provided
- 3:30 **Foraging ecology of black bears in urban environments: guidance for human-bear conflict mitigation**
D. L. Lewis¹ (presenter), S. Baruch-Mordo,^{1,5} K. R. Wilson,¹ S. W. Breck,² J. S. Mao,³ And J. Broderick⁴
¹Department of Fish, Wildlife, and Conservation Biology, Colorado State University
²USDA, Wildlife Service, National Wildlife Research Center
³Colorado Parks and Wildlife
- 3:50 **Habitat use of an Alaskan Dall sheep population: and Occupancy modeling approach**
Jeremy Dertien^{1,2} (presenter), Calvin Bagley², John Haddix³, Aleya Brinkman^{2,3}, Elizabeth Neipert², and Paul Doherty, Jr.¹
¹Department of Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins, Colorado
²Center for Environmental Management of Military Lands, Fort Collins, Colorado
³United States Army, Fort Wainwright, Fairbanks, Alaska

- 4:10 **Airports, Wildlife, and GIS... Oh my!**
Jason D. Kougher, Wildlife Biologist, USDA APHIS Wildlife Services
- 4:30 **Restoration of Wet Meadows and Riparian Systems in the Upper Gunnison Basin, Colorado: Building resilience in the face of climate change for Gunnison sage-grouse**
Nathan Seward, Colorado Parks and Wildlife (presenter)
Betsy Neely, The Nature Conservancy
Renée Rondeau, Colorado Natural Heritage Program
- Session End
- 6:00 **Mixer, Banquet, Awards, and Auction**
Dinner served at 6:30pm
Awards presentation during dinner; silent & live auction follow
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Friday, February 5

- 8:00-12:00 **Posters displayed** (poster presenter Q & A during break)
- 8:25 **Announcements**
- 8:30 **Necklace-style radio-transmitters are associated with changes in display vocalizations of male Greater Sage-grouse**
Marcella R. Fremgen¹ (presenter) Daniel Gibson², Rebecca L. Ehrlich³, Alan H. Krakauer³, Jennifer S. Forbey¹, Erik J. Blomberg⁴, Jim S. Sedinger⁵, Gail L. Patricelli³
¹ Department of Biological Sciences, Boise State University, 1910 University Drive, Boise, Idaho 83725, USA
² Fish and Wildlife Conservation, Virginia Tech, 310 West Campus Drive, Blacksburg, Virginia 24061
³ Department of Evolution and Ecology, University of California Davis, 2320 Storer Hall, One Shields Avenue, Davis, CA 95616, USA
⁴ Department of Wildlife, Fisheries, and Conservation Biology, University of Maine, Orono, Maine 04469
⁵ Department of Natural Resources and Environmental Science, University of Nevada Reno, 1664 N. Virginia Street, Reno, NV, 89557, USA
- 8:50 **The conservation value of tropical agroecosystems to migratory and resident birds in the Guatemalan Highlands**
Gemara Gifford^{1,2}, Amanda Rodewald^{1,2}, Wesley Hochachka¹
Cornell Lab of Ornithology₁, Department of Natural Resources Cornell University₂
- 9:10 **Effects of thinning treatments in piñon-juniper woodlands on avian occupancy in the Arkansas River Valley, Colorado**
Patrick Magee, Department of Natural and Environmental Sciences, Western State Colorado University

- 9:30 **Can the variation in songbird mercury be explained using trophic level, phylogeny and foraging guild?**
Carley Knutsen, Colorado State University, Pueblo
- 9:50 **Break**, refreshments provided
- 10:10 **Mapping, prioritizing, and increasing seasonal habitats for greater sage-grouse in the Parachute-Piceance-Roan population in northwestern Colorado**
Brett Walker¹, Anthony D. Apa¹, Karin Eichhoff²
¹ Avian Research program, Colorado Parks and Wildlife, Grand Junction, CO
² GIS section, Colorado Parks and Wildlife, Ft. Collins, CO
- 10:30 **Evaluation of Population Monitoring Strategies for Greater Sage-Grouse (*Centrocercus urophasianus*) in Northwestern Colorado: Genetic Mark-Recapture as an Alternative to Traditional Lek Counts**
Brauch, J.E. *(presenter), Walker, B.L. † and B.R. Noon*
*Graduate Degree Program in Ecology and Dept. of Fish, Wildlife and Conservation Biology Colorado State University, Fort Collins, CO
†Wildlife Research Biologist, Colorado Parks and Wildlife, Grand Junction, CO
- 10:50 **Gunnison Restoration-Resilience Project: The Impacts of Riparian Restoration on Insect Abundance, Diversity, and Ecosystem Health**
Sammantha Rowland, Western Colorado State University
- 11:10 **Cougar Predation Behaviors: The What, When, Where, and Why**
Kevin Blecha^{1,2}(presenter), Randall Boone² Mat Alldredge³
¹Southwest Terrestrial Unit, Colorado Parks and Wildlife, Gunnison, CO
²Natural Resources Ecology Lab, Colorado State University, Gunnison, CO
³Mammals Research, Colorado Parks and Wildlife, Fort Collins, CO
- 11:30 **Closing remarks and best student poster and technical presentation awards**
- 12:00 **CCTWS board meeting**

Posters

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 W. Ghormley, Wildlife Program Manager, USDA Forest Service, Rio Grande National Forest, 1803 West Highway 160, Monte Vista, CO. 81144

Dale Gomez, District Wildlife Biologist, USDA Forest Service, Rio Grande National Forest, 13308 West Highway 160, Del Norte, CO. 81132

A Standardized Framework for Using Camera Traps to Monitor Wildlife Crossing Structures

Julia Kintsch, ECO-resolutions

Patricia Cramer, Utah State University

Building Design for Energy Efficiency and the Potential Benefit to Birds
Thomas Ryon, National Renewable Energy Laboratory, Golden, Colorado

Investigation of Vegetation Management Strategies to Improve Breeding season habitats for the Northern Leopard Frog (*Lithobates pipiens*) on two state wildlife areas along the Rio Grande River in Southern Colorado
Taylor Chick, Cary Aloia, and Jenny Nehring

Assessing Bias in Human-Black Bear Conflict Reporting in Durango, Colorado
Ryan Wilbur, Western State College University, Masters of Environmental Management
Heather Johnson, Colorado Parks and Wildlife
Stacy Lischka, Colorado Parks and Wildlife
Jessica Young, Western State College University

Continuing Monitoring of *Mustela Nigripes* (Black Footed-ferret) at Soapstone Prairie Natural Area Using Remote Trail Cameras
Hayden Akers, Colorado State University

An Analysis of Items Carried in the Mouths of Carnivores
Rebecca M. Much, Colorado State University

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