



Restoration Works!

Coeur d'Alene, ID
2024

ICTWS • WATWS • NWPARC

PROGRAM

26-28 March 2024

The Coeur d'Alene Resort



2024 Conference Sponsors

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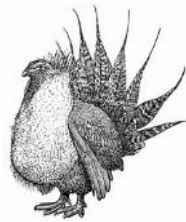


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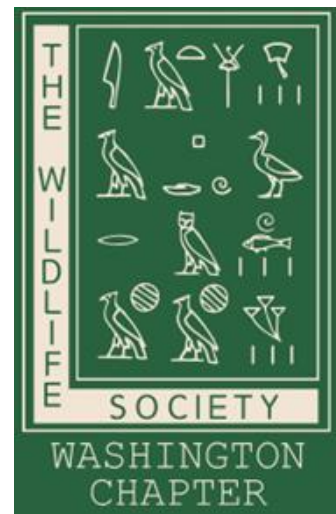
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Idaho Chapter TWS



ICTWS • WATWS • NWPARC





2024 Associated Meetings

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





Registration and Logistics

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

Registration Fees:

\$350	Full registration
\$400	Full registration for professional non-members
\$175	Retiree
\$0	ICTWS/WA-TWS member student presenter/student volunteer
\$50	ICTWS/WA-TWS member student registration
\$20	Workshop registration
\$175	One day registration
\$85	Extra banquet ticket
\$400	Late full registration
\$75	Late full student registration

The registration desk will be open at the following times:

Tuesday	26 March	07:00-09:00, 12:00-13:30, 17:00-18:00
Wednesday	27 March	07:00-09:00, 12:00-13:30, 17:00-18:00
Thursday	28 March	07:00-09:00, 12:00-14:00

Information and Sponsor tables located in Conference Center Lobby

Conference Contact:

Michelle Kemner—michelle.kemner@idfg.idaho.gov—208-965-5307
Miranda Reinson—miranda.reinson@idfg.idaho.gov—908-285-6779

Executive Boards & Conference Organizing Committee

Morgan Pfander President—ICTWS, **Alex Pavlinovic**—President WA-TWS
Michelle Kemner President-Elect—ICTWS, **George Ritchotte**—President-Elect WA-TWS
Miranda Reinson Vice-President—ICTWS, **Claudine Reynolds**—Vice President WA-TWS
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Robert Ritson Secretary—ICTWS, Candace Bennett—Secretary, WA-TWS
Ryan Walker Treasurer—ICTWS, James Butch—Treasurer, WA-TWS
Seth Harju Past President—ICTWS, Matt Wilson—Past President WA-TWS
Jessica Patterson, Andrea Kristoff—Member At-Large—ICTWS
Lindsey Webb, Kris Ernest, Jen Syrowitz, Jake Verschuyl—Member At-Large—WA-TWS

Conference Logo Winner—Eric Anderson, Regional Technical Assistance Manager, IDFG
Cover Art—Tempe Regan, Regional Wildlife Biologist, IDFG



Additional Sponsorship

Auction and Raffle Item Donors

We wish to thank the following individuals, businesses and organizations that supported the 2024 Conference with supplies, auction and/or raffle items:

The Archives of Falconry	ICTWS	Rick Spaulding
Alex Pavlinovic	Jess Krohner	Sarah Jackson
Anna Owsiak	Laura Sprague	Sportsman's Warehouse
Beck Family Farms	Laura Wolf	SSLT
Bill Seybold	Lava Hot Springs Foundation	Stephanie Galla
British Columbia	Lookout Pass Ski Area	Tempe Regan
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Chuck Black Art	Modern Huntsman	Wildlife Acoustics
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Erik Bartholomew	NW PARC/National PARC	Zoo Idaho Zoological Society
First Lite	NWTF	
Global Wildlife Resources	Occidentalis/David Price	
Grimm Growers	PETCO	

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.



WA TWS Special Awards—Presented at the Banquet Thursday Evening

Leadership in Conservation Award

Recognizes a long-term contribution to the field of wildlife conservation. This award honors a person or organization that has made sustained and significant contributions over many years to wildlife conservation.

Partnership Award

Recognizes an outstanding accomplishment by a person or organization, or multiple cooperating entities, for working with and establishing partnerships that otherwise would not have existed or functioned as well without their initiative, and which has resulted in significant advancement of wildlife conservation.

Outreach Award

Recognizes an outstanding accomplishment by a person or organization for outstanding efforts in informing nonprofessionals and/or providing educational opportunity to school children, user groups, or the general public related to wildlife conservation, including wildlife biology, habitat, threats, and wildlife-management principles.

Chapter Award

Awarded to an individual or organization that has made significant contributions to the support and growth of the Washington Chapter of The Wildlife Society.

NW PARC Special Awards—Presented at the Banquet Thursday Evening

Luminary Award

Presented by NW Partners in Amphibian and Reptile Conservation recognizes individuals who have been beacons of light in the field of Northwest herpetology and who have exemplified extraordinary leadership, vision and commitment to amphibian and reptile conservation in the region and have inspired others to do the same.

Unsung Hero Award

Recognizes individuals who have worked tirelessly over many years in herptile conservation to little or no acclaim yet have still greatly influenced the conservation of many amphibian and reptile species.



2024 Conference Contributors—ICTWS

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 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*, Tempe Regan, Lindsey Rush, Jen Forbey, Laura Wolf

Conservation Affairs Committee

Brianna Lords*, Natalie Turley, Molly Garrett

Education and Outreach Committee

Maria Pacioretty*, Kerri Vierling, George Gehrig, Tempe Regan, Deo Lachman, Morgan Calahan

Fundraising Committee

Jason Beck*, Josh Rydalch, Josh Uriarte, Brandon Flack, Dave Ausband

Grant Review Committee

Laura Wolf*, Sandy Amdor, Jericho Whiting

Membership Committee

Sandy Amdor*, Lisa Nutt, Katie Powell, Robert Ritson, Toni Holthuijzen, Morgan Calahan

Nominating and Elections Committee

Charlie Henderson*, Tempe Regan, Tara Ball

Paper/Poster Judging Committee

Laura Wolf*, Tempe Regan, and all of the paper/poster judges

Scholarships Committee

Robert Akins*, Matt Mumma, Duston Cureton, Barb Moore, Toni Holthuijzen, Kritsa Biorn

Sponsorship Committee

Matt Mumma*, Robert Ritson*

Student Affairs Committee

Kat Peterson*, Janet Rachlow, Matt Brady, Day Scott, Andrea Kristoff, Brianna Lords, Rachel Stein, Hailey Walker

Committee Chair*





2024 Conference Contributors—WA-TWS

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 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 WA-TWS Executive Committee Member.

Audit:

James Butch*, Claudine Reynolds, Alex Pavlinovic, Jake Verschuyf

Diversity, Equity and Inclusion (DEI):

Kris Ernest* and Jennifer Lang*, Staci Amburgey, Shawn Larson, Amy Olsen, George Ritchotte, Emilio Ricci, Alex Pavlinovic, Jenna Chapman

Membership:

Lindsey Webb*, Alex Pavlinovic, Claudine Reynolds

Nominations and Elections:

James Butch*, Claudine Reynolds, Kathryn Solysaik, Jake Verschuyf

Program:

George Ritchotte*, Alex Pavlinovic, Claudine Reynolds, Lindsey Webb, Bruce Thompson, Jen Syrowitz

Conservation Review:

Jen Syrowitz*, Jake Verschuyf, Lisa Dowling, Bruce Thompson, Vanessa Pepi, Jared Hedges, Alex Pavlinovic

Education and Information:

Candace Bennett*

Awards:

Bill Vogel*, Wendy Arjo, Tony Fuchs, Ron Tressler, Alex Pavlinovic, Jesse Burger, Wayne Regelin

Grants:

Tony Fuchs*, Jen Syrowitz, Bill Vogel, Heidi Newsome, Kris Ernest, Alex Pavlinovic

Scholarship:

Merci Clinton*, Lisa Fitzner, Alex Pavlinovic

Committee Chair*





Program At a Glance

Tuesday 26 March	
Registration Desk Open: 07:00-09:00; 12:00-13:30; 17:00-18:00	
Time	Workshops—Coffee Breaks at 10:15 & 15:00
08:00-12:00	Bayesian Analytics— Bay 1
08:00-12:00	Introduction to ‘R’— Boardroom AB
08:00-12:00	Introduction to Survey Research and Design— North Cape Bay
08:00-12:00	Idaho Bat Working Group— Kidd Island Bay
12:00-13:00	LUNCH ON YOUR OWN
13:00-17:00	Bayesian Analytics continued — Bay 1
13:00-17:00	Introduction to ‘R’ continued— Boardroom AB
13:00-17:00	Introduction to Survey Research and Design continued— North Cape Bay
13:30-17:30	Idaho/Northwest Partners in Amphibian and Reptile Conservation Meeting— Casco Bay
16:00-18:00	DEI Social/Mixer—Bay 6
18:00-20:00	Poster Session/Opening Reception (hors'd'oeuvres)—Bay 4/5
16:00-20:00	No Host Premium Bar—Lobby outside of Bay 5
Wednesday 27 March	
Registration Desk Open: 07:00-09:00; 12:00-13:30; 17:00-18:00	
Time	Plenary—Bay 4/5
08:10-08:30	Introduction: Alex Pavlinovic—WATWS President Welcome: Gene Hemene James— Vice Chairman—Coeur d’Alene Tribe
08:30-12:00	Plenary Session: “Restoration Works! Success Stories in Habitat Restoration for Fish and Wildlife”
12:00-13:30	Business Lunch—ICTWS— Kidd Island/North Cape Bays ; WA-TWS— Casco Bay
13:30-17:30	Contributed Papers— Bays 1, 2, and 3
17:30-18:00	WA-TWS Student Chapters Get Together—Bay 4/5
18:00-21:00	Student/Professional Mixer and Reception—Bay 4/5
Thursday 28 March	
Registration Desk Open: 07:00-09:00, 12:00-14:00	
07:30-09:00	Breakfast with a Biologist— Casco/North Cape/Kidd Island Bays
08:30-12:00	Contributed Papers— Bays 4, 5, and 6
12:00-14:00	SNVB Lunch— Kidd Island Bay
13:30-17:00	Contributed Papers— Bays 4, 5, and 6
17:30-21:00	Banquet/Fundraiser/Awards Ceremony—Bays 1-3
Friday 29 March	No Events Scheduled—Thank You! Safe Travels!



Attendee and Presenter Information

Locations

All conference activities and associated meetings will be held in the following Rooms: Bays 1-6, North Cape Bay, Casco Bay, Kidd Island Bay, Boardroom AB (7th floor), and the Convention Center lobby. See page 8; “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. Presentations should be uploaded no later than noon on 26 March 2024.

Posters

The poster session will be held concurrent with the welcome social on the evening of Tuesday, March 26 in Bays 4-5. Poster displays can be set up Tuesday afternoon (after 4PM) 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 Tuesday evening. Posters must be removed after the social.

Photo Contest

Be sure to vote for your favorites by scanning the QR code at the top of this page! Winners will be announced at the banquet.

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 conference center lobby.

Notice to all attendees: As a courtesy to all presenters, we request that you turn

Tuesday Workshops

Workshops

Breaks at 10:00 and 15:00

Lunch on your own 12:00-13:00

08:00-17:00 **Going Wild in R: Introduction to the Basics of R for Wildlife Students and Professionals with Data Carpentry Including Data Analysis and Visualization.**
MATT BOONE and ROBERT RITSON—Boardroom A/B—7th Floor

RStudio is a powerful open-source statistical computing software that can enhance the lives of wildlife students and professionals. However, new users are often intimidated by the learning curve associated with studying a programming language and novices tend to lose interest if they do not benefit from their new skills. This introduction to R is designed by Data Carpentry for participants with no programming experience and assumes no prior knowledge of R or RStudio. The first half of the workshop will begin with the basics of R syntax, the RStudio interface, and then introduce importing and manipulating data from CSV files as well as calculating summary statistics. The second half will introduce plotting and visualizing data.

08:00-17:00 **Bayesian Analysis in Ecology.** MATT FLACY—Bay 1

Bayesian statistical analyses are increasingly used in ecological research and management, yet most biologists have little training in this subject. This leads to questions like, “What is Bayesian analysis?”, “Why are people doing it?” and “How is it actually performed?” This workshop will introduce the what, why, and how of Bayesian analysis for biologists. The goal of the workshop is to prepare participants to understand research conducted with Bayesian techniques, critique them, and even implement their own Bayesian analyses using freely available software. No prior knowledge of Bayesian analysis is expected. Participants that already know Bayesian analysis are welcome to contribute their knowledge during this open and participatory learning experience. The first half of the day will focus on theory. We’ll break for lunch and then spend the second half focusing on implementation. Participants can choose to attend one or both sessions.



Tuesday Workshops

Workshops

Breaks at 10:00 and 15:00

Lunch on your own 12:00-13:00

08:00-17:00 **Human Dimensions Survey Research Design and Practice.** KENNETH WALLEN—North Cape Bay

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 underlying 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 research 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.

16:00-18:00 **DEI Mixer—Bay 6**

18:00-21:00 **Opening Reception and Poster Session—Bays 4-5**



TUESDAY Evening

Names of presenters with an * are students

18:00-20:00—**POSTER SESSION and SOCIAL (Hors'd'oeuvres/No host bar)—Bay 4/5**

1. Assessing Human Tolerance Levels of Bobcats and Coyotes Amid Urbanization near Okanogan-Wenatchee National Forest. **ANNALEI LEES***
2. Assessing Moth Family Richness Along an Elevational Gradient in the Talamanca Mountains of Costa Rica. **UURIINTUYA BAYASGALAN***, M. Cochran, A. Dallabetta, and M. Fenske
3. Assessing Shrub Cover Classification Techniques Using UAV Imagery. **MALACHI MOORE*** and U. Bayasgalan
4. Beyond the Pellet: A Trial of Trail Cameras for Quantifying Habitat Use by Greater Sage-Grouse (*Centrocercus urophasianus*). **KIRBY LAU***, T. Prather, and T. Johnson
5. Buzz-worthy Biology: Bumble Bee Species Composition, Floral Phenology, and Network Interactions in Southeast Idaho. **HEIDI HENDERSON***, D. Duran, S. Tackett, A. Wehausen, A. Henry, A. Kristof, and D. Lachman
6. Calibrating the Heart Rate Method for Estimating Small Mammal Energy Expenditure in the Field. **SAMANTHA KENNEL***, L. Shipley, K. Anderson, T. Johnson, and J. Rachlow
7. Climate Adaptability and Resiliency of Wildlife Communities in Burned Sagebrush-steppe Landscapes. **KAT BURGSTAHLER***, D. Thornton, and L. Shipley
8. Coastal Western Screech-owls Persist in Understudied Old-Growth Ecosystems of British Columbia in the Face of a Declining Pacific Northwest Population. **C. TOBY ST. CLAIR** and J. Kennedy
9. Estimating Seasonal Dynamic Occupancy of Mammals on the East Side of the North Cascades of Washington. **SINGH SUJAY***, D. Thornton, and L. Welfelt
10. Feeding Ecology of Great Basin Spadefoot Tadpoles at Egin Lakes, Idaho. **SAAC LEE***, J. Whiting, and C. Peterson
11. Habitat Selection, Connectivity, and Translocations of Inland Continental Grizzly Bear Populations. **NATHANIEL RICE***, D. Ausband, S. Picardi, and W. Kasworm
12. Inspired Research to Inform Management of the Cassia Crossbill (*Loxia sinesciuris*), an Idaho endemic, with Climate Change in Mind. **BRITTANY LOFTIN***, J. Carlisle, M. Cattau, T. Caughlin, and C. Benkman
13. Looking up: Using Remote Sensing Technology to Analyze the Quality of Wetland Habitat on the Ground for Migratory Waterfowl and Waterbirds at Sterling Wildlife Management Area in Southeastern Idaho. **ERICA MCMINN*** and M. Pacioretty
14. Measuring Effects of Intertidal Location on Snail Population Density and Shell Thickness at Caletillas Beach in Costa Rica. **MALACHI MOORE***, S. Halma, and M. Bell
15. Measuring the Presence of Northern Pike in the Little Spokane River. Ziona Rose and **ANUHEA STRICKLAND***
16. No Fire on the Mountain: Has Fire Suppression Caused Population Declines of an Imperiled Ground Squirrel. **ALYSSA LIVINGSTON***, C. Conway and E. Strand

TUESDAY Evening

*Names of presenters with an * are students*

18:00-20:00—**POSTER SESSION and SOCIAL Continued**

17. Passive Acoustic Monitoring Reveals Avian Distribution Patterns Across a Post-Fire Landscape. **JENNIFER LEWIS***, A. Sacco, T. Schaming, and A. Scoville
18. Project Update: Occupancy Surveys for Pygmy Rabbits in Idaho. **FIONA MCKIBBEN***, L. Svancara, and J. Rachlow
19. Relating Talus Characteristics to Habitat Use by Vulnerable Alpine Mammals in a Changing Climate. **ANA FERREIRA***, L. Shipley, A. Stahl, M. Camp, and A. Meddens
20. Sifting Snow: Foraging Tradeoffs of Snowshoe Hares (*Lepus americanus*) on Moscow Mountain, Idaho. **HUNTER VERITY*** and M. Falcy
21. Small Mammal Perception of Risk on Wildlife Crossing Structures. **SARAH SANZ*** and K. Ernest
22. Snowshoe Hares do not Suffer Increased Mortality Immediately after “Wildlife-friendly” Pre-commercial Thinning Treatments. **NATHAN HOOVEN*** and D. Thornton
23. Stick to the Moose: Assessing Spatiotemporal Patterns of Winter Ticks and the Potential Influence of Climate on Variation in Relative Tick Loads. **RILEY ROBENSTEIN***, A. Wells, E. Van Beek, H. Miyasaki, M. Hurley, T. Johnson, K. Oyen, and J. Rachlow
24. Swallows and Bridges—A New Community Science Project. **TERRELL RICH**
25. Temporal and Spatial Occurrence of Bat Species of Conservation Concern in Sagebrush Steppe and Montane Habitats in Southeastern Idaho. **JESSICA CALL***, K. Aho, J. Whiting, and T. Harper
26. Testing the Influence of Environmental Signals and Host Cues on Activity of Winter Ticks During the Questing Phase. **ZOE PABST***, K. Oyen, and J. Rachlow
27. Understanding How Cavity, Tree, and Stand Level Characteristics Influence Tree Cavity Microclimates in Chiricahua Mountains, Arizona. **KASSANDRA TOWNSEND***, D. Oleyar, and K. Vierling
28. Diversity and Density of Ungulate Rub Trees Along the South Fork of the Snake River. **SCOT ERICKSON***, Nathan Day, Jericho Whiting, Lilianne Blanch, and Laura Knoerr
29. Quantifying Moose Behavior at Rub Trees along the South Fork of the Snake River. **NATHAN DAY***, Scot Erickson, Jericho Whiting, Lilianne Blanch, and Laura Knoerr

Wednesday Morning Plenary

Plenary Session Invited Speaker Biographies

DAVID LEPTICH is a Regional Wildlife Habitat Biologist with the Idaho Department of Fish and Game with over 30 years of experience. He did his undergraduate work at the University of Idaho and received a master's degree in wildlife management from the University of Maine where he worked on Moose Habitat Selection. His professional experience includes both research and management of big game, upland game, waterfowl, and non-game and he has published in each of these areas. Although most of his career has been spent in northern Idaho, he had the opportunity to work and teach in Kenya east Africa early in his career. In addition to hunting and fishing, in his free time Dave enjoys hiking, biking, SCUBA diving, and moonlights as a medical laboratory scientist at the regional medical center in Coeur d'Alene. He currently manages the IDFG Farragut and Coeur d'Alene River Wildlife Management Areas. Half of his work time is dedicated to a special assignment representing the state of Idaho within the Restoration Partnership's technical team. The Restoration Partnership is a consortium of federal, state, and tribal natural resources trustees charged with using \$140 million in superfund mining damage claim awards to plan and implement natural resources restoration in the Coeur d'Alene Basin. Today's presentation on Gray's Meadow is one of the Partnership's projects that he leads.

KRISTI OLNEY, Yakama Nation's Big Game Biologist, is responsible for all aspects of big game management on the Yakama Reservation and oversees the Bison Program. In 2021, Kristi helped acquire 26 Yellowstone bison from the Intertribal Buffalo Council surplus program. She has worked for the Wildlife program since 2012, starting as a seasonal technician conducting vegetation surveys to determine available forage. She earned a B.S. in Wildlife and Fisheries from Salish Kootenai College and a Master of Natural Resource Stewardship in Rangeland Management from Colorado State University. She is currently pursuing a Master of Natural Resource Management at Salish Kootenai College. Her Master's project is focused on meadow restoration to restore camas (*Camassia quamash*).

CHRISTIAN HAGEN is Senior Research Faculty member in the Department of Fisheries, Wildlife, and Conservation Sciences at Oregon State University. He has been involved in the research, monitoring and management of prairie grouse and prairie and sagebrush ecosystems since 1996. As umbrella species, these birds serve as barometers to ecosystem health. His work focuses on these species' demographic responses to landscape-scale conservation and disturbance. He continues to evaluate these outcomes as it relates to sage-grouse in the Great Basin. However, his portfolio has expanded examining how water availability effects rhizome and seed viability of sub-emergent vegetation, and yellow rail occupancy in the Klamath Basin.

REBECCA MCCAFFERY is a Research Biologist with the USGS Forest and Rangeland Ecosystem Science Center. She leads FRESC's Olympic Field Station, located within Olympic National Park in Port Angeles, WA. Her research focuses on wildlife population ecology, community ecology, and restoration ecology of a diverse suite of wildlife species found in the mountains and forests of the northwestern United States. She works closely with the National Park Service, Tribal, and other partners on the Olympic peninsula and beyond on local projects and larger initiatives related to wildlife disease, climate change, and species restoration.

Wednesday Morning

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

Plenary Session—Bay 4/5

08:10-08:30 **Introduction** by Alex Palinovic—President, WA-TWS
Welcome Address Gene Hemene James—Vice Chairman, Coeur d'Alene Tribe

“Restoration Works! Success Stories in Habitat Restoration for Fish and Wildlife”

08:30-09:00 **David Leptich—Gray’s Meadow Habitat Restoration**
Regional Wildlife Habitat Biologist
Idaho Department of Fish and Game

09:00-09:30 **Kristi Olney—Restoring Tribal Food Sovereignty: Yakama Nation Buffalo Program**
Big Game Biologist
Yakama Nation Wildlife

09:30-10:00 **Christian Hagen—Saving the sagebrush sea from tree invasion: a 15-year retrospective of habitat restoration in the Great Basin**
Associate Professor
Oregon State University

10:00-10:30 **Rebecca McCaffery—Ten years of restoration and renewal in the Elwha Valley, WA following dam removal**
Research Scientist
United States Geological Survey
Forest and Rangeland Ecosystem Science Center

10:00-10:50 BREAK

10:50-12:00 Questions and Panel Discussion

12:00-13:30 ICTWS Business Lunch —**Kidd Island/North Cape Bays** and WATWS Business Lunch—**Casco Bay**

12:00-13:30 Lunch on your own

Wednesday Afternoon

*Names of presenters with an * are students*

Traditional Ecological Knowledge—Moderator: Jen Syrowitz—Bay 1

- 13:30-13:50 **Environmental Literacy through Storytelling.** CRAIG HILL
- 13:50-14:10 **Restoring Fish, Water, and People.** DR Michel
- 14:10-14:30 **Restoration in the Hangman Creek Watershed to Prepare for the Return of Salmon.** RALPH ALLAN
- 14:30-14:50 **First Foods Management of the Confederated Tribes of the Umatilla Indian Reservation.** ERIC QUAEMPTS
- 14:50-15:10 **Working with Tribes on their Terms.** DOREEN ETHELBAH GATEWOOD
- 15:10-15:30 **BREAK**
- 15:30-15:50 **PANEL DISCUSSION**
- 17:30-18:00 **WA-TWS Student Chapters Get Together—Bay 4/5**
- 18:00-20:00—**Student/Professional Mixer (Hors'd'oeuvres, no host bar)—Bay 4/5**



Wednesday Afternoon

*Names of presenters with an * are students*

Micro Climate Change in Wildlife Management—Moderator: Leona Svancara—Bay 2

- 13:30-13:50 **Climate Across Scales: An Overview of Micro, Meso, and Macroclimate in Wildlife Conservation and Management.** LEONA SVANCARA AND KERRI VIERLING
- 13:50-14:10 **Expanding the Use of Remote Cameras for Microclimate Monitoring: Novel Approaches for Snow Depth and Air Temperature Estimations.** TIM LINK
- 14:10-14:30 **Fine-scale Thermal Environments of Tree-related Microhabitats in North Idaho.** RYAN ROBLES
- 14:30-14:50 **Refuge of the World's Smallest Rabbit—Thermal and Otherwise.** CHARLOTTE MILLING
- 14:50-15:10 **Practical Considerations for the Use of Drone Thermal Imaging for Wildlife Habitat Studies.** JASON KARL
- 15:10-15:30 BREAK**
- 15:30-15:50 **History, Successes, and Challenges of Regional Micro-climate Monitoring.** MICHAEL LUCID
- 15:50-16:10 **Microclimate Monitoring in Restored and Priority Habitats Using Temperature and Soil Moisture Data Loggers.** CASEY MCCORMACK
- 16:10-16:30 **Large Downed Wood as Post-Fire Refugia for Terrestrial Salamanders in Pacific Northwest Forests.** LISA ELLSWORTH
- 16:30-16:50 **Managing Microhabitats for State and Federally Listed Oregon Spotted Frogs at a Meaningful Scale.** MICHELLE TIRHI
- 16:50-17:30 PANEL DISCUSSION**
- 17:30-18:00 WA-TWS Student Chapters Get Together—Bay 4/5**
- 18:00-20:00—Student/Professional Mixer (Hors'd'oeuvres, no host bar)—Bay 4/5**

Wednesday Afternoon

*Names of presenters with an * are students*

Beaver Believers—Moderator: Sawyer Nagle—Bay 3

- 13:30-13:50 **Assessing the Relationship Between Beaver Modified Habitat and Oregon Conservation Strategy Priority Species.** MARLEIGH DUNNING
- 13:50-14:10 **Leveraging Partnerships to Advance Understanding and Improve Outcomes of Beaver-Related Restoration.** JESSE BURGHER*
- 14:10-14:30 **Are Beaver Dam Analogs an Effective Restoration Technique in Wildfire-Impacted, Semi-Arid Watersheds.** CAMILLE MCNEELY
- 14:30-14:50 **Mimicking Mother Nature’s Ecosystem Engineer by Implementing Beaver Dam Analogs in Thompson Creek to Reduce Sediment and Phosphorus Loads Entering Newman Lake.** SUE NIEZGODA
- 14:50-15:10 **Evaluating Dam Dimensions: Comparing Beaver Dam Analogs to Natural Beaver Dams for Hydrological Effectiveness.** SAWYER NAGLE*
- 15:10-15:30 BREAK**
- 15:30-15:50 **Risk and Reward in Beaver Translocation: Case Studies from Birch Creek, ID & Tualum Creek, WA.** SCOTT SHAHVERDIAN
- 15:50-16:10 **Dam it, I Didn’t Plan for Beavers.** JOE WEIRICH
- 16:10-16:30 **Utilizing Community Scientists to Contribute to Modeling Efforts Used for Beaver Restoration.** MEGAN GARVEY
- 16:30-16:50 **Restoration is a Relationship: Intentional Communication Strategies Through the Lens of Beaver Believers and Castor Catastrophes.** SARAH KOENIGSBERG
- 16:50-17:30 PANEL DISCUSSION**
- 17:30-18:00 **WA-TWS Student Chapters Get Together—Bay 4/5**
- 18:00-20:00 **Student/Professional Mixer (Hors'd'oeuvres, no host bar)—Bay 4/5**

Thursday Morning

*Names of presenters with an * are students*

07:30-09:00 **Breakfast with a Biologist—Casco/Kidd Island/North Cape Bays**

Genomics Special Session—Moderator: Stephanie Galla—Bay 4

08:30-08:50 **What can a reference genome tell us about conservation? A case example in declining Columbian Sharp-tailed Grouse.** MORGAN CALAHAN

08:50-09:10 **Application of GT-seq Panel for Genetic Monitoring of the Threatened Northern Idaho Ground Squirrel.** MOLLY GARRETT

09:10-09:30 **Linking genomic and spatiotemporal surveillance datasets to uncover the evolutionary history of Orthohantaviruses.** RICARDO RIVERO*

09:30-09:50 **Assessing Adaptive Genetic Variation of Wolverines across Western North America.** ELISE STACY*

09:50-10:10 **Diet Plasticity and Phylogeny's Effects on Microbial Diversity in Two Deer Species.** KATIE ANDERSON

10:10-10:30 BREAK

10:30-10:50 **Cryptic Diversity within the Cascade Torrent Salamander (*Rhyacotriton cascadae*).** CHRISTOPHER COUSINS*

10:50-11:10 **Investigating Mammalian Hibernation Phenotypes using Comparative Transcriptomics.** ANNE NAKAMOTO*

11:10-11:30 **Genome-wide Adaptive Divergence May Influence Conservation Translocation Outcome for Greater Sage-grouse in Washington.** SHAWNA ZIMMERMAN

11:30-11:50 **Creating a Genetically Explicit Individual-based Model to Understand Climate-Driven Lay Date Shifts in American Kestrels (*Falco sparverius*).** STEPHANIE GALLA

11:50-12:20 **PANEL DISCUSSION—LISSETTE WAITS**

12:00-14:00 **SNVB Lunch—Kidd Island Bay**

12:00-13:30 **Lunch on your own**

Thursday Morning

*Names of presenters with an * are students*

07:30-09:00 **Breakfast with a Biologist—Casco/Kidd Island/North Cape Bays**

Fur, Fangs, and Fear—Special Session—Moderator: Samuel Foster—Bay 5

08:30-08:50 **Caught in a Time Trap: animal activity patterns in the Anthropocene.** SAMUEL FOSTER*

08:50-09:10 **Predator-prey Space-Use and Landscape Features Influence Movement Behaviors in a Large-Mammal Community.** SARAH BASSING

09:10-09:30 **Cougars, Wolves, and Humans Drive a Dynamic Landscape of Fear for Elk in Northeastern Washington.** TAYLOR GANZ

09:30-09:50 **White-Tailed Deer Neonate Survival and Cause-Specific Mortality in North Idaho.** ELIZABETH PAINTER-FLORES*

09:50-10:10 **Summary of Research on Elk and Wolves in Idaho.** JON HORNE

10:10-10:30 BREAK

10:30-10:50 **Breeding Opportunities are Key to Explaining Wolf Pack Dynamics.** DAVID AUSBAND

10:50-11:10 **Modeling Prey & Predator: Using Army Cutworm Moth Summer Occurrence to Inform Grizzly Bear Foraging at Alpine Talus Slopes in Glacier Park, Montana.** ERIK PETERSON

11:10-11:30 **Plants to Populations: Predicting Diet Quality and Nutrient Intake of Deer from Forage Metrics.** LISA SHIPLEY

11:30-12:00 **PANEL DISCUSSION**

12:00-14:00 **SNVB Lunch—Kidd Island Bay**

12:00-13:30 Lunch on your own

Thursday Morning

Names of presenters with an * are students

07:30-09:00 **Breakfast with a Biologist—Casco/Kidd Island/North Cape Bays**

Wildlife Ecology—Moderator: Tarita Harju—Bay 6

08:30-08:50 **Modeling Mule Deer Migratory Routes to Predict Chronic Wasting Disease Transmission Utah.** SIMONA PICARDI

08:50-09:10 **Tetrodotoxin and Location, but Not Chytrid Fungal Infection, Influence Skin Microbiome Composition in Rough-skinned Newts (*Taricha granulosa*).** TALON JOST*

09:10-09:30 **Amphibian Larvae Occupancy of Inland Northwest Wetlands: The Threat of Non-native Fish.** ERIM GOMEZ

09:30-09:50 **Geographic Clutch Size Variation in Snakes: A Comparative Approach.** EMILY MARTIN*

09:50-10:10 **Developing a Range-wide Sampling and Assessment Framework for Endangered Species: an Example with Light-Footed Ridgway's Rail.** BRYAN STEVENS

10:10-10:30 **BREAK**

Human Dimensions—Moderator: Kerrick Robinson—Bay 6

10:30-10:50 **Tails of long-toed salamanders, parasitoids of western toads, and why these things are important for conservation priority.** MARK THOMPSON

10:50-11:10 **Improving the Engagement of Birders in Bird Conservation Policies in the U.S.** TERRELL RICH

11:10-11:30 **The Hunting Access Landscape in Idaho: A Phenomenology of 41 Hunters.** KERRICK ROBINSON*

11:30-11:50 **Using Recreation Demand Models to Resolve Conflict Between User Groups in Washington State.** BRAEDEN VAN DEYNZE

11:50-12:10 **The Use of Photographic Exhibits for Amphibian Conservation in the Greater Yellowstone Ecosystem.** CHARLES PETERSON

12:10-14:00 **SNVB Lunch—Kidd Island Bay**

12:00-13:30 **Lunch on your own**

Thursday Afternoon

Names of presenters with an * are students

Landscape Ecology—Moderator: Leon Burman—Bay 4

- 13:30-13:50 **Determining the Location of Wildlife Crossing Structures on Interstate 5 in Southwest Washington.** ANNA ARENSMEYER
- 13:50-14:10 **Multi-scale Assessment of Elk Kill Sites by Recreational Hunters.** BRYAN STEVENS
- 14:10-14:30 **Indirect Impacts of a Highway on Movement Behavioral States of a Threatened Tortoise.** SETH HARJU
- 14:30-14:50 **Evaluations of Exclosures in the Middle Fork Salmon River Reveals Vegetation Change Since the 1950s.** JIM PEEK
- 14:50-15:10 **Identifying Disrupted Ungulate Migration Patterns using Net-Squared Displacement Methods: Case Studies of What Could be Needed to Restore Historic Migration Patterns in Southern Idaho.** SCOTT BERGEN

15:10-15:30—BREAK

Population Dynamics—Moderator: Elizabeth Painter-Flores—Bay 4

- 15:30-15:50 **Scaling up the Stress-Induced Susceptibility Hypothesis: An Experimental Test in the Ranavirus-Wood Frog (*Lithobates sylvaticus*) System.** JESSE BRUNNER
- 15:50-16:10 **Predator Co-Occurrence Affected by Prey and Habitat More Than Competitor Presence at Multiple Scales.** SARAH BASSING
- 16:10-16:30 **Ringtails in Idaho? Yes!** PETER REBHOLZ
- 16:30-16:50 **Do Cycles in Greater Sage-grouse Populations Imply Resilient Populations Potential to Recover?** E OZ GARTON
- 16:50-17:10 **Non-Invasive Genetic Analysis of the Abundance and Sex Ratio of the Endangered Sonoran Pronghorn Across Different Watering Holes in the Sonoran Desert.** MEGAN CARR*

Thursday Afternoon

*Names of presenters with an * are students*

Methodologies/Modeling/Sampling—Moderator: Robert Ritson—Bay 5

- 13:30-13:50 **Lasers are for the Birds: Using Remote Sensing to Monitor Dryland Riparian Habitats for Multiple Avian Species.** TARITA HARJU
- 13:50-14:10 **Conservation Detection Dog Teams (CDDT): A Developing Technology.** COLLETTE YEE
- 14:10-14:30 **Analyzing and Monitoring with UAV LiDAR.** CODY MARSCHNER
- 14:30-14:50 **Estimating Wolf Reproductive Trends Using Harvest Data, Genetics, and Approximate Bayesian Computation.** MATT MUMMA
- 14:50-15:10 **Further Development of Camera-Based Estimates of Abundance for Unmarked Animals.** JON HORNE

15:10-15:30—BREAK

Habitat Use and Management—Moderator: Aimee McIntyre—Bay 5

- 15:30-15:50 **New Boot Scootin': the Migratory Plasticity of Southern Mountain Caribou.** BRIANNA LUBENAU*
- 15:50-16:10 **Where There's Smoke There's Fire: How Mixed Severity Wildfires Affect an Assemblage of Wildlife Species.** KYLIE DENNY*

IGNITE!—Moderator: Aimee McIntyre—Bay 5

- 16:10-16:15 **Evaluating the Implementation of Research-Based Management Strategies in Mitigating Recreation Impacts on Wildlife.** MARCELA TODD ZARAGOZA
- 16:15-16:20 **Photo Point Monitoring After 2015 Grizzly Complex Wildfire in Mixed Conifer Forests.** LAURA WOLF
- 16:20-16:25 **Microbe Surveillance in the Amphibian Pet Trade: Results from a Pilot Study and Ongoing Sampling.** ROBERT PEARHILL
- 16:25-16:30 **Testing the Effectiveness of Plantskydd in Deterring Cattle Grazing.** JODI BERG
- 16:30-16:35 **Movement Ecology of Bighorn Sheep in Hells Canyon and Implications for Disease Transmission.** KRISTEN WHYLE
- 16:35-16:40 **The Effect of Moon Phase on Predator and Prey Activities Levels on Turnbull National Wildlife Refuge.** JEFF SCHELL

Thursday Afternoon

*Names of presenters with an * are students*

Habitat Use and Management—Moderator: Miranda Reinson—Bay 6

- 13:30-13:50 **Exploring an Ever-Changing Environment: Long-Term Vegetation Trends at Camas National Wildlife Refuge.** SAMANTHA TACKETT
- 13:50-14:10 **How Wetlands in Idaho are Characterized: Past and Present.** TOM JENKINS
- 14:10-14:30 **Connecting Habitat for Washington’s Wildlife: Developing the Washington Habitat Connectivity Action Plan.** STEPHANIE DEMAY
- 14:30-14:50 **Buzzing with Life: Pollinators, Plants, and Phenology in Wet Meadows of Southeast Idaho.** HEIDI HENDERSON
- 14:50-15:10 **Phragmites Control and Wetlands Restoration: The Struggle to Increase Plant Community Diversity in Metal-contaminated Ecosystems.** STEPHEN HAYES

15:10-15:30—BREAK

- 15:30-15:50 **Good Neighbor Authority; How State and Federal Agencies are Working to Manage Forests on a Landscape Scale.** TARA BALL
- 15:50-16:10 **Assessing Wildlife Communities in Relation to Land Use in East-Central Washington.** ALLISON STIFT*
- 16:10-16:30 **A Step in the Right Direction: Step Transects as a Quantitative Rapid Assessment of Upland Habitat for Songbirds.** ANDREW WEHAUSEN
- 16:30-16:50 **The Effects of Nonmotorized Recreation on Ungulates in the Western United States: Finding from a Science Synthesis to Inform Public Land Management Decision Making and National Environmental Policy Act Analyses.** TAYLOR GANZ
- 16:50-17:10 **Selenium Concentrations in an Endangered Marsh Bird: Ramifications of Run-off from Adjacent Agricultural Fields.** CYDNEY YOST*

Thursday Evening

Banquet (no host bar) —Fundraiser—Awards Ceremony— 18:00-21:00—Bays 1-3

Awards Ceremony—EMCEE: Michelle Kemner—President-Elect ICTWS

ICTWS—2024 Scholarship Recipients—Robert Akins

2024 Best Student Paper and Poster Awards—Laura Wolf

ICTWS—2024 R.B. Smith, C.E. Harris, and Special Recognitions Awards—Ryan Long

SNVB—Who are We?—Aimee McIntyre

NW PARC—2024 Lifetime Achievement and Unsung Hero Awards—Laura Sprague

WA-TWS—2024 Scholarship, Conservation Grant, Research Grant Winner—Alex Pavlinovic

WA-TWS—2024 Outreach Award, Leadership Award, Partnership Award, and Chapter Award—Bill Vogel

2024 Photo Contest Winners—Seth Harju

