"Wildlife Careers in Focus: Diverse Paths, Shared Purpose" 18-20 March 2025 Best Western Plus Moscow



PROGRAM

2025 Conference Sponsors

We wish to thank all of the organizations and businesses for sponsoring the 2025 Conference.

Grizzly Bear (\$1,999 or more)





Mule Deer (\$1,000-\$1,999)





























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2025 Conference Sponsors

We wish to thank all of the organizations and businesses for sponsoring the 2024 Conference.

Sage-grouse (\$500-\$999)







Department of Fish and Wildlife Sciences

Prairie Rattlesnake (\$225-\$499)









2025 Associated Meetings

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



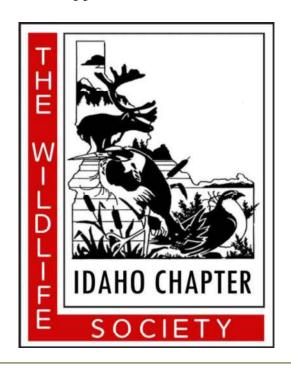




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Meeting Introduction and Host City



Meeting Introduction

The Idaho Chapter of The Wildlife Society annual meeting is March 18-20 2025 in Moscow, Idaho. This year's conference offers a diverse scientific program with a plenary session, workshops, contributed oral and poster presentations, social, banquet, student activities including breakfast with a biologist, and the annual business meeting.

Host City — Moscow, Idaho

Welcome to Moscow! With about 26,387 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:

•

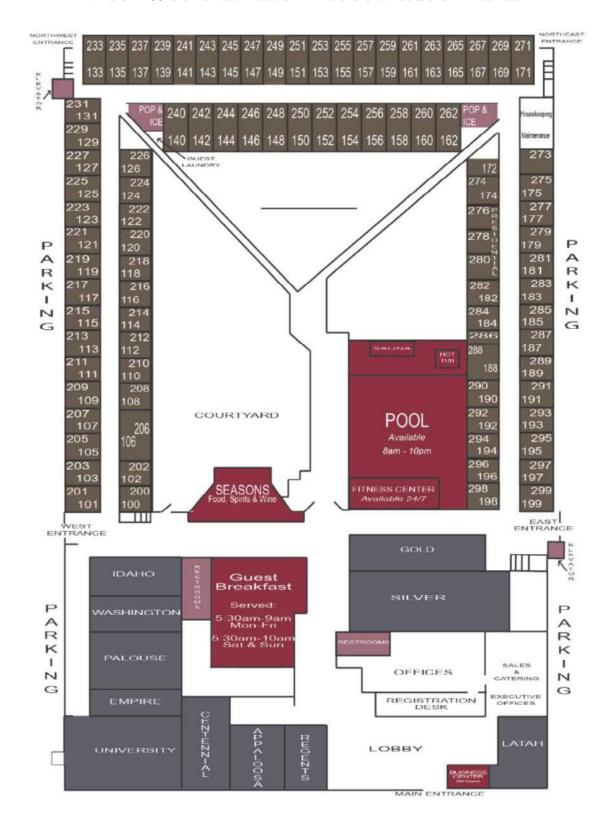
- Idaho Birding Trail— https://idfg.idaho.gov/ibt
- Palouse Recreation Trail system—Bill Chipman Trail (https://www.traillink.com/trail/bill-chipman -palouse-trail), Paradise Path (https://www.traillink.com/trail/paradise-path/), and Latah Trail (https://latahtrail.org)
- UI Arboretum and Botanical Gardens (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://latahcountyhistoricalsociety.org/museum)
- 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/).

Best Western Plus Moscow Floor Plan



Free Parking On Site



Registration and Logistics

Registration fees include admission to all oral sessions, poster session, coffee breaks, social activities, and a complimentary meeting gift (while supplies last).

Registration Fees:

| \$350 | Full registration |
|-------------|--|
| \$400 | Full registration for professional non-members |
| \$175 | Retiree |
| \$ O | ICTWS member student presenter/student volunteer |
| \$50 | ICTWS member student registration |
| \$20 | Workshop registration |
| \$175 | One day registration |
| \$85 | Extra banquet ticket |
| \$400 | Late full registration |
| \$75 | Late full student registration |
| \$5 | ICTWS student membership fee |
| \$15 | ICTWS professional membership fee |
| | |

The registration desk will be open at the following times:

| Tuesday | 18 March | 07:00-09:00, 12:00-13:30, 17:00-18:00 |
|-----------|----------|---------------------------------------|
| Wednesday | 19 March | 07:00-09:00, 12:00-13:30, 17:00-18:00 |
| Thursday | 20 March | 07:00-09:00 12:00-14:00 |

Message board available near the registration desk

Conference Contact

Miranda Reinson—miranda.reinson@idfg.idaho.gov—908-285-6779 Christina Contreras—vp.ictws@gmail.com—208-309-3054

Executive Board & Conference Organizing Committee

Michelle Kemner President Miranda Reinson President-Elect Christina Contreras Vice-President **Robert Ritson** Secretary Matt Boone Treasurer Morgan Pfander Past-President Jessica Patterson Member At-Large

Andrea Kristof



Conference Logo Design by Emma Regnier, Science illustrator and Wildlife Biologist, Boise State University



Additional Sponsorship



Auction and Raffle Item Donors

We wish to thank the following individuals, businesses and organizations that supported the 2025 Conference with supplies, auction and/or raffle items:

The Archives of Falconry Idaho Grimm Growers Tom Hemker
Anna Owsiak Jimmy's All Season Angler True Woodworks

Anonymous Kenetrek Vortex
Bogus Basin Klymit Zoo Boise
CAL Ranch Kuiu Zoo Idaho

Denzel Smith Nalu's Garden

Edson Fichter Family/IDFG Petco

Erin Roche Rep Your Water

First Lite SE Idaho Master Naturalists

Hook's Landing RV Resort Snake River Fly ICTWS Thomas Jay Oord

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

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, or conservation education; or the wildlife profession; or to a specific 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.



Manager of the Wildlife Society Manager of the Wildlife Society

2025 Conference Contributors

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

We would also 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 (Chair)

Awards Committee

Ryan Long (Chair), Tempe Regan, Lindsey Rush, Jen Forbey, Laura Wolf

Conservation Affairs Committee

Brianna Lords (Chair), Scott Bergen, Job Schafer, Brenna Olson, Natalie Turley, Tala Davis Education and Outreach Committee

Maria Pacioretty (Chair), Sam Spaulding, Houston Kimes, Jamie Utz, Brandon Flack, Deo Lachman, Morgan Calahan

Fundraising Committee

Jason Beck (Chair), Josh Rydalch, Maria Pacioretty, Steve Dempsky, Jess Krohner

Grant Review Committee

Laura Wolf (Chair), Sandy Amdor, Toni Holthuijzen

Membership Committee

Sandy Amdor (Chair), Lisa Nutt, Robert Ritson, Bri Lubenau, Toni Holthuijzen, Morgan Calahan

Nominating and Elections Committee

Charlie Henderson (Chair), Tempe Regan, Tara Ball

Paper/Poster Judging Committee

Laura Wolf (Chair), Janet Rachlow, Tempe Regan, David Bush, Erik Bartholomew, and all of the paper/poster judges

Scholarships Committee

Robert Akins (Chair), Matt Mumma, Duston Cureton, Barb Moore, Toni Holthuijzen, Krista Biorn

Sponsorship Committee

Ryan Walker (Chair), Matt Mumma, Robert Ritson, Casey McCormack

Student Affairs Committee

Kat Peterson (Chair), Janet Rachlow, Matt Brady, Day Scott, Andrea Kristof, Brianna Lords, Rachel Stein, Hailey Walker, Dana Duran







Program At a Glance

| Tuesday 18 March 202 | 25 |
|------------------------|--|
| Registration Desk Open | n: 07:00-09:00; 12:00-13:30; 17:00-18:00—LATAH CONFERENCE ROOM |
| Time | Workshops (Coffee Breaks at 10:15 & 15:00) |
| 09:00-12:00 | Data wrangling in R with <i>tidyverse</i> —Presenter: Simona Picardi, University of Idaho (All Day) Idaho Conference Room |
| 09:00-12:00 | Habitat Selection Analyses in R—Presenter: Brian Smith, Utah State University (All Day) Gold Conference Room *attendees must have previous experience in R to attend |
| 09:00-12:00 | Human Dimensions of Wildlife Management Foundations—Presenter: Kenneth Wallen and Kerrik Robinson, University of Idaho (All Day) Palouse Conference Room |
| 09:00-12:00 | Science Communications—Presenter Katherine Strickler, Washington State University (All Day) Washington Conference Room |
| 08:00-12:00 | Bat Working Group—Rita Dixon (Half Day) Empire Conference Room |
| 12:00-13:00 | LUNCH ON YOUR OWN |
| 13:00-17:00 | Data wrangling in R with <i>tidyverse</i> —Presenter: Simona Picardi, University of Idaho (All Day) Idaho Conference Room |
| 13:00-17:00 | Habitat Selection Analyses in R—Presenter: Brian Smith, Utah State University (All Day) Gold Conference Room *attendees must have previous experience in R to attend |
| 13:00-17:00 | Human Dimensions of Wildlife Management Foundations—Presenter: Kenneth Wallen and Kerrik Robinson, University of Idaho (All Day) Palouse Conference Room |
| 13:00-17:00 | Science Communications—Presenter Katherine Strickler, Washington State University (All Day) Washington Conference Room |
| 14:00-17:30 | Northwest Partners in Amphibian and Reptile Conservation Meeting—Charles Peterson (Half Day) Empire Conference Room |
| 18:00-21:00 | Poster Session/Opening Reception—Gold/Silver Conference Room |
| Wednesday 19 March | 2025 |
| Registration Desk Open | n: 07:00-09:00; 12:00-13:30; 17:00-18:00 |
| Time | Plenary— University Conference Room |
| 08:30-08:45 | Welcome Address: Michelle Kemner—ICTWS President |
| | Introduction: Miranda Reinson—ICTWS President-Elect |
| 08:45-12:00 | Plenary Session: "Wildlife Careers In Focus: Diverse Paths, Shared Purpose" |
| 10:05-10:25 | BREAK*** |
| 11:05-12:00 | Plenary Discussion |
| 12:00-14:00 | LUNCH ON YOUR OWN |
| 14:00-15:20 | Contributed Papers: Idaho/Palouse Conference Room |
| 15:20-15:40 | BREAK*** |
| 15:40-17:00 | Contributed Papers: Idaho/Palouse Conference Room |
| 17:30-21:00 | Backcountry Hunters and Anglers Film Festival/Student Mentoring Reception (University) |

***All break refreshments and sponsorship tables will be hosted in the Centennial Conference Room



Program At a Glance Continued

| Thursday 20 March 2025 | |
|-------------------------|---|
| Registration Desk Open: | 07:00-09:00, 12:00-14:00—LATAH CONFERENCE ROOM |
| 07:30-09:00 | BREAKFAST WITH A BIOLOGIST—Silver Conference Room |
| 09:00-10:20 | Contributed Papers/Special Sessions (Morning Session) - Idaho/Palouse Conference Room |
| 10:20-10:40 | BREAK*** |
| 10:40-12:00 | Contributed Papers/Special Sessions (Morning Session) - Idaho/Palouse Conference Room |
| 12:00-14:00 | ICTWS BUSINESS LUNCH—Silver Room |
| 12:00-14:00 | Lunch on Your Own (if not attending Business Lunch) |
| 14:00-17:00 | Contributed Papers (Afternoon Session) - Idaho/Palouse Conference Room |
| 15:20-15:40 | BREAK*** |
| 17:30-21:00 | Banquet/Fundraiser/Award Ceremony—University Conference Room |
| Friday 21 March 2025 | No Events Scheduled—Thank you for coming, safe travels home! |

^{***}All break refreshments and sponsorship tables will be hosted in the Centennial Conference Room





Attendee and Presenter Information



Locations

All conference activities and associated meetings will be held in the following Rooms: University, Empire, Palouse, Washington, Idaho, Gold, Silver. See pages 11-12 "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). 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 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.

Posters

The poster session will be held concurrent with the social on the evening of Tuesday March 18th in the Gold/Silver Conference Room. Poster displays should be set up Tuesday afternoon 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 21:00 on Tuesday evening. Posters must be removed after the social.

Photo Contest

A QR code will be available at the meeting to vote for your favorite photo. Please submit photos to morgan.pfander@idfg.idaho.gov by 3/17/2025!

Banquet

The banquet is a time for socializing, honoring your peers, and raising funds to keep registration costs affordable for students.

Exhibitors

Exhibitor tables will be set up in the Centennial Conference room throughout the conference.

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



Tuesday Workshops

Workshops Breaks at 10:30 and 15:00

Lunch on your own 12:00-13:00

09:00-17:00 Data wrangling with tidyverse—Presenter: Simona Picardi, University of Idaho

(All Day); Location: Idaho Conference Room

Data analysts spend 80% of their time cleaning data. Getting to the point of fitting a fancy model requires going through the much less glamorous process of turning messy data into tidy data. But how do you get from a tangle of inconsistently formatted fields and missing values to a clean and computer-readable table? And once you have that, how do you get to know the content of that table, quickly answering questions such as, "how many records do we have for each sampling group?" or "how much variation exists around the mean value for a variable of interest?" Doing this with code rather than by pointing and clicking in Excel speeds up the process and leaves you with a reproducible record of your data cleaning and exploration process. Enter the tidyverse: an "opinionated" set of R packages designed to make the process of cleaning and wrangling data as smooth as possible. In this workshop, you will learn to use functions from the tidyverse packages to make a messy dataset tidy, easily produce exploratory summaries, and create beautiful visualizations. Any prior experience with R will be beneficial, but it is not required.

09:00-17:00 Habitat Selection Analyses in R—Presenter: Brian Smith, Utah State University (All Day) Location: Gold Conference Room

Most wildlife biologists would agree that habitat is one of the most critical aspects of wildlife management. Measuring and predicting habitat selection is thus critical to managing and understanding wildlife, but unfortunately, the existing literature on habitat selection analyses is full of contradictory and confusing approaches. In this workshop, we'll cover the basics of modern habitat selection analyses, addressing many of the most common misconceptions. What is selection? What are the types of models available for measuring selection? Do I need a movement model? How do I interpret the results? What figures can I make? Can I make a map? What are the units? This workshop will be a mix of lectures, R code walkthroughs, and exercises for you to try on your own. Please feel free to bring your own data to work through the exercises. The first half of the day will focus on resource selection functions (RSFs), appropriate for count data or independent telemetry location datasets. The second half of the day will focus on step selection functions (SSFs), appropriate for most GPS datasets. You can expect to leave the workshop with plenty of suggestions for further reading and working code that you can adapt for your own purposes. We will assume you have some basic R skills; if not, you might consider the introductory R workshop instead. Users must have previous experience in R to attend.



Tuesday Workshops Cont.

Workshops Breaks at 10:30 and 15:00

Lunch on your own 12:00-13:00

09:00-17:00 Human Dimensions of Wildlife Management Foundations - Presenter:

Kenneth Wallen and Kerrik Robinson, University of Idaho

(All Day) Location: Palouse Conference Room

The survey research design and practice workshop will focus on the (1) four cornerstones of survey research methodology (sampling, coverage, response, and measurement) and (2) best practices of questionnaire design to inform wildlife management. Survey research is one of the most common modes by which human dimensions information integrates into management, planning, and policy. Managers, practitioners, and students, therefore, require adequate training and experience on survey research methodology from trained professionals. The workshop will expose participants to the under lying logic of quantitative survey research methods: its application and relevance to wildlife management, terminology and concepts, and research practices, considerations, and standards. The intent of the workshop is to give participants the tools to determine if a survey is necessary—the methods strengths and limitations—and provide them with firsthand experience in the process of survey re search design and implementation. The first half of the workshop will focus on key concepts of survey research: cornerstones, error and bias, sampling protocols, and modes of contact and response. The second half will focus on key concepts of survey research practice: questionnaire design, item and scale selection, and implementation considerations. The course will consist of short lectures interspersed with examples of past survey efforts, participant discussion, Q/A session, and a survey practicum. Participants will gain firsthand experience with quantitative survey research as the instructor guides them through, step-by-step, the process of conceptualizing, designing, and implementing a survey and questionnaire.

09:00-17:00 Science Communication—Presenter: Katherine Strickler, Washington State University

(All Day) Location: Washington Conference Room

Communication is an essential part of being a scientist. Wildlife biology is generally an applied science, and for it to be effectively used, we need to share scientific knowledge with other scientists, managers, the public, journalists, and policymakers. Many of us have been trained to share our work with other scientists but have had little (or no) training in communicating wildlife science with other audiences. Regardless of the audience, the heart of all effective communication is the ability to tell a good story. In this half-day workshop, participants will learn and practice principles of good storytelling, including crafting narratives of their work, targeting messages for different audiences, and using their excitement about their work to create a story that sticks. The majority of the workshop will feature a format of interactive, hands-on activities. Participants will use their own or others' research to create messages to communicate with their intended audiences. The skills we practice in the workshop will help participants tell better science stories, whether in a journal article, a newsletter, a policy paper, or a conversation with a landowner concerned about wildlife populations.



TUESDAY Evening Poster Session

Names of presenters with an * are students

18:00-21:00 Poster Session and Social

Gold/Silver Conference Room

- 1. ADAPTIVE GENETIC VARIATION OF THE WORLD'S SMALLEST RABBIT * Ilaria Bacchiocchi
- 2. CALL OF THE WILD: A MULTI-USER PROTOCOL FOR PASSERINE ACOUSTIC DATA PROCESSING * Miles Butler
- 3. COLLISION AT A MINIMUM: MAKING UNIVERSITY OF IDAHO'S INFRASTRUCTURE BIRD-FRIENDLY* Riley Robenstein
- 4. COMPARISON OF ECOMORPHOSPACE IN LAND SNAIL COMMUNITIES FROM ISLANDS AND NEARBY MAINLAND * Day Scott
- 5. DETERMINING THE PROBABILITY OF AVIAN OCCUPANCY WITHIN TREE CAVITIES AND HOW THIS IS INFLUENCED BY HABITAT CHARACTERISTICS

 * Kassandra Townsend
- 6. EFFECTS OF HUMANS ON MOOSE PRESENCE AT RUB SITES ALONG THE SOUTH FORK OF THE SNAKE RIVER * Liliane Merrill
- 7. EMBRYONIC DEVELOPMENT OF THE GREAT BASIN SPADEFOOT (SPEA INTERMONTANA) * Scot Erickson
- 8. FLIGHT IN A FIRE: UNDERSTANDING BAT ACTIVITY PATTERNS IN PRESCRIBED BURNS * Clare Throm
- 9. INSECT DIVERSITY IN THE BURROWING OWL DIET * Anthony Locatelli
- 10. PNW CONDOR UPDATE: NIM'IIPUU STEWARDSHIP AND THE RETURN OF THE QU'NES * David Moen
- 11. QUANTIFYING THE EFFECTS OF HYDROLOGIC RESTORATION IN THE CAMAS NATIONAL WILDLIFE REFUGE AND MUD LAKE WILDLIFE MANAGEMENT AREA Rosemary D'Andrea
- 12. USE OF LEG MOUNTED MONITORS TO ASSESS THE EFFECTS OF TREPONME—ASSOCIATED HOOF DISEASE ON ELK (CERVUS CANADENSIS) ACTIVITY * Trent Hill



TUESDAY Evening Poster Session

Names of presenters with an * are students

18:00-21:00 Poster Session and Social

Gold/Silver Conference Room

- 13. USING CHUKAR FORAGING ECOLOGY AS A BIOINDICATOR OF HABITAT QUALITY AND TO INFORM RESTORATION * Catherine Isaak
- 14. THERMAL VARIABILITY OF TREE MICROHABITAT STRUCTURES OF NARROWLEAF COTTONWOOD (*POPULUS ANGUSTIFOLIA*) ACROSS A RIPARIAN GRADIENT * Moira Arthaud
- 15. GLOBAL SPACE-BASED LIDAR DATA DESCRIBING FOREST STRUCTURE AND OPPORTUNITIES FOR INCLUSION IN WILDLIFE STUDIES Kerri Vierling
- 16. EFFECTS OF BEAVER DAMS ON SONGBIRD ABUNDANCE IN SEMI-ARID WESTERN RANGELANDS * Annie Vaage
- 17. DIRECT OBSERVATION AND PARTICIPATORY MAPPING OF BIRD-WINDOW COLLISIONS AT THE UNIVERSITY OF IDAHO * Samuel Earnest





Wednesday Morning

Registration Desk 07:00-09:00, 12:00-13:30, 17:00-19:00

Plenary Session University Conference Room/Virtual Meeting

08:30-08:45 **Welcome Address**—Michelle Kemner (President, ICTWS)

Introduction by Miranda Reinson (President-Elect, ICTWS)

Wildlife Careers In Focus: Diverse Paths, Shared Purpose

| 08:45-09:05 | Al Eiden (Virtual)—Director of Field Operations West Region Pheasants Forever |
|-------------|--|
| 09:05-09:25 | Josh Uriarte—Species Program Manager and Policy Advisor Idaho Governor's Office of Species Conservation—Boise |
| 09:25-09:45 | Jen Skeldon (Virtual)—State Biologist USDA—Natural Resources Conservation Service |
| 09:45-10:05 | Grace Bullington— MDF Big Game Action Plan Coordinator Mule Deer Foundation |
| 10:05-10:25 | BREAK |
| 10:25-10:45 | Tricia Hosch-Hebdon —Assistant Wildlife Bureau Chief Idaho Department of Fish and Game |
| 10:45-11:05 | Jason Pyron (Virtual)—Conservation Partnership (Branch Lead) US Fish and Wildlife Service—Boise |
| 11:05-12:00 | Questions and Panel Discussion |
| 12:00-14:00 | LUNCH ON YOUR OWN |





Wednesday Morning Plenary

Plenary Session Invited Speaker Biographies

Joshua Uriarte has served as the Species Program Manager and Policy Advisor for the Idaho Governor's Office of Species Conservation since January 2015. Josh received his bachelor's degree in Fisheries and Wildlife Science, accompanied by a minor in Forest Management, at Oregon State University in Corvallis. His primary responsibilities include providing technical support to stakeholders, coordinating with federal, state and private partners on projects and working on policy as they relate to terrestrial species that are listed as candidate, threatened and endangered under the ESA. In previous positions, Josh has worked on habitat restoration with private landowners, sprayed mosquitoes, surveyed culverts, counted snails, captured flying squirrels, shocked fish, and hooted for owls. Josh enjoys hiking and travelling the world with his wife Itxaso, and taking care of their garden, sheep, chickens and dogs.

Jen Skeldon (Virtual) is the Wildlife Biologist for Natural Resources Conservation Service (NRCS) Idaho. She provides technical assistance and training on wildlife habitat and environmental policy. She earned her B.S. in Forestry and Watershed Science from Colorado State University and has spent her career working to achieve habitat conservation in sagebrush ecosystems. Over the past decade, Jen has worked for USGS and BLM in Idaho and Wyoming focusing on public land management and vegetation research. She enjoys merging policy and implementation to create resource-based solutions to improve conservation delivery to America's producers.

Grace Bullington, originally from Missouri, has built a wildlife career across North America. After graduating from the University of Nebraska-Lincoln with a Bachelor of Science in Fisheries and Wildlife, she moved to the western United States. Grace has worked for several state wildlife agencies, focusing on mule deer and elk research. Moving back east Grace completed her Master of Science from Trent University in Ontario, Canada with a research thesis estimating white-tailed deer population abundance using camera-traps. For the past year Grace has worked as a partner biologist for the Mule Deer Foundation and Idaho Department of Fish and Game. Grace's role as the Idaho Big Game Migration and Connectivity Coordinator is to improve big game habitat and connectivity in Idaho by bringing partners together, developing projects, and identifying priorities.

Tricia Hosch-Hebdon has spent the past twenty-five years working in wildlife management and conservation, wildlife health, disease diagnostics, genetics, and science education. This has included working on black-footed ferrets and prairie dogs, assessing biodiversity in coastal sage brush communities, environmental assessments for Stephen's Kangaroo rats, assessing natural disease resistance in bighorn sheep, wolf genetics, CWD surveillance, and federal aid coordination to name a few. She has worked for the Idaho Department of Fish and Game for the past 18 years, where she has worked as a Wildlife Research Biologist, Wildlife Health Biologist, Wildlife Health and Forensic Lab manager, Natural Resources Program Coordinator and is currently the Wildlife Bureau's Assistant Chief. Tricia has a bachelor's degree in biology from the University of California, Riverside and a master's degree in Zoology and Physiology from the University of Wyoming. In her current role, Tricia works with a myriad of Fish & Game staff, programs and projects, across the agency and with other state and federal partners to obtain funding and consensus to implement projects to enhance wildlife management and conservation across Idaho.

Jason Pyron (Virtual) grew up in the Lost River Valley of central Idaho. He attended the University of Idaho receiving a bachelor's degree in Fisheries Management and a Masters Degree in Public Administration. While in high school and college, he worked throughout the agriculture, livestock, and natural resource industries. Since this time, Jason has worked as a federal fish and wildlife biologist for NOAA fisheries, the US Forest Service, and the USFWS working primarily in the sagebrush steppe rangelands. Currently working in the Idaho Fish and Wildlife Office as the Conservation Partnerships Branch Lead, Jason is primarily tasked with on-the-ground habitat conservation through partnerships with various federal, state, and private stakeholders. Jason is passionate about the conservation and stewardship of rural landscapes and improving our economic connection to the and ecological function and outcomes at local scales. When not in Idaho, Jason largely spends his time enjoying the fish and wildlife and managing his cattle ranch on Sitkinak Island, Alaska.



Wednesday Afternoon

Names of presenters with an * are students

| Camera Based Meth | nods—Idaho Conference Room | Moderator: Matt Mumma |
|--------------------|--|---|
| 14:00-14:20 | | -BASED METHODS FOR ESTIMATING AND COMPOSITION Matt Mumma |
| 14:20-14:40 | METHODS FOR ESTIMATING CAMERAS: WHERE WE'VE BEI | ABUNDANCE WITH REMOTE EN AND WHERE WE MIGHT GO |
| 14:40-15:00 | | HEDS: PRACTICAL CONSIDERATIONS ESTIMATING UNGULATE ABUNDANCE |
| 15:00-15:20 | | TYLES AND SEASONAL TIMING OF LK HERD COMPOSITION ESTIMATES |
| 15:20-15:40 | BREAK | |
| Wildlife Ecology—I | daho Conference Room | Moderator: Miranda Reinson |
| 15:40-16:00 | SELECTION OF RUB TREES BY OF THE SNAKE RIVER *Scot Er | Y MOOSE ALONG THE SOUTH FORK |
| 16:00-16:20 | MOOSE POPULATIONS AND M David Dressel | IANAGEMENT IN SOUTHEAST IDAHO |
| 16:20-16:40 | DISENTANGLING THE WEB ON NORTHERN IDAHO'S LARGE | F SPECIES INTERACTIONS IN MAMMAL COMMUNITY Sarah B. Bassing |
| | | |

Film: "The Durfees"

When the billionaire Wilks brothers propose a land exchange that threatens a Montana public land treasure in the Little Snowy Mountains, a community rises to the challenge.

Directed / Edited / Greg Cairns // https://www.cairnsfilm.com Written / Produced / Elliott Woods // https://www.elliottwoods.com

Supported by / Backcountry Hunters and Anglers / Traditional Bowhunters of Montana / onXmaps / 2 Bar J Productions / Vortex Optics

Wednesday Afternoon

Names of presenters with an * are students

| Wildlife Ecology—F | Palouse Conference Room | Moderator: Robert Ritson |
|--------------------|---|--|
| 14:00-14:20 | GENETICS AND JOURNEY DISPERSAL IN IDAHO *Kat | S: INVESTIGATING GRAY WOLF hleen Petersen |
| 14:20-14:40 | | R RANGE CHANGED THROUGH TIME? OTEMPORAL DYNAMICS OF SUMMER Scott Bergen |
| 14:40-15:00 | INTEGRATING SPATIAL A ECOLOGY ACROSS SCALES | ND SOCIAL COMPONENTS OF ANIMAL Simona Picardi |
| 15:00-15:20 | | INDAZIFLAM APPLICATION INCREASES (CENTROCERCUS UROPHASIANUS) RANGELANDS *Kirby Lau |
| 15:20-15:40 | BREAK | |
| Wildlife Ecology—F | Palouse Conference Room | Moderator: Robert Ritson |
| 15:40-16:00 | USE OF REGIONALLY IMP | COMPARING MIGRATORY SONGBIRD ORTANT STOPOVER HABITAT AT CAMAS FUGE OVER THE LAST TWO DECADES |
| 16:00-16:20 | | AR DENNING HABITAT IN THE KIRK ECOSYSTEMS *Nathaniel Rice |
| 16:20-16:40 | | OVEMENTS IN A BIGHORN N THREATENED BY DISEASE *Kristen Whyle |
| 16:40-17:00 | | CONDARY METABOLITES ON INTAKE, ES, AND DETOXIFICATION COSTS IN |
| 17:30-21:00 | | ry Hunter and Anglers Film Festival tion—University Conference Room 20) |

01/2

Thursday Morning

7:30–9:00 Breakfast With a Biologist—Silver Conference Room

Names of presenters with an * are students

| Wildlife Ecology/Genetics—Palouse Conference Room | Moderator: Jeremy Baumgardt |
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| 09:00-09:20 | UNDERSTANDING AND PREDICTING ANIMAL MOVEMENTS AND DISTRIBUTIONS IN THE ANTHROPOCENE Seth Harju |
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| 09:20-09:40 | WHAT DOES GREEN MEAN? *Amanda May |
| 09:40-10:00 | WHERE WE STARTED AND HOW IT WENT: THE STORY OF IDAHO'S BREEDING SURVEYS FOR BLACK ROSY-FINCHES Tempe Regan |
| 10:00-10:20 | BEHAVIORAL TRADEOFFS IN A MULTIPLE-USE LANDSCAPE: DOES HUMAN DISTURBANCE INFLUENCE FOODSCAPE USE BY UNGULATES? *Amy Hilger—Tisdale |

10:20-10:40 BREAK

Wildlife Ecology/Genetics—Palouse Conference Room Moderator: Jeremy Baumgardt

| 10:40-11:00 | CHARACTERIZING GENETIC DIVERSITY AND CONNECTIVITY IN GENETICALLY DISTINCT BI-STATE GREATER SAGE-GROUSE (CENTROCERCUS UROPHASIANUS) *Cammi Norville |
|-------------|--|
| 11:00-11:20 | PNW CONDOR UPDATE: NIM'IIPUU STEWARDSHIP AND THE RETURN OF THE QU'NES David Moen |
| 11:20-11:40 | ASSESSING WOLF AND HUMAN HOWLS TO UNDERSTAND WOLF COMMUNICATION AND IMPROVE MONITORING *Kyle Martin |
| 11:40-12:00 | THE EFFECTS OF SENSORY POLLUTION OF NEST VARIATION AND NEOPHOBIA *Marlen Terrazas |
| 12:00-14:00 | Lunch on your own |
| 12:00-14:00 | ICTWS Business Lunch—Silver Room |



Thursday Morning

Names of presenters with an * are students

Habitat Use and Management/Wildlife Management/Methodologies—Idaho Conference Room

Moderator: Christina Contreras

| 09:00-09:20 | WHITETAIL WHISPER: NORTH IDAHO WILDLIFE CROSSINGS STUDY Daniel Baker |
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| 09:20-09:40 | USING FORAGE ANALYSIS TO QUANTIFY FORAGE QUANTITY AND IMPROVE FORAGE QUALITY AT TEX CREEK WILDLIFE MANAGEMENT AREA FOR WINTERING ELK AND MULE DEER David Bush |
| 09:40-10:00 | SNAGGED BY THE DRONE: EVALUATING MULTIPLE LIDAR SENSORS IN MODELING SNAG OCCURRENCE *Riley Robenstein |
| 10:00-10:20 | SO, YOU WANT TO MAKE A DIFFERENCE? NAVIGATING THE CHALLENGES TO LANDSCAPE WORK FOR LONG-TERM SUCCESS Anna Owsiak |
| 10:20-10:40 | BREAK |

Habitat Use and Management/Wildlife Management—Idaho Conference Room

Moderator: Christina Contreras

| 10:40-11:00 | REPLACING RHIZOMATOUS GRASSES, A 10-YEAR FOLLOWUP Ryan Walker |
|-------------|---|
| 11:00-11:20 | QUANTIFYING SEASONAL DRIVERS OF ELK MOVEMENT TO IMPROVE PREDICTIONS AND INFORM MANAGEMENT Brian J. Smith |
| 11:20-11:40 | RIVER AND ASPEN FOREST PROCESS RESTORATION: EARLY (1-5 YEAR) POST-PROJECT ANALYSIS OF THE BLACKFOOT RIVER WMA RESTORATION PROJECTS Jason Beck |
| 11:40-12:00 | QUANTIFYING RESPONSES OF BROODING GREATER SAGE-GROUSE HENS TO BEAVER DAMS *Walker Field |
| 12:00-14:00 | Lunch on your own |
| 12:00-14:00 | ICTWS Business Lunch—Silver Room |
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01/2

Thursday Afternoon

Moderator: Craig Marshall

Names of presenters with an * are students

16:20-16:40

16:40-17:00

Wildlife Ecology—Idaho Conference Room

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| 14:00-14:20 | EFFECTS OF IRRIGATED AGRICULTURE ON SELENIUM CONCENTRATIONS AND NESTING SUCCESS IN YUMA RIDGWAY'S RAILS *Cydney Yost | | |
| 14:20-14:40 | NEST SURVIVAL IN A BLACK-CAPPED VIREO (VIREO ATRICAPILLA) POPULATION AT GOVERNMENT CANYON STATE NATURAL AREA *Aurora Schermbeck | | |
| 14:40-15:00 | EFFECTS OF MITIGATION TRANSLOCATION ON PRAIRIE RATTLESNAKE SURVIVAL *Emily Martin | | |
| 15:00-15:20 | OCCUPANCY OF PYGMY RABBITS (BRACHYLAGUS IDAHOENSIS) IN IDAHO AND MONTANA: MODELING PATTERNS AND UNDERSTANDING VULNERABILITY TO A CHANGING CLIMATE *Fiona E. McKibben | | |
| 15:20-15:40 | BREAK | | |
| Habitat Use and Management/Methodologies—Idaho Conference Room | | | |
| Moderator: Ryan Walker | | | |
| 15:40-16:00 | RESTORING INDIAN FORK: LOW-TECH PROCESS-BASED RESTORATION EVOLUTION Ryan Walker | | |
| 16:00-16:20 | HABITAT ASSESSMENT FOR ROCKY MOUNTAIN ELK IN THE GRANDAD ELK MITIGATION AREA: A NUTRITIONAL APPROACH Sarah Meronk | | |

MEASURING VEGETATION CHARACTERISTICS AT GREATER SAGE-

DEEP LEARNING TAKES FLIGHT: DETECTING JACK RABBITS WITH

GROUSE NEST SITES ONE YEAR AFTER NEST FATE: IS IT AS

EFFECTIVE AS TRADITIONAL METHODS? Kylie Denny

7:30-21:00 Banquet/Fund Raiser/Awards Ceremony—University Conference Room

THERMAL DRONE IMAGERY Christina Appleby



Thursday Afternoon

Names of presenters with an * are students

Room

| Careers in Focus—I | Palouse Conference Room Moderator: Matt Boone |
|--|--|
| 14:00-14:20 | A DIVERSE CAREER IN GIS: FROM MILITARY MAPS TO WILDLIFE APPLICATIONS Alvie Freestorm |
| 14:20-14:40 | BIRDS OF A FEATHER: A CAREER IN WILDLIFE, DATA, AND TECHNOLOGY Matt Boone |
| 14:40-15:00 | ONE TEAM: ONE MISSION: HIGHLIGHTING THE DIVERSITY WITHIN IDAHO DEPARTMENT OF FISH AND GAME'S HABITAT PROGRAM Debora Monzingo |
| 15:00-15:20 | ENGAGING NON-SCIENTIFIC AUDIENCES THROUGH DIGITAL STORYTELLING Sara Cassinelli |
| 15:20-15:40 | BREAK |
| IGNITE!—Palouse Conference Room Moderator: Robert Ritson | |
| 15:40-15:45 | SAME OLD QUESTIONS, NEW TECHNOLOGY Robert Ritson |
| 15:45-15:50 | SMALL MAMMAL TRAPPING ON THE PAHSIMEROI RIVER ACCESS AREA (PRAA) Bret Stansberry |
| | |
| 17:30-21:00 | Banquet/Fundraiser/Awards Ceremony—University Conference |





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/ Crucial Conversations.html

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