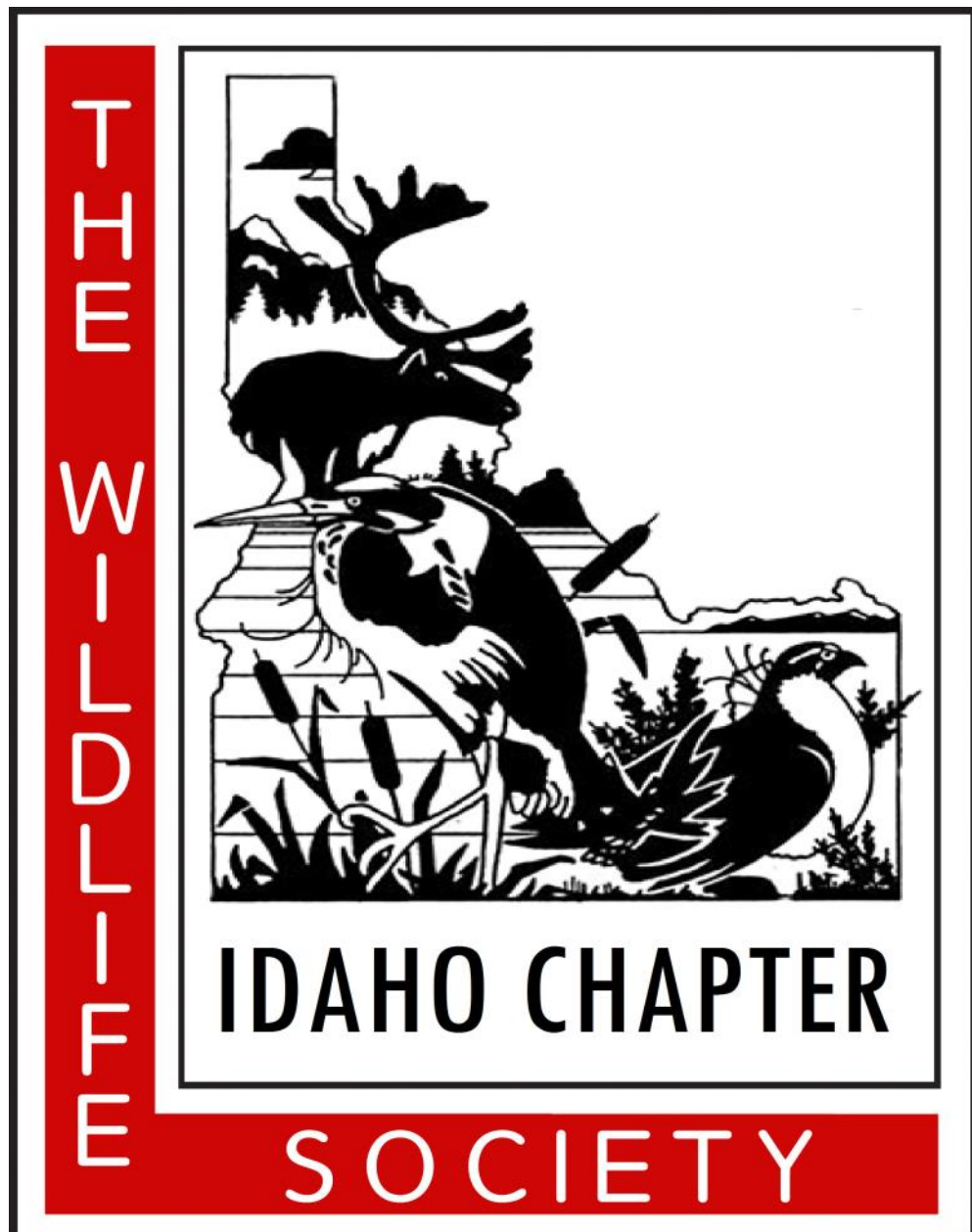


2020 IDAHO CHAPTER OF THE WILDLIFE SOCIETY
“BALANCING IDAHO’S POPULATION GROWTH
WITH WILDLIFE CONSERVATION NEEDS”

9-12 March 2020

Best Western University Inn

Moscow, Idaho

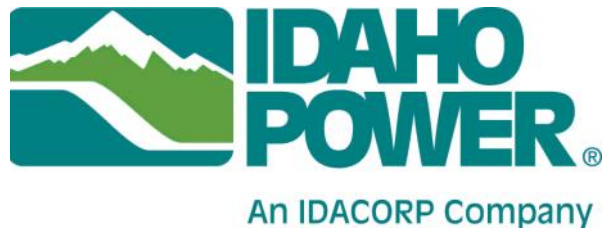


PROGRAM

2020 Conference Sponsors

We wish to thank all of the organizations and businesses for sponsoring the 2020 Conference. Some of our sponsors did not make it into this program in time for print and we would like to extend our gratitude for helping to make this conference possible!

Silver Sponsors (\$500-\$1,199)



University of Idaho

Bronze Sponsors (\$100-\$499)



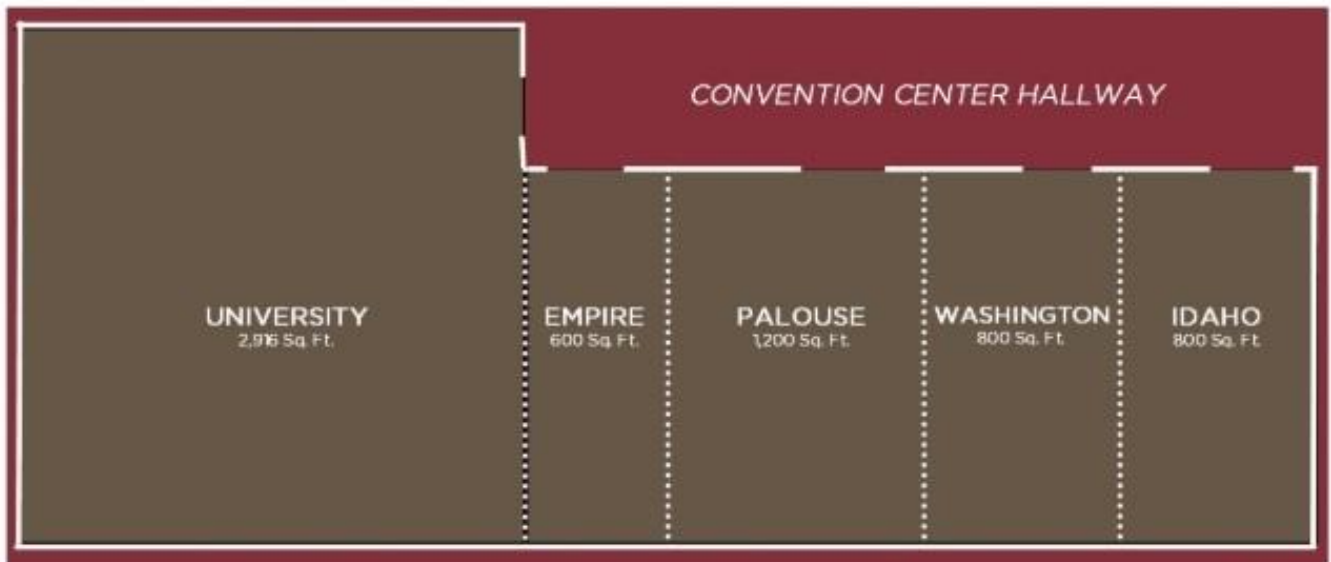


2020 Associated Meetings

- ◆ Idaho Bat Working Group
- ◆ Idaho Partners in Amphibian and Reptile Conservation



Best Western University Inn Floor Plan



Free Parking On Site





Table of Contents

Meeting Introduction and Host City.....	Pg. 4
Registration and Logistics.....	Pg. 5
Meeting Donors and Contributors.....	Pg. 6-7
Program at a Glance.....	Pg. 8-9
Special Awards.....	Pg. 9
Attendee and Presenter Information.....	Pg. 10
Workshops and Special Sessions.....	Pg. 11-13
Plenary Session & Speaker Biographies.....	Pg. 14-15
Scientific Program.....	Pg. 16-24
Additional Information.....	Pg. 25
Leadership Resources and Opportunities.....	Pg. 26





Meeting Introduction

The Idaho Chapter of The Wildlife Society annual meeting is 9-12 March 2020 in Moscow, Idaho. This year's conference offers a diverse scientific program with a plenary session, special sessions, symposium, contributed oral and poster presentations, social, banquet, student activities, and the annual business meeting.

Host City — Moscow, Idaho

Welcome to Moscow! With about 24,000 residents, Moscow is the largest city and county seat of Latah County. Moscow is located in north-central Idaho between Moscow Mountain and the rolling hills of the Palouse, and sits at an elevation of 2,579 ft (786 m) above sea level.

Home to the University of Idaho, Moscow is a small college town that provides a diversity of cultural and recreational activities. The meeting is located at the Best Western University Inn, which sits adjacent to the university campus, approximately 1.5 miles from downtown, and within walking distance of several restaurants and a mall.

A few things to do while here:

- Idaho Birding Trail (<https://idfg.idaho.gov/IFWIS/ibt/site.aspx?id=N39>)
- Palouse Recreation Trail system, including the Bill Chipman Trail (<http://www.whitmancounty.org/ssi.aspx?ssid=85>), Paradise Path (<https://www.ci.moscow.id.us/DocumentCenter/View/469/Paradise-Path-PDF>), and Latah Trail (<http://www.latahtrailfoundation.org/>)
- UI Arboretum and Botanical Gardens (<https://www.uidaho.edu/infrastructure/facilities/arboretum>)
- Idler's Rest Nature Preserve (<https://www.palouselandtrust.org/idlers-rest>)
- Elk Creek Falls Recreation Area (<https://www.fs.usda.gov/recarea/nezperceclearwater/recarea/?recid=80110>)
- McConnell Mansion (<https://www.latahcountyhistoricalsociety.org/hours--address>)
- UI Prichard Art Gallery (<https://www.uidaho.edu/caa/galleries-centers-and-labs/prichard>)
- Kenworthy Performing Arts Center (<http://www.kenworthy.org/>)
- Visit a local restaurant, brewery, winery, or coffee shop (<https://visitmoscowid.com/eat-and-drink/>)

Additional information on recreational and cultural opportunities is available online for Moscow and the surrounding region at <https://visitmoscowid.com/>.

Conference Venue:

All conference activities will take place at the Best Western university Inn (1516 Pullman Rd, Moscow, ID 83843, 208-882-0550, <http://www.uinnmoscow.com/>).





Registration and Logistics

Registration fees include admission to all oral sessions, poster session, coffee breaks, social activities, a copy of the program and a complimentary meeting gift.

Registration Fees:

\$250	Full registration (includes social and meeting gift)
\$275	Full Registration for Professional Non-Members (includes social and meeting gift (while supplies last)
\$150	Retiree (includes social and meeting gift (while supplies last))
\$40	Idaho Chapter student member registration (includes social, banquet and meeting gift (while supplies last))
\$50	Student registration ((non-Idaho Chapter member) (includes social, banquet and meeting gift (while supplies last))
\$125	One day registration
\$40	Regular banquet ticket
\$300	Late Full Registration
\$50	Late Full Student Registration
\$150	Late Retiree
\$150	Late 1-Day Registration

The registration desk will be open at the following times:

Monday	9 March	4:00-6:00pm
Tuesday	10 March	7:00-9:00am, 11:00am - 2:00pm, 5:00-7:00pm
Wednesday	11 March	7:00-9:00am, 11:00am - 2:00pm, 5:00-7:00pm

Message board available near the registration desk

Conference Contact

Duston Cureton - duston.cureton@idfg.idaho.gov; 208-390-0609

Executive Board & Conference Organizing Committee

Andrew Mackey	President
Duston Cureton	President-Elect
Bryan Stevens	Vice-President
Tara Ball	Secretary
Kara Campbell	Treasurer
Anna Owsiak	Past-President
Andrea Kristof	Volunteer Coordinator





Additional Sponsorship

Auction and Raffle Item Donors

We wish to thank the following individuals, businesses and organizations that supported the 2020 Conference with auction and raffle item donations:

**Jocelyn Aycrigg
Erik Bartholomew
Beck Family Farms
Bogus Basin
Cabelas
Danson Brand Grills
D&B Supply
First Lite
Kuiu
Meriwether Cider Company
Robert Magill**

**Modern Huntsman
Colleen Moulton
National Wild Turkey Federation
Nez Perce Tribe
Anna Owsiak
Samantha Pacioretty
Tempe Regan
Angie Schmidt
Southeast Idaho Home Helpers
Denzel Smith
Roaring Springs**

**Terry Rich
The Fleming Family
Bill Seybold
Snake River Adventures
Sportsman's Warehouse
Thiessens
University of Idaho
Vortex
Jim Witham
Wyld Gear
Zoo Boise**

Some donor names were not available by the time this program went to print. We extend a sincere thank you to those of you whose names are not listed above, your generous support is appreciated!



2020 Conference Contributors

We extend a special thank-you to the many session chairs, the conference volunteers who helped with AV and other logistics, and the silent auction and raffle volunteers who ensured fundraising success. Your efforts have helped ensure the success of this year's meeting and are greatly appreciated.

We would like to thank the following organizing committee members for making this conference possible. If you are interested in being part of the any of these committees or would like to help in any capacity please visit with any ICTWS Executive Committee Member.

Audit Committee

(Laura Wolf)

Awards Committee

(Ryan Long, Paul Makela, Jim White, Jen Forbey, Diane Evans-Mack)

Conservation Affairs Committee

(Robert Magill, Chuck Peterson, Michael Young, Hilary Turner)

Education and Outreach Committee

(Alana Jensen, Morgan Pfander, Maria Pacioretty)

Fundraising Committee

(Jason Beck, Josh Rydalch, Josh Uriarte)

Grant Review Committee

(Laura Wolf, Sandy Vistine-Amdor, Jericho Whiting)

Membership Committee

(Katie Powell, Lisa Nutt, Sandy Amdor)

Nominating and Elections Committee

(Curtis Hendricks, Brian Bybee, Hilary Heist)

Paper/Poster Judging Committee

(Kevin Warner, Janet Rachlow, Zoe Tinkle and all of the paper/poster judges)

Scholarships Committee

(Sylvia Copeland, Tricia Hebdon, Colleen Trese, Ben Wishnek, Christopher Witt)

Sponsorship Committee

(Aren Eddingsaas, Anna Owsiak, Bruce Schoeberl)

Student Affairs Committee

(Janet Rachlow, Jericho Whiting, Ryan Walker, Quinn Shurtliff)

Local Planning Committee

(Andrea Kristof)





Program At a Glance

Monday 9 March

Registration Desk Open: 16:00-18:00

Time	Workshop
13:00-17:00	Bumblebee Workshop (Idaho Room)
13:00-17:00	At Risk Species Workshop (Washington Room)

Tuesday 10 March ***Photo contest entries taken at registration**

Registration Desk Open: 07:00-09:00; 11:00-14:00; 17:00-19:00

Time	Workshops (Coffee Breaks at 10:15 & 13:00)
08:00-12:00	Non-lead Shot Workshop (Empire Room)
08:00-12:00	Idaho Bat Working Group Meeting (Washington Room)
08:00-12:00	Human Dimensions Workshop (Idaho Room)
12:00-13:00	Lunch on your own
13:00-17:00	Student Success Workshop (Empire Room)
13:00-17:00	Idaho Partners in Amphibian and Reptile Conservation Meeting (Washington Room)
13:30-17:00	Climate Connect Workshop (Idaho Room)
16:00-18:00	University of Idaho Alumni & Friends Social (Silver/Gold Room)
18:00-22:00	Welcome Social & Student Mixer (Silver/Gold Room)

Wednesday 11 March ***Photo Contest - All day (Hallway)**

Registration Desk Open: 07:00-09:00; 11:00-14:00; 17:00-19:00

Time	Plenary (Empire/University Room)
08:00-08:15	Welcome - ICTWS President: Andrew Mackey
08:15-10:15	Plenary Session - <i>"Balancing Population Growth with Wildlife Conservation Needs"</i>
10:15-10:45	BREAK
10:45-12:00	Plenary Session (Continued)
12:00-14:00	Business Lunch (Silver Room), Poster Set Up (Silver/Gold Room)
14:00-15:00	U. Idaho Fish & Wildlife Film Festival Screening (Empire/University Room)
14:00-17:00	Contributed Papers: Ecology and Conservation of Birds (Palouse Room)
15:00-15:20	BREAK (Poster Set Up)
15:20-17:00	Contributed Papers: Carnivore Landscape Ecology (Idaho/Washington Room)
18:00-22:00	Poster Session & Social (Silver/Gold Room)
20:00-22:00	Backcountry Hunters and Anglers Film Festival Screening (Palouse Room)





Program At a Glance cont.

Thursday 12 March	*Photo Contest - 8:00-15:00 (Hallway)
<hr/>	
Time	
07:00-08:00	Student Mentorship Activity: Breakfast with a Biologist (Silver Room)
8:00-10:00	Contributed Papers: Population Dynamics and Habitat Use: Birds (Palouse Room), Wildlife Management (Idaho/Washington Room), Habitat Management (Gold Room)
10:00-10:20	BREAK
10:20-12:00	Contributed Papers: Habitat Ecology (Palouse Room), Wildlife Ecology (Idaho/Washington Room)
12:00-13:40	Lunch on your own
13:40-15:00	Contributed Papers: Methodology (Palouse Room), Ignite (Idaho/Washington Room)
15:00-15:20	BREAK
15:20-17:00	Contributed Papers: Population Dynamics and Habitat Use: Mammals (Palouse Room), Biodiversity Monitoring and Conservation (Idaho/Washington Room)
18:30-22:00	Banquet, Awards, Silent Auction, and Raffle (Empire/University/Palouse Room)

ICTWS Special Awards—Presented at the Banquet Thursday Evening

Charles E. Harris Professional Wildlifer Award

This award honors professionals in wildlife management. It is given to demonstrate outstanding contributions to Idaho's wildlife resources as appreciated by one's peers. The award is meant to recognize outstanding professional contribution and promote public understanding of significant wildlife management accomplishments in Idaho.

Special Recognition Award

This award honors any person or group who has made an outstanding contribution within the state of Idaho to wildlife conservation, management, science, conservation education, the wildlife profession or to an area of endeavor species, community, ecosystem or region. Any person or group who has made such a contribution in the last 3 years is eligible for this award.

Randall B. Smith Emerging Leader Award

This award is intended to honor a professional with five (5) or less years of experience in wildlife conservation, management, or research in Idaho who demonstrates exceptional initiative, leadership skills, and commitment to the field. The award is in memory of Randy Smith, who trained and mentored many young wildlife professionals throughout his career.





Attendee and Presenter Information

Locations

All conference activities and associated meetings will be held in the following Rooms: Idaho, Palouse, Washington, Gold, Silver, Empire, University, and the hallway. See pages 8-9, “Program at a Glance” for room location of specific events.

Oral Presenters

Please take note of your presentation date and time. Please note that all **general session** talks should be limited to 20 minutes total (including 5 minutes for questions), whereas **IGNITE!** session talks are limited to a 5 minute presentation with several minutes afterwards for questions. Respect other speakers and your audience by staying within your scheduled time. It is extremely important that we maintain this schedule, so that attendees can move amongst sessions. Take the time to practice so your delivery fits into the scheduled interval. Check with your session chair well in advance of the start of your session to make sure that you know where the tools are that you need for your talk (e.g., remote control, laser pointer) and how to use them. This is also the time to check and see if your PowerPoint presentation (ideally saved in Microsoft Office PowerPoint Show [.pps] format) runs properly on the projector and projection computer. Presentations should be uploaded no later than the break preceding your talk.

Posters

The poster session will be held concurrent with the social on the evening of Wednesday March 11 in the Silver & Gold Rooms. Poster displays should be set up during lunch or other meeting breaks but prior to the beginning of the poster session. All presenting authors should be at their posters and prepared to discuss their work from 18:00 to 20:00 on Wednesday evening. Posters must be removed after the banquet.

Photo Contest

Submit photos at the registration table starting Monday afternoon through 9 a.m. Wednesday morning. The contest will be open for voting from 10am Wednesday through 3 p.m. Thursday. Winners will be announced at the banquet. All photo are to remain on display until 5 p.m. Thursday and must be removed by the close of the event Thursday night.

Notice to all attendees: As a courtesy to all presenters, we request that you turn off your cellular phones while attending sessions and meetings.



Monday Afternoon

Workshops

13:00-17:00 **PNW Bumble Bee Atlas (Idaho Room) (Presenter: RICH HATFIELD)**

The focus of the training will be to introduce participants to the Pacific Northwest Bumble Bee Atlas Project and familiarize participants with several aspects of bumble bee biology. In addition to basic life-history and ecology, participants will learn which species are most imperiled throughout the Pacific Northwest, the threats they face, and management techniques to help protect them. The bulk of the workshop will be dedicated to the identification of our native fauna, as well as learning Different techniques for surveying and observing bumble bees, and how to submit observations to contribute data to this project.

13:00-17:00 **Idaho At-Risk Animal Workshop (Washington Room) (Presenter: RITA DIXON)**

Purpose: In this workshop we will provide an update on Idaho at-risk animal species conservation status reviews and conservation planning efforts, review federal agency sensitive and species of conservation concern lists, and discuss how we might move forward with a more unified approach to prioritizing species for conservation planning within Idaho, in particular, proposed changes to the process for selecting species of greatest conservation need for the Idaho State Wildlife Action Plan. The target audience for the workshop includes state–federal–tribal fish and wildlife agency personnel, industry biologists and representatives, conservationists, taxonomic experts, academics, and policymakers. In preparation for the workshop, attendees are encouraged to review the current species of greatest conservation need list, species conservation status assessments, and selection criteria at <https://idfg.idaho.gov/swap>.



Tuesday Morning

Workshops

08:00-12:00 **Human Dimensions (Idaho Room) (Presenter: KENNY WALLEN)**

What is this thing called human dimensions? Human Dimensions 101 symposium will help answer that question by introducing HD's many faces and scientific approaches. The symposium will consist of an (1) introduction to the human sciences that help constitute HD, (2) an HD expert panel that will discuss specific approaches to conservation, (3) case studies of HD application in Idaho, and (4) an interactive research development clinic with HD experts. The purpose of the workshop is to provide a platform for natural resource professionals—in and out of the HD field—to interact in a way that facilitates mutual understanding of the types of questions being asked, the techniques used to answer those questions, and how both are useful to applied, problem-solving focused management.

08:00-12:00 **North American Non-Lead Partnership: Non-lead Ammunition Ballistics Testing and Communications Workshop – It's More than the Science (Empire Room)**
(Presenter: LELAND BROWN & CHRIS PARISH)

Whether an experienced hunter or non-hunter, the content of this class will illustrate the importance of understanding the options available to those who choose to pursue wildlife with firearms. The process of choosing hunting ammunition involves a suite of variables, including tradition, ballistics, availability, and price. How we choose to address these variables when engaging with the hunting public in meaningful conversation has direct correlation to success. This workshop will inform wildlife professionals of the complex ecological, economic, social, and political issues pertaining to the use of lead hunting ammunition in North America. This workshop will help biologists, managers, and policy makers interact with hunters and interest groups/stakeholders in fostering balanced consideration of the technical and scientific issues implicit to any discussion about non-lead/lead hunting ammunition. Participants will spend the morning in the classroom section and then off to a designated shooting range.

10:15-10:45 **BREAK**

12:00-13:00 **Lunch on your own**



Tuesday Afternoon & Evening

Workshops

13:00-17:00 Climate Connect (Idaho Room) (Presenter: LEONA SVANCARA)

Managing wildlife during climate change may take many forms but will have one constant: the most effective solutions will come from working together. The first step toward working together is finding collaborators. This session will focus on connecting practitioners from intersecting disciplines through formal presentations followed by fun structured small group activities designed to foster networking and collaboration. Come share your climate change and wildlife stories, discover what's happening in other parts of the state, listen to what people are doing about it and learn about tools that you can use in your work.

13:00-17:00 Student Success Workshop (Empire Room) (Presenters: CHLOE BEALL)

This workshop is geared primarily toward undergraduate students and will focus on important skills for success as an undergraduate member of a student chapter of TWS, applying to and being in grad school, applying for jobs, and being a new professional. It will include a discussion of ideas for improving student chapters, a Q&A about graduate school, help with resumes and interviews, and an introduction to R.

15:00-15:20 BREAK

16:00-18:00 University of Idaho Alumni & Friends Social (Silver/Gold Room)

18:00-22:00 Welcome Social & Student Mixer (Silver/Gold Room)



Wednesday Morning

8:00-17:00 **Photo Contest (Hallway)**

Plenary Session (Empire/University Room)

08:00-08:15 **Welcome** by Andrew Mackey (President, ICTWS)

08:15-08:45 **Will Whelan**
Idaho Coalition of Land Trusts
Executive Director

08:45-09:15 **Michael Whitfield**
Heart of the Rockies Initiative
Executive Director (Retired)

09:15-09:45 **Trisha Cracroft**
Natural Resources Conservation Service
State Biologist

09:45-10:15 **Martha Wackenhut**
Idaho Department of Fish and Game
Assistant Wildlife Bureau Chief

10:15-10:45 BREAK

10:45-12:00 Questions and Panel Discussion

12:00-14:00 **Idaho Chapter of The Wildlife Society Business Lunch (Silver Room)**
(Lunch on your own if you are not attending)



Wednesday Morning Plenary

Plenary Session Invited Speaker Biographies

Will Whelan - is Executive Director of the Idaho Coalition of Land Trusts. Will joined ICOLT as executive director in January 2019 after a more than 30-year career as a conservationist and natural resources lawyer in Idaho. Before ICOLT, Will worked for nearly twenty years with The Nature Conservancy, where he led the Idaho Chapter's public policy and advocacy work. Will started his career with the Idaho Attorney Generals Office, specializing in salmon, energy and water issues. In his spare time, he also taught courses in environmental law and policy at Boise State University. Will has degrees from Yale University and University of Oregon School of Law. He likes to spend as much as time he can exploring Idaho's backcountry and wild rivers. He is married to Mary Beth Whitaker and lives in Boise.

Mike Whitfield - recently retired after 10 years as Executive Director of the Heart of the Rockies Initiative, a partnership of 23 land trusts in the U.S. Northern Rockies and southern Canada. In that role he led numerous collaborative landscape conservation projects that use landscape connectivity science to inform on-the-ground conservation. Notable among these is the High Divide Collaborative that Michael has led since its founding in 2012. He was a founding member of the Coordinating Committee for the Great Northern Landscape Conservation Cooperative, and served as a founding Commissioner on the national Land Trust Accreditation Commission. During his diverse career he also served as founding Board President and Executive Director of the Teton Regional Land Trust, taught university-level courses in wildland ecology, was a U.S. Forest Service biologist and wildland recreation manager, and conducted research on bighorn sheep, bald eagles, great gray owls and other birds of prey. Michael continues to serve on the Coordinating committees of the national Network for Landscape Conservation and conduct research for the Northern Rockies Conservation Cooperative. He is a past recipient of the Craighead Conservation Award, the Wilburforce Foundation's Conservation Leadership Award, the Land Trust Alliance's Kingsbury Browne Conservation Leadership Award, and the Kingsbury Browne Fellowship at the Lincoln Institute of Land Policy. Michael holds degrees from the University of Utah, Idaho State University, and Montana State University, and is also a fourth generation Idaho native from Teton Valley that has been engaged in his local community in many volunteer capacities.

Trisha Cracroft - graduated from Utah State University with a Fisheries and Wildlife degree in 2001. Trisha has been working in the pacific northwest and arid west promoting conservation for the past 20 years. During this time she has collaborated with numerous NGO, local, state and federal partners to address natural resource issues, conserve sensitive landscapes, and restore wetlands. Trisha started working for NRCS in 2005 in Flathead County, Montana as a soil conservation technician, has worked as a soil conservationist in Montana and Utah, and as a district conservationist in Montana. Trisha has been the Idaho State Biologist since 2014, where she serves as the jack of all trades with an emphasis on biology, environmental compliance, and conservation planning. When Trisha is not working, she enjoys being out side with her husband Warren, son Waylon, and their dog Molly Brown.

Martha Wackenhut - is the Idaho Department of Fish and Game Assistant Wildlife Bureau Chief. Martha has 23 years of experience with the Department in a variety of positions including: Landowner/Sportsmen Coordinator, Habitat Biologist, Diversity Biologist, Regional Wildlife Manager, and Habitat Program Coordinator. She received a Bachelor's Degree from Colorado State University and a Master's Degree from Idaho State University working on bats. She served for several years on the Sagebrush Steppe Land Trust Board, and is also a past Treasurer of the Idaho Chapter of The Wildlife Society.



Wednesday Afternoon

*Names of presenters are capitalized; those presenters with an * are students*

14:00-15:00 **University of Idaho Fish & Wildlife Film Festival Screening (Empire/University Room)**

Ecology and Conservation of Birds (Chair: Jay Carlisle) (Palouse Room)

- 14:00-14:20 **A Tale of Three Understories: Upland Avian Communities Differ by Degree of Crested Wheatgrass Invasion of Sage-Steppe Habitat.** ANDREA KRISTOF
- 14:20-14:40 **Removing Juniper in the Sagebrush Ecosystem: Testing the Relationship Between Juniper and Avian Predators.** AARON YOUNG*
- 14:40-15:00 **Breeding Ecology and Habitat Suitability of Ferruginous Hawks (*Buteo regalis*) in Southern Idaho.** STEVE ALSUP
- 15:00-15:20 **BREAK**
- 15:20-15:40 **Idaho Expansion of the Motus Wildlife Tracking System.** WILLIAM BLAKE
- 15:40-16:00 **Idaho's Importance to Migrating and Wintering Rough-Legged Hawks Based on GPS Tracking Data.** NEIL PAPROCKI*
- 16:00-16:20 **Migration Behavior of Western Burrowing Owls throughout North America.** COURTNEY CONWAY
- 16:20-16:40 **Abundance and Nesting Success of Prairie Falcons (*Falco mexicanus*) in the Morley Nelson Snake River Birds of Prey National Conservation Area.** STEVE ALSUP
- 16:40-17:00 **Wetland Dynamics and Conservation Across the Intermountain West: Relationships with White-Faced Ibis (*Plegadis chichi*).** SHEA COONS*

Wednesday Afternoon & Evening

*Names of presenters are capitalized; those presenters with an * are students*

Carnivore Landscape Ecology (Chair: Matt Nelson) (Idaho/Washington Room)

- 15:20-15:40 **Finding Fishers: Determining Drivers of Fisher Distribution in the Northern Rocky Mountains.** JESS KROHNER*
- 15:40-16:00 **Climatic Constraints on Energy Balance, Behavior and Spatial Distribution of Grizzly Bears.** SAVANNAH ROGERS*
- 16:00-16:20 **Evaluating Genetic Structure of Wolverines in Arctic and Subarctic Alaska: Populations on a Changing Landscape.** ELISE STACY*
- 16:20-16:40 **Cougar and Bobcat Abundance, Movement and Occupancy in the Lower Elwha Klallam Tribe's Historic Use Area.** CAMERON MACIAS*
- 16:40-17:00 **Carnivore Contact: A Species Fracture Zone Delineated Amongst Highly Genetically Structured North American Marten Populations (*Martes americana* and *Martes caurina*).** MICHAEL LUCID
- 18:00-22:00 **Poster Session & Social (Silver/Gold Room)**
- 20:00-22:00 **Backcountry Hunters and Anglers Film Festival Screening (Palouse Room)**

Wednesday Evening Poster Session

*Names of presenters are capitalized; those presenters with an * are students*

1. **Columbia Basin Pygmy Rabbit Winter Field Sampling and Genetic Monitoring.** CHLOE BEALL*
2. **Exploring Methodologies on how to Analyze Avian Bioacoustic Recordings in the Tropical Dry Forest in Ecuador.** VERONICA BRIDGES*
3. **Reducing the Impact of Common Ravens on Greater Sage-Grouse Through Egg-Oiling.** CORINA SANCHEZ*
4. **Phenological and Morphological Variation Among Western Showy Milkweed (*Asclepias speciosa*).** MIA CINELLO-SMITH*
5. **Effects of Habitat Restoration on Density and Habitat Selection of Sitka Black-Tailed Deer in the Tongass National Forest, Southeast Alaska.** LYDIA DRUIN*
6. **Use of Global Positioning System Collars to Assess the Impact of Livestock Grazing on the Greater Sage-Grouse.** TAYLOR FLETCHER*
7. **Wildlife Winners and Losers in a Changing World: Disentangling the Effects of Landscape Disturbance and Community Interactions on Mule Deer Behavior and Habitat Selection.** SAM FOSTER*
8. **Effectiveness of Aerial and Plug Seeding for Big Sagebrush (*Artemisia tridentata*) After the Henry's Creek Fire.** JESSICA CALL*, JOSEPH GALANTI*, and AMBER JOHNSON*
9. **Evaluating Genetic Diversity and Distinctiveness of Northern and Southern Ground Squirrel Populations Using Adaptive and Neutral Loci.** MOLLY GARRETT*
10. **Migratory Trumpeter Swan Habitat Selection Around Rexburg, Idaho.** KEEGAN HAMMOND*
11. **Noisy Nights in East Idaho: A Bat Community Inventory at Camas National Wildlife Refuge.** ANDREA KRISTOF
12. **Optimization of Nuclear DNA microsatellite loci for individual identification of Bison from Grand Canyon National Park.** DORAH MTUI
13. **Resource responses in Greater sage-grouse (*Centrocercus urophasianus*) brood-rearing habitat to livestock grazing.** KENNETH RANDALL*
14. **Investigation of Beaver Demographics in Sagebrush Systems of Eastern Idaho and Southwestern Montana to Inform Beaver Translocations and Harvest Management.** JESSIE ROUGHGARDEN
15. **Understanding Region-Specific Habitat Use by Comparing Species Distribution Models for Pygmy Rabbits.** LINDSEY RUSH*
16. **Evaluating the Influence of Land Cover Classification on Nest Site Selection, Productivity, and Reproductive Success of American Kestrels (*Falco sparverius*).** ZACHARY SANCHEZ*
17. **Landscape Features Affecting Neotropical Otter Presence and Future Genetic Studies to Understand its Dispersal Patterns in Costa Rica.** MANUEL SANTIAGO-PLATA*

Wednesday Evening Poster Session

*Names of presenters are capitalized; those presenters with an * are students*

18. **Bilateral Asymmetry in Gonadal Testosterone Concentration in Birds.** JEREMY STARKEY*
19. **Inventory and Monitoring of Bat Maternity Colonies on Craters of the Moon National Monument and Preserve and Surrounding Area (What We Learned in Year 1).** MAURO HERNANDEZ
20. **A Review of the Role of Acoustics in the Behavior and Ecology of Terrestrial Mammals.** RACHEL STEIN*
21. **Seeing the Forest Without the Trees: How Lidar-Derived Canopy Gaps Can Inform Snag Modeling and Provide Value to Wildlife.** JESSICA STITT*
22. **Is Individual Trophic Niche Width Determined by State-Dependent Behaviors in a Large Herbivore?** R.H. WALKER*
24. **Summer Entry by Humans into Bat Roosts in the Sand Creek Desert.** BETHANIE TWEDE*
25. **Community Driven Habitat Restoration on an Urban River Corridor: Results from Year 1.** AARON CONNOLLY*
26. **Procedures for Identifying and Estimating Mule Deer Migration in Southern Idaho.** SCOTT BERGEN
27. **Noninvasive Genetic Tracking of the Reintroduction of Pygmy Rabbits into Chester Butte and Beezley Hills WA.** BENJAMIN NANCE*, SAMANTHA SCHNEIDER*
28. **Investigating the Distribution of the Smooth-Coated Otter (*Lutrogale perspicillata*) Using Environmental DNA.** ALEXANDRA KAHLER*
29. **Digital Imaging of Amphibian and Reptile Specimens at the Idaho Museum of Natural History.** AUSTIN YOUNG*

Thursday Morning

*Names of presenters are capitalized; those presenters with an * are students*

08:00-15:00 **Photo Contest**

Population Dynamics and Habitat Use: Birds (Chair: Neil Paprocki) (Palouse Room)

- 08:00-08:20 **Spatio-Temporal Patterns in Assimilated Diets in Nestlings of a Generalist Avian Predator, the Common Raven.** SETH HARJU
- 08:20-08:40 **Use of Integrated Population Models (IPMs) Improves Population Estimates in a Species Reintroduction Project.** STEVEN MATHEWS*
- 08:40-09:00 **Effect of Translocation on Reversing Population Decline and Extinction Probability of an Imperiled Subpopulation of Greater Sage-Grouse.** MARY MEYERPETER*
- 09:00-09:20 **Fidelity and Movements of Female Greater Sage-Grouse (*Centrocercus urophasianus*) During Breeding Season.** DREW RETHERFORD*
- 09:20-09:40 **Nest-Site Characteristics of the Hawaiian Coot ('ALAE KE' OKE'O; *Fulica alai*) at Kealia Pond National Wildlife Refuge, Maui, Hawaii.** KASSANDRA TOWNSEND*
- 09:40-10:00 **Thermal Ecology of Trumpeter Swan (*Cygnus buccinator*) Incubation.** PAIGE MILLER*

Wildlife Management (Chair: Lisa Shipley) (Idaho/Washington Room)

- 08:00-08:20 **The Journey of the Bitterroot Grizzly Bear.** STEVE NADEAU
- 08:20-08:40 **Bighorn Sheep in Central Idaho: Past, Present, and Future.** BRET STANSBERRY
- 08:40-09:00 **Implementation of Idaho's Action Plan for Secretarial Order 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.** FRANK EDELMANN
- 09:00-09:20 **Habitat Selection of White-Tailed Deer: Can We Reduce Crop Depredations in Northern Idaho?** KAYTE GROTH*
- 09:20-09:40 **Modifying Elk Behavior to Reduce Agriculture Crop Damage.** JOHN GUTHRIE*
- 09:40-10:00 **Effects of Human Recreational Trail Networks on Wildlife Distribution in a Western Forest.** JONATHAN DUDKO*
- 10:00-10:20 BREAK**

Thursday Morning

*Names of presenters are capitalized; those presenters with an * are students*

Habitat Management (Chair: Ryan Walrath) (Gold Room)

- | | |
|-------------|--|
| 8:00-8:20 | Statewide Summary of Riparian Improvement Projects Utilizing Process Based Restoration Techniques. CORY MOSBY |
| 8:20-8:40 | A Novel Stream Restoration Monitoring Approach in a Post-Fire Setting. SCOTT SHAHVERDIAN and JOSH WHITE |
| 8:40-9:00 | Too Much of a Good Thing: Reducing Robust Emergent Vegetation for Wildlife Benefit on the Rainbow Unit of Bear Lake National Wildlife Refuge. BEN WISHNEK |
| 9:00-9:20 | How a State-and-Transition Model Can Improve Wetland Management. ADONIA HENRY |
| 9:20-9:40 | Effects of Post-Fire Bacterial and Chemical Treatment of Invasive Annual Grasses on Tex Creek Wildlife Management Area. RYAN WALKER |
| 9:40-10:00 | After the Soda Fire: What Have We Learned and How Can We Apply it in the Future. MATTHEW GERMINO and JASON PYRON |
| 10:00-10:20 | BREAK |

Thursday Morning

*Names of presenters are capitalized; those presenters with an * are students*

Habitat Ecology (Chair: Rachel Stein) (Palouse Room)

- 10:20-10:40 **Viewshed Analyses: Including Visibility as a Property of Wildlife Habitat.** JANET RACHLOW
- 10:40-11:00 **Multi-Scale Habitat Selection of Pygmy Rabbits (*Brachylagus idahoensis*) Reveals Differential Selection of Food and Security.** PETER OLSOY*
- 11:00-11:20 **Evaluating the Potential Impacts of Reintroduced Plains Bison Contained in a Soft-Release Pasture in Banff National Park.** LORINA KEERY*
- 11:20-11:40 **Linking Plant Phenology and Nutrition to Mule Deer Vital Rates.** MARK HURLEY
- 11:40-12:00 **A Comparison of the Fundamental Nutritional Niches of Mule (*Odocoileus hemionus*) and White-Tailed Deer (*Odocoileus virginianus*).** ANNA STAUDENMAIER*

Wildlife Ecology (Chair: Courtney Conway) (Idaho/Washington Room)

- 10:20-10:40 **Monogamy; It's complicated. Breeding strategies in gray wolves.** DAVID AUSBAND
- 10:40-11:00 **Bighorn Ewe Infection Status is Key to Understanding and Managing Pneumonia in Lambs.** FRANCES CASSIRER
- 11:00-11:20 **Activity Patterns and Foraging Behavior of American Pikas (*Ochotona princeps*) Differs Between Craters of the Moon and Alpine Talus in Idaho.** LISA SHIPLEY
- 11:20-11:40 **Genomic Assessment of Pygmy Rabbit Populations Including the Endangered Columbia Basin Pygmy Rabbit (*Brachylagus idahoensis*).** STACY NERKOSWIKI*
- 11:40-12:00 **Why Have Population Cycles in Greater Sage-Grouse in the Snake River Plains Disappeared While Populations Fell Precipitously in Abundance?** OZ GARTON
- 12:00-13:40 **LUNCH (on your own)**

Thursday Afternoon

*Names of presenters are capitalized; those presenters with an * are students*

Methodology (Chair: Jocelyn Aycrigg) (Palouse Room)

- 13:40-14:00 **Can We Estimate Neonate Survival with Remote Cameras? Yes We Can!** JON HORNE
- 14:00-14:20 **Can AI Help Relieve the Workload of Camera Trap Images?** AMANDA CARR
- 14:20-14:40 **Using Crowdsourced Data for Evaluating Species Status and Trends.** CHARLES PETERSON
- 14:40-15:00 **Non-Target Avoidance; How Diverters on Wolf Snares Affect Non-Target Capture Rates of Elk and White-tailed Deer.** SHAWN SZABO

Ignite (Chair: Morgan Pfander) (Idaho/Washington Room)

- 13:40-13:47 **Aligning Grazing to Benefit Fish and Wildlife.** JASON BECK
- 13:47-13:54 **Behind the Bulrush: The First Two Hundred Days of Swan Tracking in the Greater Yellowstone.** ANDREA KRISTOF
- 13:54-14:01 **Forging Alliances in a Box Checking World.** ANNA OWSIAK
- 14:01-14:08 **High Intensity Winter Grazing as a Tool for WMA Vegetation Management.** MARIA PACIORETTY
- 14:08-14:22 **Idaho's Moose Management Plan.** JOSH RYDALCH
- 14:22-14:29 **CRP-SAFE and Columbian Sharp-tailed Grouse in SE Idaho.** ERIK BARTHOLOMEW
- 14:29-14:36 **Where's Your Aspen?** BRANDI FELTS
- 14:36-14:43 **Methods for Estimating Mountain Goat Abundance.** MOLLY MCDEVITT*
- 15:00-15:20 **BREAK**

Thursday Afternoon & Evening

*Names of presenters are capitalized; those presenters with an * are students*

Population Dynamics and Habitat Use: Mammals (Chair: Kaitlyn Strickfaden) (Palouse Room)

- 15:20-15:40 **The Importance of Environmental Variability to Population Dynamics for a Long-Lived Northern Ungulate.** SOPHIE GILBERT
- 15:40-16:00 **Mapping Mule Deer Migrations: An Update on Idaho's Approaches and Results.** JODI BERG
- 16:00-16:20 **Deconstructing Ungulate Migrations in Idaho: Does Empirical Location Data Support Population Stopover Delineations?** SCOTT BERGEN
- 16:20-16:40 **Linking Nutrition to Behavior and Lamb Survival of Bighorn Sheep.** NICOLE BILODEAU*
- 16:40-17:00 **California Bighorn Sheep Disease Monitoring, Survival, and Habitat Use in Owyhee River Wilderness, Owyhee County, Idaho.** RACHEL CURTIS

Biodiversity Monitoring and Conservation (Chair: Rita Dixon) (Idaho/Washington Room)

- 15:20-15:40 **The Challenges of Managing Conservation-Reliant Species.** J. MICHAEL SCOTT
- 15:40-16:00 **The Search for Idaho's Hidden Gems: Alpine Species of Greatest Conservation Need.** TEMPE REGAN
- 16:00-16:20 **Impact of Chytrid Fungus Pathogen on Skin Microbiome of Columbia Spotted Frogs in Northern Idaho.** PHILIP CAMPOS*
- 16:20-16:40 **Distribution, Density, and Habitat Use of the Saint Anthony Dunes Tiger Beetle.** NOELLE ZENGER*
- 16:40-17:00 **Inventory and Monitoring of Bat Maternity Colonies on Craters of the Moon National Monument and Preserve and Surrounding Area (What We Learned in Year 1).** MAURO HERNANDEZ and TODD STEFANIC
- 18:30-22:00 **Banquet, Awards, Silent Auction, and Raffle (Empire/University/Palouse Room)**





Tips for Success

This simple table below helps show the differences between a “Boss” and a “Leader”. It has been adapted from various online sources (listed below). There are times when our actions and responses fall within the Boss column, but that doesn’t necessarily make you a Boss. Self-awareness of these actions however, will help to improve on those areas where we are lacking and help us become better leaders!

This list was compiled from several online leadership companies and universities that strive to improve leadership within teams and employers.

www.volarisgroup.com; www.intelivate.com; www.alvernia.edu

Boss	Leader
A know it all.	Always willing to learn.
Talks more than they listen.	Listens more than they talk.
Gives answers.	Seeks solutions.
Criticizes.	Encourages.
Point out weaknesses.	Recognizes natural gifts.
Directs.	Coaches.
Defends their ego.	Reveals vulnerability.
Focuses on themselves.	Focuses on the team.
Puts blame on others.	Takes responsibility.
Demands results.	Inspires performance.
Impersonal.	Compassionate.
Says “I”.	Says “we”.
Uses people.	Develops people.
Inspires fear.	Earns respect.
Takes credit.	Gives credit.
Micromanages.	Delegates.
Thinks short term.	Thinks long term.
Is your boss.	Is your colleague.
Focused on process.	Focused on people.





Leadership Resources and Opportunities

The Wildlife Society Leadership Institute

The Leadership Institute is an annual course established in 2006 to provide a select group of 10-15 promising TWS members with leadership training. The Leadership Institute consists of intensive activities and mentoring relationships that prepare participants for leadership positions, both in their workplace and in TWS. <http://wildlife.org/next-generation/leadership-institute/>

The National Conservation Leadership Institute

The NCLI successfully defies the ordinary, acting to preserve the legacy of our natural resources by developing extraordinary conservation leadership. The unique curriculum challenges assumptions, piques critical thinking, fosters high-trust relationships, and strengthens confidence. <https://www.conservationleadership.org/>

Idaho Certified Public Manager Program

Gain skills to meet the challenges and unique demands of public management. CPM is a nationally recognized training and development program administered through Idaho's Division of Human Resources with sponsorship from Boise State University, Department of Public Policy & Administration. <https://cpm.idaho.gov/index.html>

Leadership Idaho Agriculture

Leadership Idaho Agriculture is recognized as a premier leadership development program in the state of Idaho. LIA is the only leadership organization in Idaho that works to directly cultivate leaders in agriculture - the state's biggest and most influential industry. Since 1985, LIA has been offering a concentrated, hands-on learning experience to enhance and build leadership qualities, while developing advocates for agriculture and rural communities who will serve as a voice for the industry for generations to come. <https://www.leadershipidahoag.org/>

Other Resources for Training and Leadership Growth

U.S. Fish and Wildlife Training Center. <https://training.fws.gov/>

The Wildlife Society Certified Wildlife Biologist Application. <http://wildlife.org/learn/professional-development-certification/certification-programs/>

Idaho Division of Human Resources: Crucial Conversations. <https://dhr.idaho.gov/Training/CrucialConversations.html>

Idaho Division of Human Resources: Crucial Accountability. <https://dhr.idaho.gov/Training/CrucialAccountability.html>





Notes





Notes

