



INTERNATIONAL CONFERENCE ON  
ECOLOGY AND TRANSPORTATION



DENVER, CO | MAY 11-15, 2025

PROGRAM LAST UPDATED 5/13/25



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OUTSIDE

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## CONFERENCE TIMES & TIME ZONES

Thanks for joining ICOET from your time zone. Because the conference includes an in-person component, all times in the program are expressed relative to local time in Denver, Colorado (Mountain Daylight Time, MDT). If you are participating virtually, you can find your time relative to MDT based on your location, using this website: <https://greenwichmeantime.com/time-gadgets/time-zone-converter/>. We have also put major time zones at the beginning of the program.

For example, Denver is -6:00 hours relative to GMT, so 9 am MDT in the program = 8 AM in California and 5 pm in Johannesburg, South Africa.



# MESSAGE FROM THE CHAIR

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Chris Slesar, ICOET Conference Chair  
*Vermont Agency of Transportation*

On behalf of the ICOET Steering Committee, it is my pleasure to welcome you to the fourteenth biennial International Conference on Ecology and Transportation in beautiful Denver, Colorado. ICOET is more than a conference, it is a community of transportation and environmental planners, practitioners, and academics working at the nexus of linear infrastructure and ecology. Again, this is a hybrid conference expanding our reach far beyond the walls of the conference rooms via virtual participation. New to ICOET in 2025 are a series of training sessions on relevant topics ranging from community involvement to managing and monitoring bats in transportation projects.

We have a robust and exciting program consisting of 4 trainings, 270 presentations (Podium, Lightning, and Multi-media/Poster), from 18 countries and 35 US states. We are honored to have award-winning independent conservation journalist, author of *Crossings: How Road Ecology is Shaping the Future of Our Planet*, Ben Goldfarb as our keynote speaker.

The conference theme for 2025 is Bridging Divides Through Collaboration. Collaboration is critical to success on all scales. Collaborative partnerships overlap and interact in dynamic ways to create and maintain a healthy planet. There are collaborations that are exclusive to the work we are doing in our own jurisdictions. And there are collaborations that capture broad landscapes and multiple political jurisdictions across the globe.

The magic of ICOET is rooted in multifaceted collaborations. ICOET is fueled by the interaction of many individuals representing many diverse organizations, working at different scales, from global to local - together producing a combined effect greater than the sum of their separate parts. This interdisciplinary conference flourishes on the relationships among participants, and their relationships in the contexts in which they are working.

Colorado's magnificent landscape of arid desert, river canyons, and rugged snow-covered Rocky Mountains provides the backdrop for this meeting. It is within this setting that we will undertake a four-day dialog that will inform and inspire participants to return to their respective jurisdictions and continue to bring our work to the next level. Conference participants will be steeped in the most current research and practices as represented by the foremost minds (both newcomers' and veterans') in transportation ecology research, academics, policy, and practice.

ICOET 2025 will be highly engaging and interactive and will delve into a diversity of relevant topic areas that root transportation decision-making in science and sound policy. We enthusiastically and warmly welcome newcomers to ICOET and look forward to embracing them in the camaraderie of the ICOET community. Please take every opportunity to network with old and new colleagues, collaborators, and friends. We look forward to your active engagement in ICOET 2025.

Welcome to Denver and enjoy the conference!

# MESSAGE FROM THE ORGANIZER

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Fraser Shilling, PhD

*Road Ecology Center Director and ICOET Lead Organizer*

Every two years, ICOET brings you, a large, diverse and international crowd together to examine how transportation systems impact nature and what we can do to reduce those impacts. Your knowledge and enthusiasm are what makes ICOET successful and allowed it to persist for over two decades now. This year's conference celebrates and focuses on partnership as an important part of mitigating the impacts of transportation. Thanks to our sponsors, to the universities supporting the next generation of transportation ecologists, to the local, state and federal agencies encouraging their staff's participation, and to the private organizations and individuals providing their expertise.

One of the founding and still most common type of presentation at ICOET is "wildlife crossings", which bridge the roads that divide nature. In many ways, wildlife crossings are analogous to partnerships that bridge political divides and probably take as much time to get built. With today's political division, coming together around re-connecting nature provides a needed respite from damaging conflict. The question for nature, as it is in politics, is whether or not we will build enough bridges to save what we value in time to preserve it.

Partnership is at the core of this year's conference theme and many of the abstracts you submitted for presentation. It's also assumed to underlie successful conservation and environmental protection. However, it's often adversity and conflict that drives advancement and innovation, not collaboration. The world's environmental protection laws, civil rights legislation, the gradual recognition of indigenous peoples' sovereignty, women's right to vote, the end of slavery, and even the creation of many national forests and parks arose from different types of adversity. In a time of conflict it is worth considering what we can learn and gain from the adversity. Should we engage in evaluation of where we are in transportation ecology, find out if we are being successful; what should we really be doing, and who should we be doing it with?

This year's ICOET will be the largest in terms of abstract submissions (270), number of panels and organized sessions (19), and number of professionals and students participating. As in previous years, ICOET will be held in hybrid format (in-person and virtual), allowing greater participation by international and state partners and also limiting greenhouse gas production from travel. ICOET benefits from: a) a very active Steering Committee, which advises on overall strategies in conference content and evolution, selects awardees, and connects the conference to other organizations; b) a Program Committee that functions as a deep bench of scientific and practice experts, and c) an Abstract Review Committee, which includes many of you, providing your expert reviews of all contributed presentations. To these Committees -- I appreciate all of your efforts, individually and collectively.

The Road Ecology Center (<https://roadecology.ucdavis.edu>) is joined in organizing ICOET 2025 by the UC Davis Institute of Transportation Studies (<https://its.ucdavis.edu/>) and the National Center for Sustainable Transportation (<https://ncst.ucdavis.edu/>). The three organizations are each pioneers and among the largest in their fields and, in combination cover most issues in evolving sustainable transportation. We are excited to bring you ICOET 2025 and to make sure that ICOET is continuously and expertly managed into the future. We look forward to meeting many of you in-person and virtually and to helping you have a great ICOET experience. Look us up online, or during the conference.



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# KEYNOTE SPEAKERS

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Dan Gibbs

Colorado Department of Natural Resources Executive Director

As Executive Director, of the Colorado Department of Natural Resources, Dan Gibbs leads the departments development and execution of the initiatives for the balanced management of the state's natural resources. Dan works on an array of issues pertaining to all of Colorado's natural resources, including water, wildlife, state lands, oil and gas and mining. Prior to joining the Department of Natural Resources, Dan served as a Summit County Commissioner from 2010-2018. Prior to his tenure as a Commissioner, Dan served in the Colorado House of Representatives and in the Colorado State Senate where he served on the Senate Agriculture and Natural Resources Committee. Dan is a graduate of Western State Colorado University and completed the Harvard Kennedy School Senior Executives in State and Local Government Program. He is also a Marshall Memorial Fellow. Dan and his family reside in Breckenridge, Colorado, where he enjoys all that living in the high country has to offer, including skiing, running, mountain biking, hunting and fishing.



Herman Stockinger

Colorado Department of Transportation Director of the Office of Policy and Government Relations

Herman Stockinger joined CDOT in 2000 and has been the Director of the Office of Policy and Government Relations and a member of the department's Executive Management Team for eighteen years, including the last four as the Deputy Executive Director. Prior to his current position, he served for five years as CDOT's Legislative Liaison, representing CDOT's interests at the State Capitol. In addition to his duties as Deputy Director and Policy Director, Herman also serves as Secretary to the Transportation Commission.



Ben Goldfarb

Journalist

<https://www.bengoldfarb.com/>

Ben Goldfarb is an environmental journalist whose work has appeared in National Geographic, the Atlantic, the New Yorker, Smithsonian Magazine, Science, and many other publications. His most recent book, Crossings: How Road Ecology Is Shaping the Future of Our Planet, was named one of the best books of 2023 by the New York Times, and received the Rachel Carson Award for Excellence in Environmental Writing and the Banff Book Competition's Grand Prize. His previous book, Eager: The Surprising, Secret Life of Beavers and Why They Matter, won the PEN/E.O. Wilson Literary Science Writing Award. He lives in Colorado with his wife, Elise, and his dog, Kit — which is, of course, what you call a baby beaver.

# SPONSORS & ORGANIZERS

THANK YOU to our generous private Sponsors for continuing to help us reduce registration fees, to our outstanding co-host agencies, and to the members of the Steering, Program, Abstract Review, and Awards Committees. ICOET 2025 is made possible through the financial and volunteer support of the many organizations listed in this program. Please take time during your participation during the conference to visit the Sponsor tables.

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University of California, Davis

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THANK YOU to these state Departments of Transportation that have donated up to \$10,000 towards ICOET 2025. They show the dedication happening across the nation for improvements to transportation ecology.

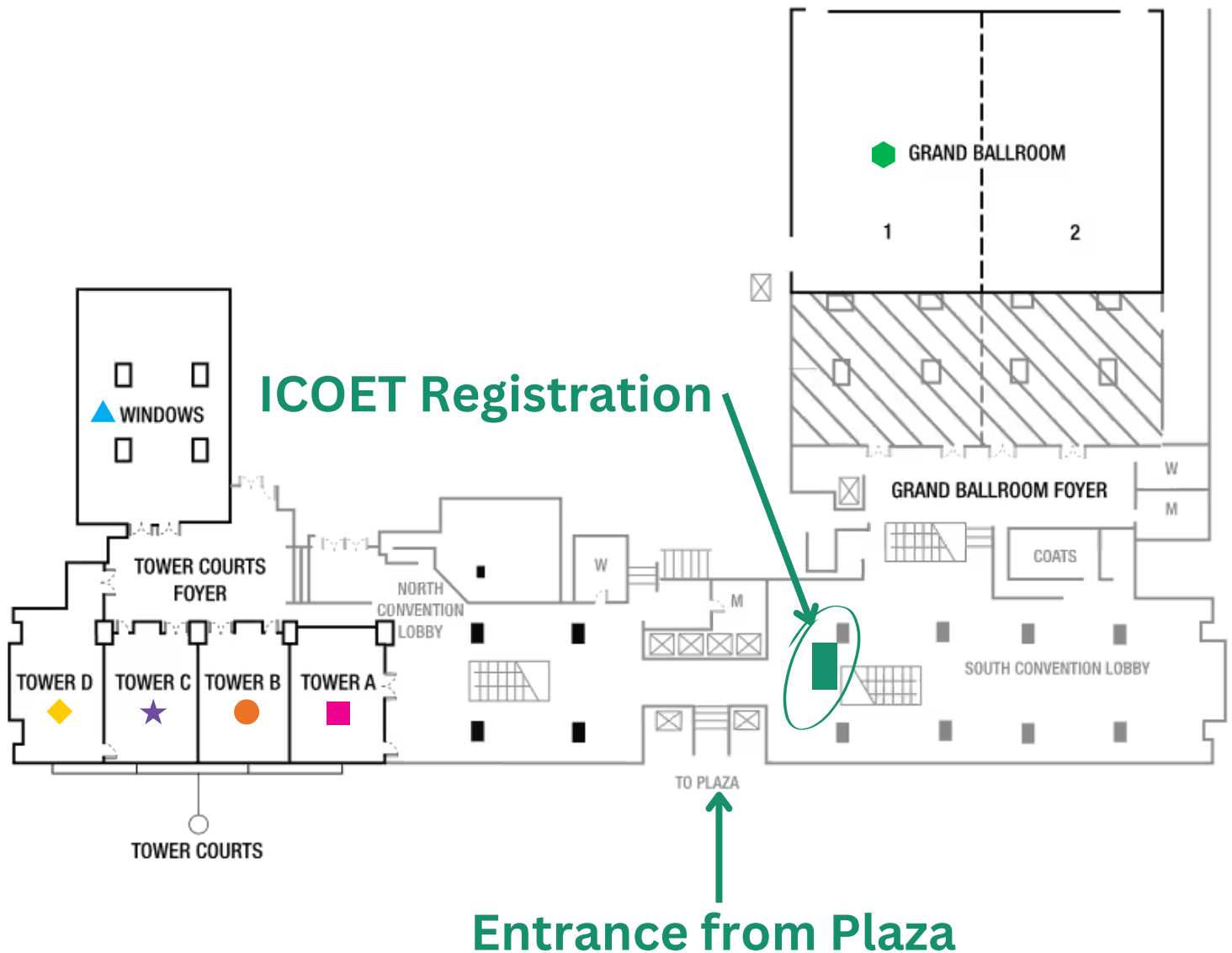


# CONFERENCE ROOM MAP

## SHERATON DENVER DOWNTOWN HOTEL

Grand Ballroom Tower A Tower B Tower C Tower D Windows Silver Denver

### I.M PEI TOWER SECOND FLOOR LEVEL

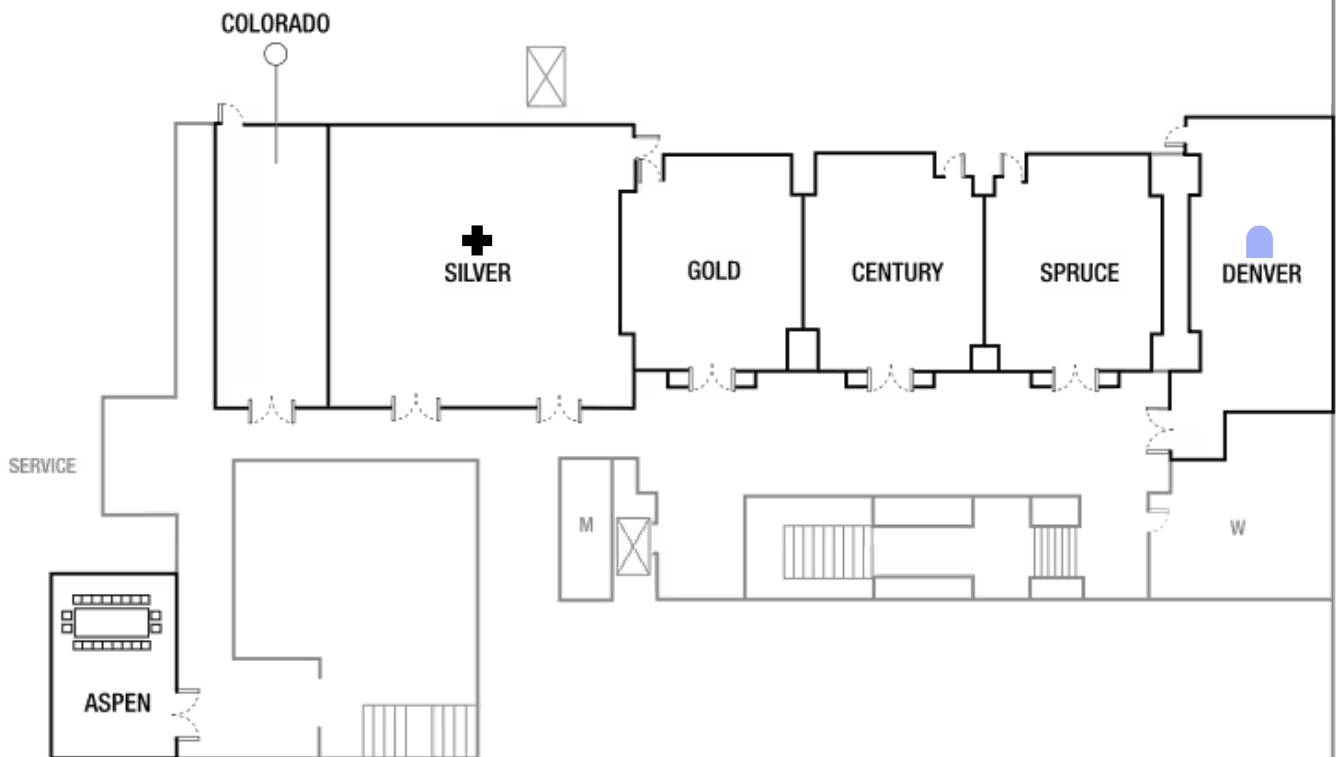


# CONFERENCE ROOM MAP

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### I.M. PEI TOWER MEZZANINE LEVEL





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Blue text denotes virtual presentation

Information on trainings can be found at [www.icoet.net/2025/trainings](http://www.icoet.net/2025/trainings)

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## SUNDAY, MAY 11

12:00 PM (MDT)	ICOET Check-In Starts (South Convention Lobby) Stop by registration to collect your materials
1:30 PM (MDT)	Trainings <ul style="list-style-type: none"><li>• Training 6: Advancing Transportation Ecology Through Agency-University Partnerships</li></ul>
3:00 PM (MDT)	Break 15 minutes
3:15 PM (MDT)	Trainings <ul style="list-style-type: none"><li>• Training 1: AI: What Is It and How Can You Use It?</li><li>• Training 5: Managing and Monitoring Bats at Transportation Structures</li></ul>
4:45 PM (MDT)	Break 45 minutes
5:00 PM (MDT)	AASHTO & ICOET Speed Networking Event (Parlor Room) Come meet your state DOT partners and other ICOET attendees for a fun, informal happy hour, and make a connection for the rest of the conference and beyond! 120 minutes

End of Pre-Conference

# Wallis Annenberg Wildlife Crossing

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[101wildlifecrossing.org](http://101wildlifecrossing.org)



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## MONDAY, MAY 12

- |                       |  |
|-----------------------|--|
| <b>8:30 AM (MDT)</b>  | <b>Day 1 Welcome Plenary Session</b><br>Remarks from Conference Chair and Lead Organizer   |
| <hr/>                 |  |
| <b>9:00 AM (MDT)</b>  | <b>Colorado Welcomes</b><br>Welcome Addresses by Dan Gibbs and Herman Stockinger   |
| <hr/>                 |  |
| <b>9:30 AM (MDT)</b>  | <b>ICOET Awards by Conference Chair and Ben Goldfarb</b>   |
| <hr/>                 |  |
| <b>9:50 AM (MDT)</b>  | <b>Plenary Keynote: Ben Goldfarb</b>   |
| <hr/>                 |  |
| <b>10:30 AM (MDT)</b> | <b>Break &amp; Poster Setup</b><br>10 minutes  |
| <hr/>                 |  |
| <b>10:40 AM (MDT)</b> | <b>Technical Sessions 1, 2, 3, 4, &amp; 5 and Panel 1</b> <ul style="list-style-type: none"> <li> • Panel 1: Planning for Pollinators: How Voluntary Conservation Initiatives Can Address the Challenges of Pollinator Listings for Transportation Agencies</li> <li> • Session 1: No Bank, No Problem: An Almost Comprehensive Review of FDOT Alternative Mitigation Strategies for Wildlife and Resiliency (77, <a href="#">98</a>, 40, 200)</li> <li> • Session 5: The Cat's Meow (73, 128, 63, 4)</li> <li> • Session 4: Collaborative Initiatives for Leveraging Road Ecology in Latin America (<a href="#">130</a>, <a href="#">185</a>, <a href="#">69</a>)</li> <li> • Session 2: A Road Runs Through It: Improving Stream Quality &amp; Stability (75, 5, 183, <a href="#">222</a>)</li> <li> • Session 3: Dead Serious About Preventing Roadkill (146, 19, 17, <a href="#">172</a>)</li> </ul> |

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Sydney, Australia

Grand Ballroom Tower A Tower B Tower C Tower D Windows Silver Denver

## MONDAY, MAY 12 CONTINUED

**12:10 PM (MDT)** Lunch, Sponsor Meet-up, & Poster Setup  
Stop by ICOET Registration anytime Monday for a lunch  
voucher!  
60 minutes

**1:40 PM (MDT)** Technical Sessions 6, 7, 8, 9, & 10 and Lightning Session 1,  
and TRB

- Session 6: Partnerships Connecting the Florida Wildlife  
Corridor (80, 103, 201, [85](#))
- Session 7: Batting a Thousand ([250](#), [10](#), [18](#), 153)
- Session 10: New Voices, New Solutions (132, [178](#), 282, 217)
- Session 9: Canopy Bridges: A Cost Effective, Under-Utilized  
Fragmentation Solution for Arboreal Species ([62](#), [105](#), 177, 61)
- Lightning Session 1 (68, 34, [197](#), [277](#), [198](#), 112, 20, 11, 12, 270)
- Session 8: Connecting the Dots ... Wildlife Fencing and  
Crossings (120, 226, 275, 253)
- TRB: NEPA Update

**3:10 PM (MDT)** Break & Poster Setup  
20 minutes



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## MONDAY, MAY 12 CONTINUED

3:30 PM (MDT)

Technical Sessions 11, 12, 13, 14, & 15; Panel 2; and TRB

- Panel 2: Stitching It Together: Integrating Transportation and Land Use Policies to Support Ecological Connectivity at the Landscape Scale
- Session 11: Corridors, Collisions, & Conservation Funding (30, 193, 123, 194)
- Session 15: I Think I Am Being Followed (158, 221, 8, 243)
- Session 14: The 3Cs: Connectivity, Collaboration, Crossings (154, 231, 225, 129)
- Session 12: I Get By With a Little Herp From My Friends (38, 262, 134, 136)
- Session 13: Predictions Are Hard, Especially About the Future (26, 7, 25, 1)

5:00 PM (MDT)

CDFW Staff Meeting:  
Transportation and  
Ecology Training

For a link to access the  
meeting, please contact  
Harvest Vieira  
([Harvest.Vieira@wildlife.ca.gov](mailto:Harvest.Vieira@wildlife.ca.gov))

- Meeting is virtual, but participants may use Windows for seating. 60 minutes

6:00 PM (MDT)

Welcome Reception  
120 minutes

6:30 PM (MDT)

Film Screening:  
Spineless Wonders  
Tarantula Tales  
40 minutes

END OF DAY 1

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- Windows
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- Denver

## TUESDAY, MAY 13








9:00 AM (MDT)	Technical Sessions 16, 17, 18, 19, & 20 and Lightning Session 2 <ul style="list-style-type: none"><li> • Session 16: This Session is 90% Bats, and the Other Half is Birds (257, 53, 232, 215)</li><li> • Session 17: Watershed Moments in Aquatic connectivity (269, 219, 102, 242)</li><li> • Session 18: Connecting People to Connect Habitat (124, 229, 83, 268)</li><li> • Session 19: Planning for California's Wildlife Crossing Future (241, 248, 95, 71...)</li><li> • Lightning Session 2 (214, 272, 119, 16, 117, 70, <a href="#">143</a>, 152, 67)</li><li> • Session 20: Borders and Barriers (96, 87, 48, <a href="#">264</a>)</li></ul>
10:30 AM (MDT)	Break 20 minutes
10:50 AM (MDT)	Technical Sessions 19 (cont.), 21, 22, 23, & 24 and Lightning Session 3 <ul style="list-style-type: none"><li> • Session 21: Lift Each Other Up: Seeing Opportunities &amp; Sawing Barriers (<a href="#">205</a>, 118, 58)</li><li> • Session 22: Nature On the Verge - What's the Buzz? (204, <a href="#">160</a>, <a href="#">199</a>, 46)</li><li> • Session 23: Can't We All Get Along...? Benefiting Wildlife Through Collaboration (142, 175, 84, 109)</li><li> • Session 19: Planning for California's wildlife crossing future (...35, 72, 60, 43)</li><li> • Lightning Session 3 (166, <a href="#">33</a>, 207, 42, 65, 91, 106, <a href="#">11</a>, <a href="#">89</a>)</li><li> • Session 24: Digital Pathways: Enhancing Wildlife Connectivity Through Technology (23, 238, 281, 162)</li></ul>

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## TUESDAY, MAY 13 CONTINUED

12:20 PM (MDT)	<div>Lunch</div> <div>Enjoy a buffet-style lunch.</div> <div> AASHTO Committee on Environment and Sustainability - Making Regional Connections</div> <div>Join your state DOT partners for a working lunch, with regional roundtable discussions. You will get to meet your DOT neighbors and strategize hot topics, programmatic needs and solutions. Space is limited and is intended for DOT practitioners, but open to all ICOET registrants.</div>
1:30 PM (MDT)	<div>Technical Sessions 25, 26, 27, &amp; 28, Lightning Session 4, and Panel 3</div> <div><div></div><div>• Panel 3: Connecting Colorado: How Colorado Used a Statewide Prioritization Process to Implement Wildlife Mitigation Projects</div></div> <div><div></div><div>• Session 25: A Novel, Methodological Approach to Present and Future Multi-benefit, Resilient Transportation Design in Yellowstone National Park (64, 247, 165, 99)</div></div> <div><div></div><div>• Session 26: Building Partnerships to Build Wildlife Crossings (239, 45, 157, 104)</div></div> <div><div></div><div>• Session 28: Global Perspectives From the Roadkill Café (<a href="#">2</a>, <a href="#">161</a>, 180, <a href="#">170</a>)</div></div> <div><div></div><div>• Lightning Session 4 (<a href="#">92</a>, <a href="#">59</a>, 82, <a href="#">260</a>, 191, <a href="#">252</a>, <a href="#">251</a>, 202, 159, 261)</div></div> <div><div></div><div>• Session 27: Successes in Crossing Structures: Lessons From the I-90 Snoqualmie Pass East Project Across Taxonomic Groups and Diverse Measures (21, 22, 208, 121)</div></div>
3:00 PM (MDT)	<div>Break</div> <div>20 minutes</div>

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## TUESDAY, MAY 13 CONTINUED

3:20 PM (MDT)

### Panel 4, 5, 6, & 7 and Trainings and Workshops

-  • Training 2: Promising Practices for Community Involvement in Transportation Ecology
-  • Workshop: Communicating Your Transport Ecology Story to the Community, Engineers and Your Mum: Enthralling Your Audience With a Captivating Blog and Stunning Audio-Visuals
-  • Workshop: From Policy to Practice: Tackling Barriers to Building Wildlife Crossings
-  • Training 3: FHWA, Planning and Implementing Wildlife Crossings Under IIJA
-  • Training 4: FHWA/USGS, Introduction to the Stochastic Empirical Loading and Dilution Model
-  • Panel 4/5: Collaborative Strategies for Integrating Ecology into Transportation Projects: Insights From the Duckabush Estuary Restoration/Arach-No-phobia: Perspectives and Results From a Unique, Collaborative Study of Tarantulas in Southeast Colorado
-  • Panel 7:The Application of Nature-based Solutions (NBS) for Transportation Systems
  - (Panel 6 Wild Ways: Designing Connectivity (CANCELLED))

5:00 PM (MDT)

Poster Reception (North & South Convention Lobbies)  
120 minutes

5:30 PM (MDT)

 Film Screening: Cougar Crossing | WILD HOPE  
30 minutes

END OF DAY 2

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Information on field trips can be found  
at [www.icoet.net/2025/fieldtrips](http://www.icoet.net/2025/fieldtrips)

**WEDNESDAY, MAY 14**

\*denotes half day

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**5:45 AM (MDT)**

Field Trip #6 Departure: \*Rocky Mountain Arsenal National Wildlife Refuge Wildlife and Birding  
(Meet in Main Hotel Lobby)

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**6:30 AM (MDT)**

Field Trip #3 Departure: Rocky Mountain National Park -  
(Meet in Grand Ballroom)

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**7:30 AM (MDT)**

Field Trip #5 Departure: State Highway 9 & I-70 East Vail Pass: Locally-driven Wildlife Crossings Projects

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**8:00 AM (MDT)**

Field Trip Departures (Meet in Grand Ballroom)

- Field Trip #1: I-25 Front Range Wildlife Crossings and Riparian Mitigation
- Field Trip #2: US 34 Big Thompson Flood Resiliency and Stream Restoration
- Field Trip #4: I-70 Mountain Corridor: Genesee to Georgetown Wildlife Crossings

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**7:30 AM (MDT)**

Field Trip #7 Departure: \*I-70 Central Cover Park, 47th & York Pedestrian Bridge Tour and Heron Pond Open Space Carpio-Sanguinette Park (Meet in Grand Ballroom)

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**5:00 PM (MDT)**

Latest expected return time for full day field trips.

---

END OF DAY 3



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## THURSDAY, MAY 15

### 9:00 AM (MDT)

Technical Sessions 29, 30, 31, & 32; Lightning Session 5; and Panel 8

- Panel 8: Leveraging Training For a Culture of Conservation in Transportation
- Session 31: Conversations on Conservation Collaboration (151, 240, 156, 233)
- Session 32: Wildlife Spatial Ecology and Road Systems (276, 90, 168, 107)
- Session 30: Planning For Climate-informed Wildlife Crossings (115, 110, [56](#), Facilitated Discussion)
- Lightning Session 5 (206, 39, 249, 49, 145, [271](#), [108](#), 279, [174](#))
- Session 29: (Team)Work Zone Ahead – How Interagency Collaborations are Endeavoring to Improve Our Understanding of How Bats and Bat Habitat are Connected to Transportation Infrastructure (258, 116, 235, 211.....)

### 10:30 AM (MDT)

Break  
20 minutes

### 10:50 AM (MDT)

Technical Sessions 29 (cont.), 33, 34, & 35 and Panel 9

- Panel 9: Wildlife Connectivity Projects and Natural Resource Assessments
- Session 34: Restoration Can Be Fun-Guys (113, [173](#), 209, 213)
- Session 33: California Dreamin': Wildlife Crossing Planning ([167](#), [278](#), 47)
- Session 35: Making Way For Moving Mammals (A Nod to Norris) ([245](#), 188, 284)
- Session 29: Collaborations are Endeavoring to Improve Our Understanding of How Bats and Bat Habitat Are Connected to Transportation Infrastructure (.....[54](#), 78, 74, 97)



## EVENT PROGRAM

Blue text denotes virtual presentation

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South Africa; 8:30PM Mumbai, India, 1AM(next day)  
Sydney, Australia



Grand Ballroom



Tower A



Tower B



Tower C



Tower D



Windows



Silver



Denver

### THURSDAY, MAY 15 CONTINUED

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12:20 PM (MDT)



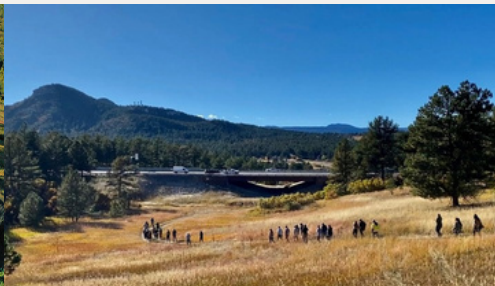
Plenary Wrap-Up and Introduction to ICOET 2027

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END OF CONFERENCE



US 160 Wildlife Overpass



I-25 Wildlife Underpass



CO 9 Wildlife Overpass

## CDOT's Bridging Divides Through Collaboration

"Connecting the little pieces to to make a big difference!" - The Colorado Department of Transportation



Kristin Salamack, USFWS/CDOT  
Arach-No-phobia: Perspectives and results from a unique, collaborative study of tarantulas in southeast Colorado. Join CDOT at the panel presentation to discuss the study of tarantula movements in southeast Colorado.



Mark Lawler, CDOT

CDOT's lynx in-lieu fee fund: Colorado's Department of Transportation has developed an approach that gives them the option to pool funds to mitigate impacts for Canada lynx.

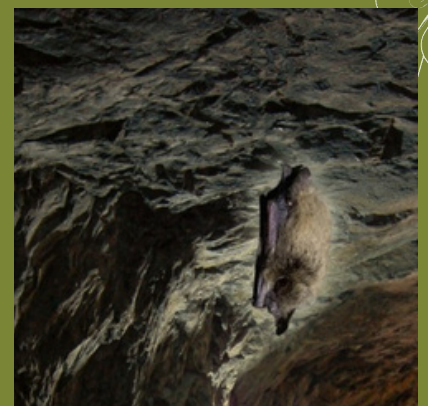


Chuck Attardo CDOT

Connecting Colorado: How Colorado Used a Statewide Prioritization Process to Implement Wildlife Mitigation Projects: I-25/Greenland Wildlife Overpass - Success Isn't Comfortable



Francesca Tordonato, CDOT  
Feasibility of Composting as an Alternative Disposal Method for Wildlife Vehicle Collision-Induced Carcasses within Colorado Department of Transportation Processes.



Jason Roth & Anne Hoffman, CDOT

Understanding Bat Use of CDOT Structures: Two species of bats (tricolored and little brown) are proposed to soon be protected by the Endangered Species Act. Learn about Colorado's research to aid the challenges posed by this lack of existing data.

Explore the 2025 ICOET Program for a full list of presentation times and details.



Colorado Parks  
& Wildlife



COLORADO  
Department of Transportation



Colorado  
Wildlife  
Transportation  
Alliance

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## MONDAY, MAY 12 | 10:40AM - 12:10PM (MDT)

### Session 1: No Bank, No Problem: An Almost Comprehensive Review of FDOT Alternative Mitigation Strategies for Wildlife and Resiliency



**FDOT Sunshine Skyway Wave Attenuating Devices (Part of Session - No Bank, No Problem: An Almost Comprehensive Review of FDOT Alternative Mitigation Strategies for Wildlife and Resiliency)**  
Nicole Monies (Florida DOT)



**SR A1A Hurricane Response**  
Zakia Williams (US Fish and Wildlife Service Florida Ecological Services)



**A Unique Solution to Stormwater Challenges. Part of Session: No Bank, No Problem: An Almost Comprehensive Review of FDOT Alternative Mitigation Strategies for Wildlife and Resiliency.**  
Casey Lyon (Florida DOT)



**No Bank, No Problem: An Almost Comprehensive Review of FDOT Alternative Mitigation Strategies for Wildlife and Resiliency - Wildlife Crossings**  
Jason Houck (Ardurra)

### Session 2: A Road Runs Through It: Improving Stream Quality & Stability



**Stream Design, Living in a Digital World**  
Nich VanBuecken (Jacobs), Ben Dupuy



**Failure Probability Curves for Road Cut Slopes Considering the Effect of Water Erosion and Variability in the Rainfall Pattern**  
Manuel Contreras-Jara (Department of Construction Engineering and Management, Pontificia Universidad Católica de Chile; Research Center for Integrated Disaster Risk Management), Esteban Sáez, Alondra Chamorro Gine, Carlos Bonilla, Jorge Gironas, Tomás Echaveguren, Eduardo Arancibia-Ruiz



**6PPD-Quinone: Responding to an Emerging Contaminant**  
Jana Crawford (Jacobs)



**Use of the Palmiter Stream Management Technique to Maintain Transportation Infrastructure**  
Matthew Perlik (Ohio DOT)

### Session 3: Dead Serious About Preventing Roadkill



**Confirming High Levels of Wildlife Roadkill in Baseline Surveys on US Highway 64, North Carolina, USA**  
Ron Sutherland (Wildlands Network), Alexandra Blunt, Ashwin Narayanan

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## MONDAY, MAY 12 | 10:40AM - 12:10PM (MDT) CONTINUED

### Session 3: Dead Serious About Preventing Roadkill - Continued



#### Median Treatment May Impact Wildlife-Vehicle Collisions on California Highways

Lorna Haworth (UC Davis Road Ecology Center), Ben Hodgson, Leo Hecht, Ash Henderson, Laura Morris, Shannon Lemieux, Michelle See, Fraser Shilling



#### Estimating Total Roadkill Rate for a US State

Alice Michel and Fraser Shilling (University of California Davis), David Waetjen, Chloe Schaecher



#### A Multi-Tiered Assessment of Wildlife-Vehicle Collision Risk to Inform Mitigation

Amy Villamagna, Ph.D. (Plymouth State University), Clara Dawson, Remington Moll, Rebecca Martin, Eric Laflamme, Hyun Joong Kim

### Session 4: Session 4: Collaborative Initiatives for Leveraging Road Ecology in Latin America



#### The LACTWG: Crossing Borders for Environmentally Sustainable Transport Infrastructure in Latin America

Fernanda Z. Teixeira (Center for Large Landscape Conservation (CLLC)), Larissa Oliveira Gonçalves, Talita Menger, Júlia Beduschi, Daniela Araya Gamboa, Esther Pomareda García, Esmeralda Arevalo Huezo, Diego Varela, Clara Grilo, Anthony Clevenger, Juan Carlos Jaramillo Fayad, Victor Colino Rabanal



#### Ten Years of Experience Supporting the Development of Road Ecology Public Policies in Brazil

Larissa O. Gonçalves (Universidade Federal do Rio Grande do Sul), Fernanda Z. Teixeira, Talita Menger, Júlia Beduschi, Caroline Zank, Bibiana Terra Dasoler, Andreas Kindel



#### Collaborative National Inventory of Wildlife Underpasses on Costa Rican Roads

Daniela Araya-Gambo (PANTHERA), Yosette Araya-Jimenez, Andrea Avila-Alfaro, Esther Pomareda García, Esmeralda Arevalo Huezo, Katia Castro del Valle, Angie Sánchez Nuñez, Karina Rodriguez Saenz, Silvio Boyat, Andrea Induni Vizcaini, Anthony Gomez Portugues, Einer Reyes Martinez, Alejandra Mendez Baez

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## MONDAY, MAY 12 | 10:40AM - 12:10PM (MDT) CONTINUED

### ★ Session 5: The Cat's Meow



**Habitat Selection and Connectivity of Mountain Lions (*Puma concolor*) Across Anthropogenic Barriers on the Olympic Peninsula: A Multi-Method Comparison**  
Read Barbee (Panthera)



**Predicting Florida Panther Movements and Potential Road Crossing Locations within South-Central Florida (2023)**  
Daniel J. Smith (Center for Landscape Conservation Planning, University of Florida)



**Primary Arteries are Obstacles to Mountain Lion Recolonization of Eastern North America, as Predicted by an Individual-Based Model**  
Mark Elbroch (Panthera), Thomas W. Glass, Richard Beausoleil, Brian N. Kertson, Benjamin T. Maletzke, Quinton Martins, Marc R. Matchett, T. Winston Vickers, Christopher C. Wilmers, Heiko U. Wittmer, Hugh Robinson



**The Influence of Anthrophony on Use of Wildlife Crossing Structures Built for Ocelots in Texas**  
Thomas J. Yamashita (Caesar Kleberg Wildlife Research Institute, Texas A&M University), Ashley M. Tanner, Evan P. Tanner, Daniel G. Scognamillo, Michael E. Tewes, John H. Young Jr., Jason V. Lombardi

### ■ Panel 1: Planning for Pollinators: How Voluntary Conservation Initiatives Can Address the Challenges of Pollinator Listings for Transportation Agencies

Organized by Catherine O'Reilly (University of Illinois Chicago)

Panelists: Cathy Ford (Idaho Transportation Department), Catherine O'Reilly (University of Illinois Chicago), Erica Christiansen (Stantec), Christopher Smith (Minnesota DOT), Katasha Cornwell (Florida DOT)

This panel consists of representatives from the University of Illinois Chicago (UIC), Stantec, Minnesota Department of Transportation (MnDOT), Idaho Transportation Department (ITD), and Florida Department of Transportation (FDOT). The goal of this panel will be to discuss the challenges that pollinator species' listings pose to transportation agencies and how conservation agreements offer flexibility to continue operations while providing a conservation benefit to pollinators. The learning objectives for this panel include: 1) how to best prepare their agencies for potential pollinator species' listings, 2) roadside vegetation best management practices for pollinators, specific to different regions, and 3) how to integrate pollinator conservation initiatives into operations and maintenance activities for transportation agencies. Following the presentations, panelists will address questions from the moderator and audience members.

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## MONDAY, MAY 12 | 1:40PM - 3:10PM (MDT)

### Session 6: Partnerships Connecting the Florida Wildlife Corridor



#### Aligning Vision and Tactics to Salvage Florida’s Wildlife Corridor (Also Part 1 of Partnerships Connecting the Florida Wildlife Corridor)

Jason Lauritsen (Florida Wildlife Corridor Foundation)



#### FDOT Pile Bridge Wildlife Crossings

Brent Setchell (Florida Department of Transportation)



#### Road to Recovery – How FDOT and USFWS Have Partnered to Recover the Endangered Florida Panther

Katasha Cornwell (Florida Department of Transportation)



#### Corridors and Conservation Strategies in Florida – A USFWS Perspective

Mark Cantrell (US Fish and Wildlife Service)

### Session 7: Batting a Thousand



#### Living on the Edge of the Range: Time-Use Metrics of Non-Traditional Hibernacula on the Southern Edge of a Small Hibernator

Nathan W. Fuller (US Fish and Wildlife Service), Leah N. Crowley, Samantha Leivers, Catherine G. Haase



#### eDNA Surveys for Bridge-Roosting Bats

Daniel Fisher (Rutgers University), MacKenzie Hall, Brooke Maslo, Robert Kwait, Erin McHale, Morgan Mark, Kathleen Kerwin



#### To What Extent Have the Mandates of Transportation Agencies Improved Regarding the Consideration of Biodiversity? An International Comparison.

Sabrina Mruczek (Concordia University), Jochen A.G. Jaeger



#### Delivering a Landscape Scale Connectivity Strategy for Threatened Species on a Coastal Motorway, Investigating Overall Success Through the Analysis of Operational Monitoring Data

Chris Thomson (Jacobs Australia), Scott Lawrence, Dr David Rohweder, Simon Wilson

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## MONDAY, MAY 12 | 1:40PM - 3:10PM (MDT) CONTINUED



### Session 8: Connecting the Dots ... Wildlife Fencing and Crossings



**What Makes a Good Wildlife Fence? An Exploration into Implementing and Maintaining an Effective Wildlife Exclusion and Safe Passage Project**  
Steve Bega (Animex International), Steve Mars, Kari Gunson



**Mitigation Along Major Highways Can be a Priority, but is Not Necessarily Sufficient for Conservation**  
Marcel Huijser (Montana State University), James Begley



**Planning Wildlife Crossings at the State Scale Using Spatially Explicit Decision Support**  
Fraser Shilling (Road Ecology Center, UC Davis)



**Evaluating Ecological Inputs and Engineering Design to Improve Wildlife Connectivity**  
Sasha Dansky (Mark Thomas & Company)



### Session 9: Canopy Bridges: A Cost Effective, Under-Utilized Fragmentation Solution for Arboreal Species



**A Global Review of Canopy Bridges Studies as a Tool to Mitigate Habitat Fragmentation**

Fernanda Z. Teixeira (Center for Large Landscape Conservation (CLLC)), Fernanda Delborgo Abra, Tremaine Gregory, Birthe Linden, Kylie Soanes, Anna Nekaris, Inés Azofeifa Rojas, Gabriella da Costa Pereira, Farah Carrasco Rueda, Thais Queiroz Morcatti



**Planning and Monitoring Canopy Bridges for an Endangered Primate in Southern Brazil: Enhancing Connectivity for Arboreal Mammals**

Larissa Oliveira Gonçalves (Systematics and Ecology Lab, Federal University of Rio Grande do Sul), Júlia Beduschi, Talita Menger, Caroline Zank, Andreas Kindel



**The Reconecta Project: Projeto Reconecta: Bridging the Amazon for the Conservation of Endangered Primates**

Fernanda D. Abra (Smithsonian's National Zoo and Conservation Biology Institute (NZCBI)), Tremaine Gregory, Alfonso Alonso, Marcel Huijser, Marcelo Gordo



**Canopy Bridge Design: Emerging Recommendations from a Growing Body of Literature**

Tremaine Gregory (World Wildlife Fund, US; Smithsonian's National Zoo and Conservation Biology Institute), Fernanda Delborgo Abra, Fernanda Z. Teixeira, Birthe Linden, Kylie Soanes, Anna Nekaris, Pamela M.K. Cunneyworth, Inés Azofeifa Rojas, Gabriella da Costa Pereira, Farah Carrasco-Rueda, Gabriella de Costa Pereira, Thais Morcatti

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## MONDAY, MAY 12 | 1:40PM - 3:10PM (MDT) CONTINUED

### ★ Session 10: New Voices, New Solutions



**It's Time for Younger Hands to Lead: YoPro, A Young Professionals Youth Workforce Development STEM Program in Brunswick, Georgia, USA**  
Kimberly Andrews (University of Georgia), Shawn Williams, Ray Daniels, Layla Davis, Andrew Mooring, Chayse Swinson, Athena West, Fraser Shilling



**Coalition of Women Assist Costa Rica to Build Wildlife-Friendly Roads**  
Daniela Araya Gamboa (PANTHERA), Esther Pomareda García, Esmeralda Arévalo Huezo, Andrea Ávila Alfaro, Angie Sánchez Nuñez, Karina Rodriguez Saenz, Marcela Sudasassi Vargas, Grettel Delgadillo Molina, Shirley Ramirez Carvajal, Ana Lucía Orozco Rubio, Susana Gutiérrez Acuña, Katya Barrantes Salas



**Resiliency in the Face of Adversity: A Tale of Climate Change, Infrastructure, Ecological Mitigation and Collaboration**  
Rick Black (SLR International)



**Northeastern US Habitats and Highways Training**  
Alissa Fadden (The Nature Conservancy), Chris Slesar, Jens Hilke, Jed Merrow

### ▲ Lightning Session 1



**A Feasibility Study of Animal Detection and Driver Warning Systems to Mitigate Animal-Vehicle Conflicts on a Rural Highway in Southwest Virginia**  
Roe (S. Bell) (Virginia Tech Transportation Insititute), Tarah Crowder, Andrew S. Alden



**Breaking Barriers: Protecting Wildlife Through Community-Driven Barbed Wire Removal**  
Christie Greene (Wild Aware), Sara Barnas, Einar Jensen



**Planning Wildlife Barrier Fencing and Crossings Using Mountain Lion Road Crossing Events vs. Roadkills**  
Rafael Barrientos (Universidad Complutense de Madrid), Guillermo Fandos, Winston Vickers, Travis Longcore, David P Waetjen, Fernando Nájera, Fraser M Shilling



**Using Landscape Structure and Species Navigation Traits to Plan Road Mitigation: Insights from Individual-Based Models**  
Bibiana Terra Dasoler (Universidade Federal do Rio Grande do Sul), Fernanda Zimmermann Teixeira, Andreas Kindel, Fernando Ascensão, Vinicius A. G. Bastazini

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## MONDAY, MAY 12 | 1:40PM - 3:10PM (MDT) CONTINUED

### Lightning Session 1 Continued



**Explaining Factors of Wildlife-Trains Collisions and Use of Underpasses and Overpasses Not Dedicated to Wildlife by Wild Ungulates in North-Western France – PhD Study Currently in Progress.**  
Tess HEYDORFF-DECAUX (SNCF Réseau and LADYSS laboratory)



**Impact Analysis of an Eco-Geomorphological Design on Conventional Minor Culverts: A Study in Northern Mexico**  
Armando Ponce de Leon Aldaco (Departamento de Ingenieria Civil, Universidad de Monterrey), Santos Sáenz Delgado, Camilo Cañón Barriga,



**Connectivity at a Crossroads: Evaluating Urban Green Spaces and Linear Infrastructure Effects on Tiger Conservation for Bhopal city, MP, India**  
Anam Ahsan (University of Missouri), DP Srivastava, Dr BS Adhikari, Dr Shekhar Kolipaka



**Patterns of Population Structure and Gene Flow in a Fragmented Environment: How Road Infrastructure Impacts Bobcat and Ocelot Dispersal**  
Jack Towson (Texas A&M University - Kingsville, CKWRI), John Young, Trevor Black, Trevor Black, Emma Brookover, Elizabeth Grunwald, Thomas Landschied, Sean Kiernan, Daniel Scognamillo, William Stephens, Hunter Vasquez, Thomas Yamashita, Michael Tewes



**Innovations In Field Studies for Ecology and Transportation – With Advancing Technology Are We Up to The Challenge?**  
Kimberly Laframboise (HDR Inc.)

### TRB: NEPA Update

Speakers: Fred Wagner and Ted Boling

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## MONDAY, MAY 12 | 3:30PM - 5:00PM (MDT)

### Session 11: Corridors, Collisions, & Conservation Funding



#### Hypernature for Iowa's Rail-Trail Corridors: A Typology of Enhancements for Linear Infrastructure in the Corn Belt

Sumaiya Binte Azad (Iowa State University), Austin Dunn, Katharine Shiffler



#### CDOT's Lynx In-Lieu Fee Fund

Mark Lawler (Colorado DOT)



#### Sharing Knowledge of Wildlife-Vehicle Conflict in a Planning Tool to Foster Collaboration

Will Thoman (Idaho DOT), Patricia Cramer, Julie Hausknecht



#### Feasibility of Composting as an Alternative Disposal Method for Wildlife Vehicle Collision-Induced Carcasses within Colorado Department of Transportation Processes

Francesca Tordonato (Colorado DOT)

### Session 12: I Get By With a Little Herp From My Friends



#### Identifying Road Encounter Hotspots of Blanding's Turtle Using Sparse, Unsystematically Collected Data and Behavioral Modeling

Tom Langen (Clarkson University), Sean Jackson, Alexandra Burrows, Glenn Johnson



#### Data-Based Design – Building Diamondback Terrapin Barriers and Nesting Habitat into Road Construction

Kimberly M. Andrews (University of Georgia), Abbey C. Crossman, Chris Goodson



#### Effectiveness of Amphibian and Reptile Road Crossing Systems: Research, Literature Review and Meta-analysis

Cheryl Brehme (USGS Western Ecological Research Center), Robert Fisher



#### Multiple Turnarounds Increase the Probability that Migrating Salamanders Reach a Passage System in Stanford, CA, USA

Brittany Ewing (USGS), Cheryl Brehme, Michael Hobbs, Esther Cole Adelsheim, Robert Fisher

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## MONDAY, MAY 12 | 3:30PM - 5:00PM (MDT) CONTINUED



### Session 13: Predictions Are Hard, Especially About the Future



#### Scale Sensitivity of Two Habitat Generalists with Applications

Matthew Roos (SUNY ESF, Department of Environmental Biology), H. Brian Underwood



#### Predicting Wildlife Use of Existing Highway Bridges and Culverts

Noah Thoron (University of California, Davis), David P Waetjen, Fraser Shilling



#### Predicting Species Assemblages at Wildlife Crossing Structures Using Multivariate Regression of Principal Coordinates: Implications for Ocelots in the U.S.A.

Thomas J. Yamashita (Caesar Kleberg Wildlife Research Institute, Texas A&M University), Daniel G. Scognamillo, Kevin W. Ryer, Richard J. Kline, Michael E. Tewes, John H. Young Jr., Jason V. Lombardi



#### Exploring Wildlife Crossing Effectiveness on the N4 Toll Route (TRAC N4), Gauteng Province, South Africa

Thabo Innocent Hlatshwayo (Centre for Functional Biodiversity, School of Life Sciences, University of KwaZulu-Natal; Endangered Wildlife Trust), Manqoba Moses Zungu, Wendy Jane Collinson-Jonker, Colleen T Downs



### Session 14: The 3Cs: Connectivity, Collaboration, Crossings



#### The Long and Winding Road: Lessons from Project Planning and Implementation in Wyoming

Corinna Riginos (The Nature Conservancy), Jill Randall, Chris McBarnes, Hall Sawyer, Tom Hart



#### Collaborating for Connectivity: Multi-Agency Efforts to Remediate Barriers to Wildlife Movement in the Tehachapi Linkage in California

Katie Rodriguez (Rock Design Associates), Trish Smith



#### Bridging the Gap Between Ecologists and Transportation Professionals (Engineers, Planners, Operations Staff,...) Through Training

Ed Frantz (T.Y. Lin International)



#### Turning Lemons into Lemonade: Breaking Organizational Silos to Increase Wildlife Crossing Planning in the United States National Park Service

Hanem Abouelezz (NPS Washington Support Office (WASO)), Kristy Boscheinen, Michael Mencarini

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## MONDAY, MAY 12 | 3:30PM - 5:00PM (MDT) CONTINUED

### ★ Session 15: Session 15: I Think I Am Being Followed



**Using an Automated Radio-Tracking System as a Novel Approach to the Landscape Scale Assessment and monitoring of bats on a UK based linear infrastructure project**  
Chris Kerfoot (Jacobs UK) and Charlotte Wevill (Jacobs UK)



**Landscape Connectivity and Spatial Ecology for an Endangered Carnivore: How Ocelots Move Near Transportation Infrastructure**  
Sean Kiernan (Caesar Kleberg Wildlife Research Institute, Texas A&M-Kingsville), John Young, Michael Tewes, Trevor Black, Emma Brookover, Elizabeth Grunwald, Tom Langschied, Daniel Scognamillo, William Stephens, Jack Towson, Hunter Vasquez, Thomas Yamashita



**Factors influencing elk road crossing behavior**  
Brielle Jaglowski (Cal Poly Humboldt), Micaela Szykman Gunther, Carrington Hilson



**Use of GPS Collar Data to Plan and Prioritize Wildlife Crossing Projects in Wyoming: A Case Study of the Carter Mountain Pronghorn Herd**  
Jill Randall (Wyoming Game and Fish Department), Hall Sawyer, Sam Stephens, Corey Class

### ■ Panel 2: Stitching It Together: Integrating Transportation and Land Use Policies to Support Ecological Connectivity at the Landscape Scale

Organized by Neal Sharma (Wildlife Conservation Network)  
Panelists: Tiffany Yap (Center for Biological Diversity), Mari Galloway (Wildlands Network), Todd Black (Eagle Mountain City, Utah), Miles Cottom (Chaffee County, Colorado), Andy Hough (Douglas County, Colorado), Kylie Paul (Center for Large Landscape Conservation)

Transportation systems are situated within a broader array of processes and decisions regarding land use, with land use and transportation decisions affecting each other and the ecosystems in which they exist. We will explore ways people have accounted for ecological/wildlife connectivity in land use policies in order to complement the effectiveness of such considerations regarding linear infrastructure. We will discuss key features of policies intended to support wildlife connectivity at the landscape scale and how those policies are working in practice.

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## TUESDAY, MAY 13 | 9:00AM - 10:30AM (MDT)

### Session 16: This Session is 90% Bats, and the Other Half is Birds



257

#### What are the Critical Challenges When a Road Agency Fails to Implement Their Own Environmental Policy?

Josie Stokes (City of Gold Coast Council)



53

#### The Bat Mitigation and Monitoring Plan: A Collaborative Approach to Improving Bat Mitigation Outcomes

Jill Carpenter (LSA Associates)



232

#### Filling the Gap - Bat Exclusions on Bridges Prior to Demolition

Meghan Lind (Stantec Consulting Services Inc.), Liza Colucci, Tracy White



215

#### Prioritization Methods for APHIS Monitoring of GDOT Bridges During Migratory Bird Nesting Season

Carolyn Bryan (AECOM), Sharilyn Meyers, Ashlie Stone, Sujai Veeramachaneni

### Session 17: Watershed Moments in Aquatic connectivity



269

#### This is Water: Integrating Ecological Connectivity and Conservation into Water Infrastructure Planning and Design

Shannon Crossen (Jacobs), Craig Broadhead, David Allison



219

#### Assessment and Prioritization of Road-Stream Crossings to Restore Aquatic Connectivity

Scott Jackson (University of Massachusetts Amherst), Kat Hoenke



102

#### Tait Station Dam Removal - An Innovative Approach to Ecological Lift

Joel Thrash (Stantec), Matt Perlik



242

#### A Streamlined Approach to Aquatic Species Consultation on Transportation Projects in Georgia

Matt Carroll (Georgia DOT), Morgan Niccoli, Eric Prowell, Chris Goodson, Laci Pattavina, Melissa Rottenberg

### Session 18: Connecting People to Connect Habitat



124

#### Wildlife Crossings: Paving the Way to Sustainable Development - A Case Study from India

Lalit Kumar Sharma (Zoological Survey Of India, Kolkata Hq), Saurav Bhattacharjee



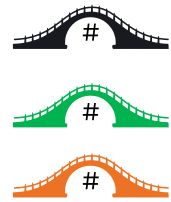
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#### Colorado Wildlife Mitigation and Collaborative Context Sensitive Solutions on the I-70 Mountain Corridor as Part of the Programmatic Environmental Impacts Statement, Highlighting the Process for Vail Pass

John W. Kronholm (Colorado DOT)

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## TUESDAY, MAY 13 | 9:00AM - 10:30AM (MDT) CONTINUED

### ★ Session 18: Connecting People to Connect Habitat (Continued)



#### Establishing Least Cost Corridors for Safe Passage of *Ursus americanus* Across Interstate 40 in the Pigeon River Gorge, North Carolina, USA.

Aurora Wynne (National Parks Conservation Association), Liesl Erb, Steve Goodman



#### Developing Transportation Priorities for the Washington Habitat Connectivity Action Plan

Glen Kalisz (Washington State DOT), Patty Cramer



Mark Thomas is at the forefront of developing innovative solutions to improve connectivity and safety for wildlife. As transportation design experts, we incorporate biological priorities with engineering design considerations to develop improvements that are approvable by state transportation agencies, constructible, and meet the biological needs of area species.

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IRVINE • LONG BEACH • LOS ANGELES • OAKLAND  
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## TUESDAY, MAY 13 | 9:00AM - 10:30AM (MDT) CONTINUED

### Session 19: Planning for California’s Wildlife Crossing Future



**The California Wildlife Conservation Board’s Wildlife Corridor Program**  
Don Crocker (Wildlife Conservation Board)



**Building Bridges for Connectivity: CDFW's Efforts and the Impact of AB 2344**  
Juan Torres (CDFW)



**The East Bay Wildlife Connectivity Project: How to get Pumas (and Prey) Through Three VERY BUSY California highways**  
Courtney Coon (Alameda County Resource Conservation District), Farley Connelly, Fraser Shilling, Brock Ortega, Sasha Dansky



**Connecting People to Connect Wildlife: A Case Study from Coyote Valley, CA**  
Taylor Jang (Peninsula Open Space Trust), Marian Vernon

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## TUESDAY, MAY 13 | 9:00AM - 10:30AM (MDT) CONTINUED

### + Session 20: Borders and Barriers (96, 87, 48, 264)



#### Unbroken from Canada to Mexico: Is Interstate 5 a Continental Barrier to Ground-Dwelling Mammals?

Laura Morris (University of California, Davis Road Ecology Center), Shannon Lemieux, Jay Chen, Madison Morgan, Cierra Kelly, Ben Hodgson, Leo Hecht, Fraser Shilling



#### US-Mexico Border Wall Impedes Wildlife Movement

Eamon Harrity (Sky Island Alliance), Myles Traphagen, Dr. Aaron Facka, Meagan Bethel, Emily Burns, Michael Dax



#### They Can't All Swim. Identifying Where to Help Wildlife Get Across 300 Miles of the California Aqueduct?

Brock Ortega (Dudek), Shelly Amrhein, Valerie Goodwin, Mike Howard, Mike Henry PhD, Anna Cassady, Alexandria Reed, Lorna Haworth, Autumn Iverson



#### Assessing the Impact of Linear Infrastructure-Induced Habitat Fragmentation on the Diversity, and Richness of Urban Bird Populations: A Case Study in Chattisgarh, India

ANAM AHSAN (University of Missouri)

### ▲ Lightning Session 2



#### Relocating a Rare Crayfish: Jefferson County Crayfish

Kayti Ewing (Arkansas Department of Transportation), Maxwell Hartman, Dustin Lynch, Matt Schrum, Lindsey Lewis, Randal Looney



#### Collaboration for Wetland Mitigation to Benefit Aquatic Ecosystems Along Roadsides in Oklahoma

Ricky Wilson (HDR Engineering Inc.), Jared Bechtol



#### Road Disturbance: Impact on Groundwater Flows and Ecological Integrity of Boreal Peatlands

Ariane Bouffard (Ministry of Transport and Sustainable Mobility and University of Quebec at Montreal), Marie Larocque, Monique Poulin, Michelle Garneau, Jonathan Chabot-Grégoire, Mathieu Vaillancourt



#### An Investigation Into the Fracturing of Asphalt Pavement Surfaces Using Daikon Radishes

Prince Aminu (University of Delaware), Haritha Malladi, Daniel Feinberg

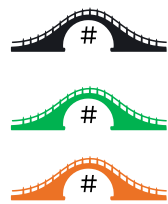


#### Reconnecting Floodplains Along the San Joaquin River, California

Debra Bishop (Jacobs), Jeremy Thomas, Michael Founds

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## TUESDAY, MAY 13 | 9:00AM - 10:30AM (MDT) CONTINUED

### Lightning Session 2 (Continued)



**Aquatic Organism Passage Solutions at Culverts Similar Structures**  
Shane Scott (Principal Biologist)



**Testing Milkweed Installation Practices for Augmentation and Restoration Along Florida's Roadsides**  
Chase B. Kimmel (Florida Museum of Natural History, University of Florida), Jaret C. Daniels, Ivone de Bem Oliveira, Kristin Rossetti



**Environmental Impacts on Pavement Rehabilitation**  
Rajashekar Reddy  
Dudipala (Osmania University)  
**Development and Assessment of Environmental DNA Surveying for the Federally Endangered Salamander Mussel (*Simpsonaias ambigua*)**  
Christine Stahlman (Stantec Consulting), Nathaniel Marshall, Cody Fleece, Joel Thrash, Matt Perlik, Matthew Raymond



## Wildlife Detection and Warning Systems



RADAR & THERMAL-AI DETECTION



MOTORIST WARNING



CONSULT | DESIGN | BUILD | MAINTAIN  
[info@crosstekco.com](mailto:info@crosstekco.com)

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## TUESDAY, MAY 13 | 10:50AM - 12:20PM (MDT)

### Session 19: Planning for California’s Wildlife Crossing Future (Continued)



#### State Route 152 Pacheco Pass: Working Together for the Benefit of Wildlife

Julie King (Santa Clara Valley Habitat Agency)



#### Building Regional Connectivity for the Santa Cruz Mountains Through Collaboration

Bryan Largay (Land Trust of Santa Cruz County), Tanya Diamond, Morgan Robertson



#### Gaviota Pass Wildlife Connectivity and Vehicle Collision Reduction Project: California’s First Wildlife Crossings Pilot Program Grant

Morgan Robertson (Caltrans District 5), Shannon Crossen, Larissa Clarke, Alexandra Thiel, Mitch Dallas



#### Multi-Disciplinary Design for Habitat Connectivity in the Wildland-Urban Interface of Los Angeles County

Clark Stevens (Resource Conservation District of the Santa Monica Mountains)

### Session 21: Lift Each Other Up: Seeing Opportunities & Sawing Barriers



#### Agency Partnerships and Tools for Streamlining Transportation Consultations

Laci Pattavina (US Fish and Wildlife Services), Eric Prowell, Ryan Pawlikowski, Chris Goodson



#### Bridging the Great Sonoran Desert Divide: Cooperative Partnerships to Protect Connectivity for Wildlife in the Tucson-Tortolita Mountain Wildlife Linkage in Tucson, Arizona

Jessica Moreno (Coalition for Sonoran Desert Protection)



#### Interagency Cooperation for Large-Scale Broadband Infrastructure Projects in Existing Transportation Corridors: Lessons Learned from the California Middle-Mile Broadband Network

David L. Sherer U.(S. Fish and Wildlife Service), Colleen Draguesku, Jennifer Osmondson, Tierra Groff, Jeanette Mar

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## TUESDAY, MAY 13 | 10:50AM - 12:20PM (MDT) CONTINUED

### Session 22: Nature On the Verge - What's the Buzz?



**To What Extent Are Rare Species Using ROW Habitats & What Can We Do for Them? GDOT's Program-Wide Rare Species Field Verification Effort & Species-Specific ROW Management Plan Development**

Sujai Veeramachaneni (Georgia DOT), Hannah Held, Carlee Steppe, Laci Pattavina, James (Mincy) Moffett, Katrina Morris, Katie O'shields, Christopher Goodson



**Bee-ing Social: Using Social Science to Bridge the Gap Between People, Roadsides, and Biodiversity**

Laura A. Warner (University of Florida), Cody Gusto, Sravani Pasula, Jaret Daniels, Anissa Mattox, Sydney Honeycutt, Ricky Telg, Angie Lindsey



**Buzzing Down the Highway: Understanding Driver Segments and their Views on Pollinator-Friendly Roadsides**

Laura A. Warner (University of Florida), Sravani Pasula, Jaret Daniels



**Programmatic Consultation for the American Burying Beetle for Nebraska Department of Transportation Projects**

Jessica Jurzenski PhD (Felsburg Holt & Ullevig), Jeff Hartman PhD, Ben Trenne, Matt Greiner, Justin Luther, Luke Pitts, Brian Yanchik, Charlotte Kucera

### Session 23: Can't We All Get Along...? Benefiting Wildlife Through Collaboration



**Interstate Collaboration - Colorado/New Mexico I-25 Raton Pass**

James Hirsch (New Mexico DOT), Gabriel Cosyleon



**I-25 Highway Improvement Project Use of Process Based Restoration Techniques to Provide Wildlife Habitat Connectivity and Mitigation for Federally Threatened Species**

Patrick Hickey (Jacobs Engineering Restoration Ecologist), Francesca Tordonato



**Revisiting US 64 in Eastern North Carolina (ICOET 2015), A Different Approach to Implementing Wildlife Crossings in this Important Landscape**

Travis Wilson (North Carolina Wildlife Resources Commission)



**Advancing Ecological Connectivity, Human Safety, and Wildlife Conservation in the Gateway to Yellowstone**

Liz Fairbank (Center for Large Landscape Conservation), Abigail Breuer, Marcel Huijser



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## TUESDAY, MAY 13 | 10:50AM - 12:20PM (MDT) CONTINUED



### Session 24: Digital Pathways: Enhancing Wildlife Connectivity Through Technology



#### Computer Vision Automation of Wildlife Monitoring on WSDOT's I-90 Snoqualmie Pass East Project

Vedant Srinivas (Stanford University), Fraser Shilling, Mark Norman, Josh Zylstra



#### Hot Take: Thermal Videography Can Play a Critical Role in Documenting Wildlife Species Demographics and Vitality in the Face of a Major Habitat Barrier in the Green Mountain State

Melinda Squillace (Hoyle, Tanner and Associates, Inc.), Brogan Morton, Glenn Gingras, Jon Olin, Hoyle, Kelly LaVigne



#### Technological Solutions for Reducing Wildlife-Vehicle Collisions: A Framework to Develop, Test, and Apply New Solutions

Tahlia Townsend (WSP Australia), Rodney van der Ree



#### State of the Art Thermal Camera and Radar Technology Based Wildlife Detection and Motorist Warning Systems for Preventing Wildlife Vehicle Collisions on Unfenced Roadways

Tim Hazlehurst (CrossTek)

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## TUESDAY, MAY 13 | 10:50AM - 12:20PM (MDT) CONTINUED

### Lightning Session 3



**The Road to Success is Paved with Collaboration: Insights from Norway**  
Svenja B. Kroeger (Norwegian Institute of Bioeconomy Research (NIBIO))



**Turtles and The Railway: A Simple Solution for Rail Mortality of Turtles and other Herps**  
Jessie Johnson (VTrans)



**Temporary Bridges for Mammals in the UK: Designs, Results, and Lessons Learned**  
Steve Bega (Animex International), Hattie Taylor, Ian White



**Integrating Science and Real Data Into a Community-Based Conservation Effort; Managing for a Mule Deer Migration Route Through Eagle Mountain City, Utah.**  
Todd A. Black, B. Cameron, J.C. Seamons, S.M. Mumford



**Collaborative Strategies for Corridor Conservation in Colorado**  
Michelle Cowardin (Colorado Parks and Wildlife)



**Structure Surveys for Bats: Emerging Trends in Frequency of Bat Use in North Carolina Bridges & Culverts**  
Cheryl Knepp (North Carolina Department of Transportation)



**Kentucky Transportation Cabinet - Wildlife Vehicle Collision Reduction Pilot Project**  
Tony Miller (Lochner), Andrew Logsdon, Calvin Andries



**Wildlife-Friendly National Route 253. Guanacaste, Costa Rica**  
Esmeralda Arévalo Huevo (Universidad Latina de Costa Rica), Esther Pomareda García, Daniela Araya Gamboa



**Linear Infrastructure In And Around The Nairobi National Park: Reducing Wildlife Deaths**  
Elisha Akech Ochungo (Multimedia University)

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## TUESDAY, MAY 13 | 1:30PM - 3:00PM (MDT)

### Session 25: A Novel, Methodological Approach to Present and Future Multi-benefit, Resilient Transportation Design in Yellowstone National Park



**Climate Change Projections for Fluvial Hazards Along the Northeast Entrance Road Corridor in Yellowstone National Park, WY.**  
Thomas C. Walsh, PhD, PE (Jacobs), Tyler Jantzen



**Changes in Future Hydrological Regimes along the Northeast Entrance Road Corridor in Yellowstone National Park, WY**  
Craig Baxter (Jacobs)



**Incorporating Resilient Design for Present and Future Hazards Along the Northeast Entrance Road Corridor in Yellowstone National Park, WY: Lessons Learned**  
Jeff Dobmeier (Jacobs)



**In-Stream Ecological Drivers and Impacts of Uncertain Future Hydrological Regimes along the Northeast Entrance Road Corridor in Yellowstone National Park, WY**  
Karen Williams, PhD (Jacobs)

### ★ Session 26: Building Partnerships to Build Wildlife Crossings



**Advancing Wildlife Connectivity Efforts in Virginia with Bipartisan Infrastructure Law Discretionary Grant Funding**  
Amy Golden (Virginia DOT), Bridget Donaldson



**Act Locally: Integrating Wildlife Crossings and Connectivity into Municipal and County Plans and Policies in the United States: Examples, Case Studies, and Recommendations**  
Kylie Paul (Center for Large Landscape Conservation), Abigail Breuer, Anna Wearn



**After the Crossing: Protecting Land and Incorporating a Land Back Philosophy in Order to Protect Wildlife Pathways that Lead to Crossing Structures**  
Brian Stewart (Conservation Northwest)



**Tackling Large Challenges by Harnessing the Power of Collaboration from Science to Implementation: An Overview of How an Individual Became Multiple Coalitions Focused on Getting Wildlife Crossing Structures on I-5 in Washington State**  
Brian Stewart (Conservation Northwest)

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## TUESDAY, MAY 13 | 1:30PM - 3:00PM (MDT) CONTINUED

### Session 27: Successes in Crossing Structures: Lessons From the I-90 Snoqualmie Pass East Project Across Taxonomic Groups and Diverse Measures



#### Body Condition Index of Small Mammals as an Indicator of Habitat Quality of Wildlife Crossing Structures

Lindsay Millward (Oregon State University), Kristina Ernest



#### Small Mammal Perception of Risk on Wildlife Crossing Structures

Sarah Sanz (Central Washington University), Kris Ernest



#### Big Crossings for Little Animals: The Use of Large Crossing Structures by Amphibians and Reptiles to Cross I-90 in the Snoqualmie Pass Area, WA, USA

Jason T. Irwin (Central Washington University)



#### Medium to Large Mammal Use of Wildlife Crossing Structures in the I-90 Snoqualmie Pass East Project

Alison Scoville (Central Washington University), Mark Norman, Josh Zylstra, Glen Kalisz

### Session 28: Global Perspectives From the Roadkill Café



#### Effects of Public Roads on Wildlife-Vehicle Collisions in Hluhluwe-iMfolozi Park and iSimangaliso Wetland Park in KwaZulu-Natal, South Africa

Cameron T. Cormac (Centre for Functional Biodiversity, School of Life Sciences, University of KwaZulu-Natal), Colleen T. Downs, Wendy Collinson, Cormac Price, Jarryd P. Streicher, Dave J. Druce



#### Mitigating the Roadkill of Raptors Along a Section of the N3 Highway Through the Use of Raptor Perches, South Africa

Thabo Innocent Hlatshwayo (University of KwaZulu-Natal, Endangered Wildlife Trust), Manqoba Moses Zungu, Wendy Jane Collinson-Jonker, Colleen T Downs



#### Roadkill-Induced Extirpation of Largest Known Population of Pacific Newts (*Taricha* spp) Requires Emergency Response

Shannon Lemieux (University of California Davis Road Ecology Center), Madison Morgan, Laura Morris, Selena Cao, Fraser Shilling



#### Fifteen Years of the Largest US WVC Reporting System: The California Roadkill Observation System

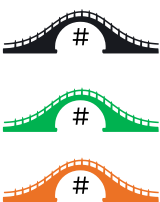
Dave Waetjen (UC Davis Road Ecology Center), Fraser Shilling



Nathrop Crossing - Washington Post

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## TUESDAY, MAY 13 | 1:30PM - 3:00PM (MDT) CONTINUED

### Lightning Session 4



**Restoring California’s Wildlife Connectivity**  
Daniel Niederberger (California Department of Fish and Wildlife)



**Restoring California’s Wildlife Connectivity, Region 1 – Northern Region**  
Colton Wise (California Department of Fish and Wildlife)



**Restoring California’s Wildlife Connectivity, Region 2 – North Central Region**  
Sara Holm (CA Department of Fish and Wildlife)



**Restoring California’s Wildlife Connectivity, Region 3 – Bay Delta Region**  
Sarah Estrella (California Department of Fish and Wildlife)

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## TUESDAY, MAY 13 | 1:30PM - 3:00PM (MDT) CONTINUED

### Lightning Session 4 (Continued)



**Restoring California’s Wildlife Connectivity, Region 4 – Central Region**  
Michael A. Sawaya (California Department of Fish and Wildlife), David G. Hacker



**Restoring California’s Wildlife Connectivity, Region 5 – South Coast Region**  
Skylar Feltman (California Department of Fish and Wildlife)



**Restoring California’s Wildlife Connectivity, Region 6 – Inland Deserts Region**  
Benjamin Carter (California Department of Fish and Wildlife)



**Balancing Preservation and Recreational Access in the Gateway Segment of Clear Creek Canyon Park**  
Matt Andrews (Muller Engineering Company), Scot Grossman, Moneka Worah



**Assessment and Identification of Wildlife Crash Zones in the US Railroad Network**  
Elena Sidorova PhD (Southern Colorado Institute of Transportation Technology (SCITT), Colorado State University Pueblo), Saqib Gulzar, Md Rashad Islam PhD



**UNLOCKING ROADKILL DATA: A Comprehensive Resource to Mitigate the Impacts of Transportation**  
Clara Grilo (CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, InBIO Laboratório Associado, Campus de Vairão, Universidade do Porto), Tomé Neves, Jennifer Bates, Aliza le Roux, Pablo Medrano-Vizcaíno, Mattia Quaranta, Inês Silva, Kylie Soanes, Yun Wang



### Who We Are

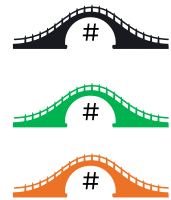
WSP is one of the world’s leading engineering and professional services firms. Our trusted professionals are united by the common purpose— to create positive, long-lasting impacts on the communities we serve through a culture of innovation, integrity, and inclusion.

### WHAT WE DO

We develop creative, comprehensive and sustainable engineering solutions for a future in which society can thrive. Equipped with an intimate understanding of local intricacies, world-class talent and proactive leadership, we plan, design, manage and engineer long-lasting and impactful solutions to uniquely complex problems.

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## TUESDAY, MAY 13 | 1:30PM - 3:00PM (MDT) CONTINUED

### Panel 3: Connecting Colorado: How Colorado Used a Statewide Prioritization Process to Implement Wildlife Mitigation Projects

Organized by Melissa Bade (CDR Associates and Colorado Wildlife and Transportation Alliance Facilitator)

Panelists: Pat Basting (Jacobs Engineering), Julia Kintsch (ECO Resolutions), Aran Johnson (Southern Ute Indian Tribe), Tony Cady (Colorado DOT), Chuck Attardo (Colorado DOT)

This session, presented by the Colorado Wildlife and Transportation Alliance (Alliance), will focus on a story line highlighting how the Alliance utilized data collected from the East Slope and Plains and Western Slope Prioritization Studies and created a systematic process for narrowing down the hundreds of identified priority areas to six statewide implementation projects. This focus allows for the Alliance to harness energy and ensure that the most implementable and timely projects are at the forefront of decision-makers minds when seeking funding for design and construction.

In a story of collaboration and political support, bolstered by statewide executive orders, state bipartisan legislative efforts, and federal funding opportunities, this session will highlight two key success stories of US 160 near Durango and I-25 Greenland Overpass south of Denver. As a result of the prioritization studies, the Alliance's priority project identification efforts, and dedication of local staff to apply for grant programs, Colorado's roadways will now be safer for both wildlife and humans. This is a story of how data utilization can lead to real world implementation with the right focus and effort of all parties involved. This session also provides specific insight and information into one field trip option, giving the context of how the Greenland Overpass project came to be on I-25 and how a cohort of partners made the project happen.



# Wildlands Network

Reconnecting, restoring and  
rewilding North America  
so that life  
— in all its diversity —  
can thrive

"...the OG of  
wildlife habitat  
connectivity"

[www.wildlandsnetwork.org](http://www.wildlandsnetwork.org)



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## TUESDAY, MAY 13 | 3:20PM - 4:50PM (MDT)

### Panel 4: Collaborative Strategies for Integrating Ecology into Transportation Projects: Insights From the Duckabush Estuary Restoration

Organized by Grace Amundsen Barnkow (WSDOT)

Panelists: Theresa Mitchell (WDFW), Grace Amundsen Barnkow (WSDOT), Autumn de la Cruz (WSDOT), Mark Steingrebe (WSDOT)

The Duckabush Estuary Restoration project exemplifies a multi-agency partnership committed to embedding ecological principles into transportation infrastructure development. It represents a collaborative effort between the Washington Department of Transportation (WSDOT), Washington Department of Fish and Wildlife (WDFW), U.S. Army Corps of Engineers (USACE), and the Hood Canal Salmon Enhancement Group (HCSEG). Our organized session will explore the transferability of our collaboration model to other projects, through a detailed examination of the project's goals, challenges, and outcomes, highlighting valuable lessons learned in interagency collaboration at the intersection of transportation and ecology. This 45-minute symposium will begin with an introduction by the session organizer and feature four fifteen-minute presentations from experts involved in the effort, each addressing distinct yet interconnected aspects of the project. A short question and answer period will follow each presentation with the final 15 minutes dedicated to audience participation and discussion.

### Panel 5: Arach-No-phobia: Perspectives and Results From a Unique, Collaborative Study of Tarantulas in Southeast Colorado (Follows Panel 4)

Organized by Kristin Salamack (Colorado DOT)

Panelists: Kristin Salamack (Colorado DOT), Francisco Garcia Bulle Bueno (Butterfly Pavilion), Steve Mars (Animex International)

The Colorado Department of Transportation (CDOT) has conducted many studies of wildlife crossing structures to reduce the potential for wildlife vehicle collisions and to facilitate the movement of large and medium-sized mammals (e.g., mule deer, elk, lynx). Until recently, CDOT's wildlife movement research and fencing opportunities have focused exclusively on vertebrate species. Beginning in 2023, CDOT and its partners the Butterfly Pavilion and Animex International have worked together to conduct research and investigate potential mitigation strategies for brown tarantulas (*Aphonopelma hentzi*). Each partner will provide an overview of their perspectives and interest in participating in the study, and lessons learned that could inform other unique collaborative approaches to road ecology research and mitigation strategies. The panel and audience will have an open discussion on any themes that arise from these examples with an aim towards identifying guidance for future projects.

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## TUESDAY, MAY 13 | 3:20PM - 4:50PM (MDT) CONTINUED

**Panel 6: Wild Ways: Designing Connectivity**  
CANCELLED

**Panel 7: The Application of Nature-based Solutions (NBS) for Transportation Systems (moved to start at beginning of session)**

**Organized by Lindsay Mobley (Stantec)**

**Panelists: Ashley Hall (Stantec), Joe Parfitt (VDOT), Jake Riley (Stantec), Mike Dinardo (Stantec)**

The panel will explore the implementation of nature-based solutions (NbS) in transportation projects, focusing on enhancing infrastructure resilience while protecting and improving the ecological value of natural resources. Experts will share insights into planning, implementation, and the benefits of NbS for meeting regulatory requirements, along with project examples, lessons learned, and initiatives to mainstream effective approaches at programmatic levels. The audience will participate by sharing their experiences and effective methods for integrating engineering and environmental goals, as well as discussing successful and unsuccessful communication strategies within their institutions and regions. Audience members will engage in a Q&A session (moderated by Lindsay Mobley) at the end of the panel, allowing for questions and discussion on applying presented strategies to their projects.

**Workshop: From Policy to Practice: Tackling Barriers to Building Wildlife Crossings**

**Organized by Erin Sito (Wildlands Network)**

**Trainers: Logan Christian (National Caucus of Environmental Legislators), Erin Sito (Wildlands Network), Renee Callahan (ARC Solutions)**

This workshop, created by Wildlands Network, ARC Solutions, and the National Caucus of Environmental Legislators (NCEL), will engage participants in exploring barriers that impede the completion of wildlife crossing projects. The workshop offers a 90-minute interactive roundtable for both in-person and virtual participants, ensuring broad participation and engagement, fostering collaboration, and inviting insights and experiences to support and inform the community of practice.

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## TUESDAY, MAY 13 | 3:20PM - 4:50PM (MDT) CONTINUED



### Workshop: Communicating Your Transport Ecology Story to the Community, Engineers and Your Mum: Enthralling Your Audience With a Captivating Blog and Stunning Audio-Visuals

Organized by Rodney van der Ree (University of Melbourne and WSP Australia Pty Ltd), Steve Bega (Animex International), Dishane Hewavithana (University of Miami Coral Gables)  
Trainers: Dr Rodney van der Ree (University of Melbourne and WSP Australia Pty Ltd), Kieren Topp (Science in Public)

It is predicted that 25-million lane-km of new roads will be built by 2050, and 90% of this will be in non-OECD countries. Many countries and regions lack the expertise, resources and political will to implement ecologically-friendly infrastructure development. An important key step in improving the uptake of ecologically sound advice and designs is ensuring that everyone has a better understanding of the impacts and solutions. Global efforts to communicate and disseminate information must be accessible, relevant to the audience, understandable, usable, and aesthetically appealing. In this training event, we will give practical advice, instruction, hints and tips to enable you to write a blog-style summary or produce a short social-media clip of your research or project for a relevant audience. [www.TransportEcology.info](http://www.TransportEcology.info) is a freely accessible resource for planners, designers, ecologists, engineers, funders, and the community to implement best practice.



### Training 2: Promising Practices for Community Involvement in Transportation Ecology

Organized by Kimberly Andrews, PhD (University of Georgia)  
Trainer: Traceé Strum-Gilliam, AICP (PRR)

All transportation ecology problems involve the public as stakeholders in some way. Although it is usual to involve stakeholders with institutional or consulting roles in decisions, it is less usual and often seen as more challenging to equitably involve the majority of the public. In 2022, the United States Department of Transportation (USDOT) released its Promising Practices for Meaningful Public Involvement in Transportation Decision-Making guide. This training will cover ways that work to involve the public, youth, disadvantaged and impacted communities, and others in transportation ecology research and decision-making. Participants will discuss meaningful public involvement practices and engage in facilitated activities. This training applies to practitioners working in policy, planning, engineering, operations, civil rights, environmental justice, and public involvement. Practitioners and individuals from tribal nations who provide transportation services in the areas of highway, highway safety, rail, airport, pipeline, port, transit and rail authorities/agencies are encouraged to attend.



### Training 3: FHWA, Planning and Implementing Wildlife Crossings Under IIJA

Organized by Dan Buford (FHWA), Colleen Fletcher (FHWA)

# DETAILED PROGRAM

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**TUESDAY, MAY 13 | 3:20PM - 4:50PM (MDT) CONTINUED**



## Training 4 FHWA: Introduction to the Stochastic Empirical Loading and Dilution Model

Organized by Gregory Granato (FHWA)

Trainer: Alana Spaetzel (USGS)

The U.S. Geological Survey (USGS) in cooperation with the Federal Highway Administration (FHWA) developed the Stochastic Empirical Loading and Dilution Model (SELDM) to help quantify the risk of adverse effects of runoff on receiving waters, the potential need for mitigation measures, and the potential effectiveness of such mitigation measures for reducing these risks. SELDM is the only approved FHWA stormwater model and can be used for permitting analyses, endangered species issues, calculating pollutant yields with and without stormwater control measures to help develop total maximum daily loads. Documentation, example applications and case studies are available on the SELDM website at: <https://www.usgs.gov/SELDM>. This training will be a hands-on exercise using the latest version of SELDM available to do a hypothetical case-study to become familiar with the model and it's interface.

The Pew Charitable Trusts works to conserve wildlife corridors and promote wildlife crossings throughout the United States.

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[pewtrusts.org/ICOET2025](https://pewtrusts.org/ICOET2025)

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## THURSDAY, MAY 15 | 9:00AM - 10:30AM (MDT)



### Session 29: (Team)Work Zone Ahead – How Interagency Collaborations are Endeavoring to Improve Our Understanding of How Bats and Bat Habitat are Connected to Transportation Infrastructure



#### An Association of Fish And Wildlife Agencies Resolution for B.A.T.S. (Bats and Transportation Structures) Promoting Cooperation With State Transportation Agencies

Trina Morris (Georgia Department of Natural Resources), Leanne Burns



#### Georgia’s Bat Programmatic Agreement & Lessons Learned Through Collaboration and Implementation

Ryan Pawlikowski (Georgia DOT), Morgan Niccoli



#### A Range-Wide Approach to Bat Consultation for Routine Transportation Projects

Sumalee Hoskin (U.S. Fish and Wildlife Service), Catherine Liller, Karen Hallberg, Robin McWilliams, Dan Buford, Charlotte Kucera, Brian Yanchik



#### Leveraging Data from Transportation Structure Surveys: How NABat is Supporting Collaborative Assessment and Monitoring of Transportation Structures

Andrea Schuhmann (U.S. Geological Survey, Fort Collins Science Center, North American Bat Monitoring Program), Bethany Straw, Brian Reichert



### Session 30: Planning For Climate-informed Wildlife Crossings



#### The Missing Link in State Wildlife Crossing Prioritization Processes

Nicholas Callero (The Pew Charitable Trusts), Nathan Jones, Justin Suraci, Julia Kintsch



#### Prioritizing Wildlife Crossing Locations Across Nevada’s State Highway System

Nathan Jones (HDR), Julia Kintsch, Nova Simpson, Tanya Diamond, Mark Traxler, Juan Garcia



#### Modeling Climate-Driven Changes in Wildlife Movement to Inform Crossing Structure Locations that Support Connectivity Now and in the Future

Justin P. Suraci (Conservation Science Partners, Inc.), Caitlin E. Littlefield, Patrick T. Freeman, L. Mae Lacey, Julia Kintsch, Matthew Skroch, Nova Simpson, Nicholas Callero, Nathan Jones, Mark Traxler

\*Facilitated Discussion on Incorporating Climate Considerations into Wildlife Crossings Planning to follow presentations. Discussion led by Julia Kintsch, Nova Simpson, Nicholas Callero, Nathan Jones, Justin Suraci

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## THURSDAY, MAY 15 | 9:00AM - 10:30AM (MDT) CONTINUED

### Session 31: Conversations on Conservation Collaboration



#### Methods to Assess Ecological Lift Associated with Wildlife Connectivity Actions

Sadie McGarvey (Integral Consulting Inc.)



#### Navigating the Environmental Challenges during Design and Construction of the Vulture Mountains Recreation Area

Marinela Papa (Maricopa County Department of Transportation), Sabra McNeish



#### A New & Substantial Project Acceleration Method at No Additional Cost – Strategic use of Planning and Environmental Linkages (PEL) by State DOTs and MPOs

Ted Devens (Stantec Consulting, Inc.), Theresa Maahs



#### Conserving Land, Conserving Miles: Conservation's Role in Reducing Vehicle Miles Traveled

Liz O'Donoghue (The Nature Conservancy), Mary Rose Fissinger

### Session 32: Wildlife Spatial Ecology and Road Systems



#### The Utility and Limitations of Mark Recapture Models in Evaluating Crossing Structure Use

Ross Hinderer (University of Montana), Hannah Specht, Joshua J. Millspaugh, Thomas Hart, Scott Gamo



#### The Multi-Scale Complexities of Wildlife Movement: Workflows for Siting Crossing Structures Using GPS Collars and Related Data

Christina M. Aiello (Oregon State University Department of Fisheries, Wildlife, and Conservation Sciences), Janene Colby, Paige R. Prentice, Nathan Galloway, Sahar Sadegh Malak, Clinton W. Epps, Fraser M. Shilling



#### Use of Road Underpasses by Timber Rattlesnake (*Crotalus horridus*) and Other Species of Conservation Concern Point Towards an Effective Design for Further Implementation in Southern Appalachia

Liz Hillard (Wildlands Network), John Sealy, Sarah McMullen, Kevin Bischof



#### Developing a Caltrans-Approved Wildlife Fencing Attachment for Guardrail Systems to Reduce Road Mortality and Provide Habitat Connectivity for Reptiles, Amphibians, and Small Mammals

Steve Béga (Animex International), Alexandra Thiel

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## THURSDAY, MAY 15 | 9:00AM - 10:30AM (MDT) CONTINUED

### Lightning Session 5



#### Multi-Species Occupancy and Connectivity Modeling for Road Route Planning and Mitigation Guidance in Southern Brazil

Talita Menger (Road and Railway Ecology Group (NERF), Federal University of Rio Grande do Sul, Precisa Environmental Consulting), Andreas Kindel, Bibiana Terra Dasoler, Fernanda Z. Teixeira, Júlia Beduschi, Larissa Oliveira Gonçalves, Vinicius Bastazini



#### Interagency Collaboration for Wildlife Connectivity in the Northern Appalachians: An Assessment of Current Transportation Planning Actions and Future Opportunities

Alissa Fadden (The Nature Conservancy), Renee Callahan, Marta Brocki



#### Wildlife-Friendly Trails: Shared Challenges and Potential Opportunities to Adaptively Apply Wildlife-Vehicle Conflict Solutions to Reduce Wildlife-Recreation Conflict

Renee Callahan (ARC Solutions), Marta Brocki, Darin Martens



#### Identifying the Best Technology for Detecting Wildlife on Roads and How this Could Help You

Steve Bega (Animex International), Gert Hamberg



#### Strategies for Reducing Project-Level Environmental Impacts: Understanding Different Viewpoints on What is Most Important and Feasible

Margaret Minzner (Ohio, Kentucky, Indiana Regional Council of Governments)



#### Waterbury IM CULV(109) Wildlife Crossing Structure-Vermont's Landscape Level Connectivity Project Funded by IJJA WCPP

Jessie Johnson (VTrans)



#### Evaluation of Environmental Measures for the Protection of Wildlife in Costa Rica's Road Network

Daniela Araya-Gamboa (PANTHERA), Susana Gutiérrez Acuña, Fernanda Zimmermann Teixeira, Roberto Salom Pérez, Esther Pomareda García, Yosette Araya Jiménez, Erick Víquez Alvarado, Esmeralda Arévalo Huezo, Silvio Boyat, Jaime Quirós Calderón, Deiver Espinoza Muñoz, Manfred Herrera Díaz, Andrés Zúñiga Garita, Manuel Mairena Jiménez, Katherine Ulate Gómez, Mónica Chavez Ramos, Joseph Lacayo Castrillo, Katherine Chacón, Abigail Corao Retana, Jesús Vado Góngora, Esperanza Gonzalez Mahecha and Priscila Picado Valenzuela



Bill Vogrin-CPW

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### THURSDAY, MAY 15 | 9:00AM - 10:30AM (MDT) CONTINUED

#### ▲ Lightning Session 5 (Continued)



#### Wildlife-Detection Driver Warning Systems' Performance Under Two Different Sets of Conditions

Patricia Cramer (Wildlife Connectivity Institute), Robert Hamlin,



#### Site and Species-Specific Habitat Features Installed at Crossing Structures Increase their Effectiveness at Providing Safe Passage

Kami Koyamatsu (WSDOT), Glen Kalisz

#### Panel 8: Leveraging Training For a Culture of Conservation in Transportation

Organized by Chris Goodson (Georgia DOT)

**Panelists:** Chris Goodson (Georgia DOT), Chris Slesar (Vermont Agency of Transportation), Marni Levett (Arcadis)

Successful collaboration between ecologists, engineers, consultants, contractors, and internal teams is essential for achieving environmental compliance and ensuring infrastructure and conservation goals are met. This panel will explore how to effectively communicate job requirements across various disciplines and develop training programs and tools that ensure all stakeholders are aligned and working efficiently together. This session will feature an existing overview of existing training opportunities, a high-level overview of building effective training programs that ensure clarity and understanding across roles, and two case studies showcasing how training programs are designed, implemented, and tailored to meet the needs of different audiences. The session will conclude with a 45-minute moderated panel discussion and interactive Q&A session.

# DUDEK

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## THURSDAY, MAY 15 | 10:50AM - 12:20PM (MDT)



**Session 29: (Team)Work Zone Ahead – How Interagency Collaborations are Endeavoring to Improve Our Understanding of How Bats and Bat Habitat are Connected to Transportation Infrastructure (Continued)**



### Under the Spans: Investigating Bridge Use by Bats in Wyoming

Riley Bernard (Department of Zoology & Physiology, University of Wyoming), Logan Detweiler, Riley Fehr Bernard, Logan William Detweiler, Joshua Franklin Layfield



### Understanding Bat Use of CDOT Structures

Jason Roth (Colorado DOT), Anne Hoffman, Grey Buttner, Vanessa Santistevan, Dalton Kidder, Kristin Salamack, Sara BarnasT, Conner Denton, Erik Schmude, Summer Slama, Jeff Peterson



### Detection of Listed Bat Species Under Bridges Through the Use of Fecal DNA

Faith M. Walker (Species from Feces Lab, Northern Arizona University), Cory Olson, Susan Dulc, Heather Gates, Cori L. Lausen, Erin Low, Daniel E. Sanchez



### Predicting Bat Roosts in Bridges using Bayesian Additive Regression Trees

Amy Wray (Fort Collins Science Center, USGS), Jacob Oram, Helen Davis, Luz de Wit, Winifred Frick, Andrew Hoegh, Kathryn Irvine, Patrick Pollock, Andrea Schuhmann, Frank Tousley, Brian Reichert



## Session 33: California Dreamin': Wildlife Crossing Planning



### A Novel Population Viability Analysis to Evaluate Road Mitigation Designs

Philip Gould (USGS Western Ecological Research Center), Cheryl Brehme, Merav Vonshak, Robert Fisher



### Wildlife Crossing Planning Tool / CROS Plan

Dave Waetjen (Road Ecology Center, UC Davis), Fraser Shilling



### Statewide Modeling of Traffic Noise and Illumination of Surrounding Habitat

Ben Hodgson (UC Davis Road Ecology Center), David Waetjen, Fraser Shilling



## Session 34: Restoration Can Be Fun-Guys



### Exploring Nature Based Solutions for Resilience at Virginia DOT

Anna Salzberg (VDOT), Tessa Artruc (ICF), Maria Mutuc, Chris Berg



### Strategies for Valuing and Restoring Ecosystem Services of Roadside Vegetation Following Large-Scale Clearing

Dr. Ellen Oettinger White (State University of New York College of Environmental Science and Forestry), Dr. Marcia S. Meixler

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## THURSDAY, MAY 15 | 10:50AM - 12:20PM (MDT) CONTINUED

### ★ Session 34: Restoration Can Be Fun-Guys (Continued)



#### Studies of Fungal Communities in Pre and Post Restoration of the I-90 Snoqualmie Pass East Project Wildlife Overcrossing

Helen Lau (US Forest Service Okanogan Wenatchee National Forest), Dr. Jim JohnsonThomas Luehl, Dana Whitmore



#### There and Back Again; A Restoration Journey

Kelly Evans (USFS)

### ▲ Session 35: Making Way For Moving Mammals (A Nod to Norris) (245, 188, 284)



#### Utah's Migration Initiative and Inter-Agency Partnership Implications

Makeda Hanson (Utah Division of Wildlife Resources), Matt Howard



#### Finding Evidence of a 70 Years Old Road Effect on Wildlife at a Complex of Protected Areas, Costa Rica

Daniela Araya-Gamboa (PANTHERA), Roberto Salom Pérez, Yosette Araya Jiménez, Deiver Espinoza-Muñoz, Erika Faubion, Jeremy Quirós-Navarro, Eladio Salazar, Jeffrey Flores Rojas, Kendall Calderón Navarro




#### Whitetail Whispers; North Idaho Wildlife Crossing Study

Daniel Baker (HDR), Mark Traxler



— IN MEMORY —



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## THURSDAY, MAY 15 | 10:50AM - 12:20PM (MDT) CONTINUED

### Panel 9: Wildlife Connectivity Projects and Natural Resource Assessments

Organized by Paula Gill (Integral Consulting Inc.)

Panelists: Julie Andersen (Midpeninsula Regional Open Space District), Patrick Huber, Ph.D. (University of California, Davis), Sadie McGarvey (Integral Consulting Inc.), Will Cooper (Integral Consulting Inc.), Lindsay Vivian (Caltrans)

Our aim is to convene a panel to explore the increasingly critical and complex landscape of wildlife connectivity projects, particularly in light of California’s recent Senate Bill 790 (SB 790) and the California Department of Fish and Wildlife’s (CDFW) Wildlife Connectivity Advanced Mitigation Guidelines. These new regulations emphasize the need to prioritize wildlife crossing projects that contribute to species recovery goals, but their implementation requires careful navigation through various regulatory, ecological, and economic considerations. Given the complexity, cost, and oversight involved, it is essential to explore how these projects can be incentivized and streamlined to ensure their successful delivery while maximizing their ecological benefits.



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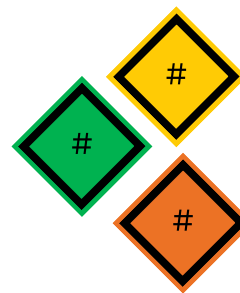


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## **Methodology for Evaluating Mitigation Methods to Improve the Resilience of Road Cut Slopes**

Eduardo Arancibia-Ruiz (Pontificia Universidad Católica de Chile), Alondra Chamorro, Manuel Contreras-Jara, Tomás Echaveguren



## **Herpetofauna as a Model for Studying the Underestimation of Mortality in Small Vertebrates**

Tatiane de Mello do Carmo (State University of Rio de Janeiro), Camila S. Barros, Mariana M. Vale, Marcus Vinicius Vieira



## **Reevaluating the Efficacy of Mitigation Structures on a South Texas Highway Using Individual Bobcat Interaction Data**

Jolie Gonzalez (University of Texas Rio Grande Valley), Jamie E. Langbein, Rupesh Maharjan, Kevin W. Ryer, John H. Young Jr., Richard J. Kline



## **Western Toads Use Undercrossing Structures on Interstate 90's Snoqualmie Pass, Washington State, USA**

Marianne Hall (Central Washington University), Dr. Jason T. Irwin



## **Project Deer: A Low-Cost, Onboard Audiovisual Animal Detection and Driver Alert System to Mitigate WVCs**

Siddhi Singh (STEM School Highlands Ranch)



## **Evaluating Wildlife Responses to Highway Infrastructure: A Framework for Reducing Wildlife-Vehicle Collisions**

Mahesh Sharma (Colorado State University), Saqib Gulzar, Elena Sidorova, Trung Duong, Md Rashad Islam



## **Recent Wildlife Overpass Innovations**

Stuart Murphy (Atlantic Industries Limited), Jason Ford, Kevin Williams, Meckkey El Sharnouby, Phil Carroll



## **Barbed Wire: An Invisible Barrier to Wildlife Movement**

Christie Greene (Wild Aware)



## **Designing and Implementing an Alternative Approach to Researching Wildlife Crossings and Highway Wildlife-Vehicle Collisions Through a Community-Based Lens**

Christie Greene (Wild Aware), Micheal Horwith

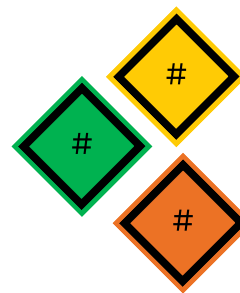


## **Ecosystem Impacts of Water Management Infrastructure: Challenges and Future Directions**

Dr. Sofia Prado-Irwin (Center for Biological Diversity), Aruna Prabhala

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**Patterns of Domestic Animal-Vehicle Collisions on Tribal Lands in Montana**  
Matthew Bell (Western Transportation Institute), Marcel Huijser



**Sustainable Bridges**  
Venkatachalam Karthik (Jacobs), Anuja Baheerathan



**Updated Wildlife Connectivity Efforts in Caltrans District 7 (Los Angeles and Ventura Counties)**  
Francis Appiah (Caltrans), Celina Oliveri



**Taking Advantage of Federal Discretionary Grants to Fund Wildlife Projects**  
Sarah Rigard (HDR), Kaitlin Marousis



**Automated Workflow and Dashboard Solutions for Managing Consultant Document Reviews for Georgia Department of Transportation**  
Christina Schmidt (AtkinsRéalis), Dibya Maheswari, Doug Chamblin, Ryan Pawlikowski, Chris Goodson, Morgan Niccoli



**Implementation of Road Access for a Traditional Community within the Atlantic Rainforest in a State Park in São Paulo, Brazil**  
Rita Monteiro Falcao (Companhia Ambiental do Estado de Sao Paulo), Ana Luisa Tondin Mengardo, Eduardo Jun Shinohara, Juliana Moreno Pina, Ticiana Ridsen Viana, Camilo Fragoso Giorgi



**Total Ocelot Inventory and Genetic Monitoring to Inform Ocelot-Transportation Ecology and Conservation Decision-making**  
Emma Brookover (Texas A&M University), Trevor Black, Spencer Ferguson, Elizabeth Grunwald, Tom Langschied, Peter Marbach, Alynn Martin, Daniel Scognamillo, William Stephens, Hunter Vasquez, Thomas Yamashita, John Young, Jr., Michael Tewes



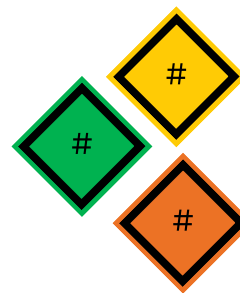
**ICOET 2001 to ICOET 2025: Perspectives from Over Three Decades Working in Transportation and Ecology**  
Ed Frantz (T.Y. Lin International)



**Road to P.E.L. and Beyond: Getting Transportation Infrastructure Right**  
Kovid Saxena (T.Y. Lin International), Ed Frantz

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## **Navigating Coastal Challenges: Using the Federal 12-Component Planning Process to Improve Coastal Resiliency and Create Seagrass Mitigation Near Tampa Bay, FL.**

Ben Shepherd (AtkinsRealis), Nicole Monies, Brent Setchell



## **Using Existing Infrastructure to Improve Wildlife Connectivity**

Steve Bega (Animex International), Ed Parr Farris



## **Frogger in the Wild: Real-Life Oregon Undercrossing Attempts a High Score**

Rachel Wheat (Oregon Department of Fish and Wildlife)



## **Evaluating Reduction in Monarch Butterfly Roadkill using TxDOT Monarch Flight Diverters (MFDs)**

Robert N Coulson (Texas A&M University), James L. Tracy, Carl Bierman, Darlene Goehl, Andrew Birt



## **Review of Scientific Field Studies using HALT Technology to Monitoring Small Fauna at the Interface of Transportation Infrastructure and Ecosystems: Advancing Techniques in Transportation Ecology**

Michael Hobbs (Hobbs Ecology)



## **Collaborative Strategies for Integrating Ecology into Transportation Projects: Insights from the Duckabush Estuary Restoration**

Grace Amundsen Barnkow (WSDOT), Theresa Mitchell, Mark Steingrebe, Autumn de la Cruz



## **Partnering to Enhance Wildlife Movements Across Northern Arizona**

Jeffrey W Gagnon (Arizona Game and Fish Department), Chad D Loberger, Scott C Sprague, Colin A Beach, Brianna Russo, Bill Davenport III, Keith Knutson



## **Grey 2 Green: Opening a "Habitat Highway" by Transforming Existing Bridges to Improve Wildlife Connectivity**

Steve Bega (Animex International), Carolyne Hayes, Scott Munro

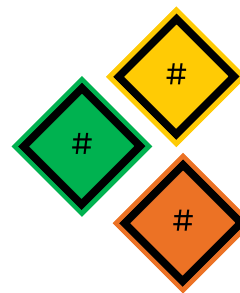


## **Grizzly Bear Road Crossings Along US Highway 93, Flathead Indian Reservation, Montana, USA**

Payton Adams (Confederated Salish and Kootenai Tribes), Marcel Huijser, Samantha Getty

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## **Utilization of a Noise Attenuation Calibration Model for Concrete Pile Driving in Florida**

Raphael Crowley (University of North Florida), Ryan Shamet, Moses Bosco, Consolatha Mushi, Mariam Makoleo, Emily Sapp, James Gelsleichter



## **Control Measures for Non-Exhaust Particulate Matter (PM) Emissions**

Dragomir Bogdanic (California Department of Transportation)



## **Wildlife Movement, Crossing Point Use, and Mortality Along a Critical Stretch of the 118 Freeway Near Los Angeles**

Celina Oliveri (Caltrans) Joanne Moriarty, Seth P. D. Riley



## **Six Years of Collaborative Monitoring on a South Texas Roadway: What Have We Learned?**

Richard J. Kline (University of Texas Rio Grande Valley), Kevin W. Ryer, John H. Young Jr.



## **Leveraging Digitalization to Build Sustainable Bridges**

Venkatachalam Karthik (Jacobs), Medha Bansal



## **Colombia's Greening Road Infrastructure Guidelines: A comprehensive example for the world**

Tremaine Gregory (World Wildlife Fund, US), Rodrigo Botero , Mario Lopez, Magda Constanza Buitrago Rios, Maryi Serrano, Ximena Barrera, Daniela Nieto, Kate Newman



## **Transforming Challenges Into Solutions: Innovative Mitigation Strategies in the Caltrans Saratoga Creek Bridge Replacement Project**

Samuel Aguilar (California Department of Transportation), Mita Nagarkar, Lindsay Vivian

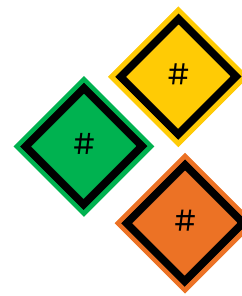


## **Rare Species Monitoring & a Changing Future for ROW Vegetation Management**

Sujai Veeramachaneni (Georgia Department of Transportation), Hannah Held, Carlee Steppe, Laci Pattavina, James (Mincy) Moffett, Katrina Morris, Katie O' Shields, Christopher Goodson

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## **North Carolina's Next Chapter in Wildlife Passage Partnership**

Marissa Rodman Cox (NCDOT), Travis Wilson, John Jamison



## **Lessons learned - NCDOT's Use of Innovative Technologies Through Conservation Measures**

Cheryl Knepp (North Carolina Department of Transportation),



## **Integrating Spatial Ecological Network Theory Into Wildlife Crossing Design**

Clara Woodie (Dudek)



## **The U.S. Geological Survey and Federal Highway Administration Collaborate to Provide Water-Quality Tools that Transportation Agencies Use to Help Inform Stormwater Management Decisions**

Alana B. Spaetzel (U.S. Geological Survey), Gregory E. Granato



## **Wildlife Use of Purposefully Modified Median Barriers on I-49 in Southwestern Missouri**

Brock Ortega (Dudek), Caleb Knerr, David Penning, Jenni Hosey, Christopher Shulse, Craig Switzer, Karne Lane, Fraser Shilling, Clara Woodie, Jeffrey Briggler, Gabe McClain, Cheryl Brehme



## **Turtles in Trouble: Recent Lessons Learned in Minnesota**

Christopher E. Smith (Minnesota Department of Transportation),



## **Wild Animal Mitigation Along US 160 in Southwest Colorado**

Kenneth Ryan (Muller Engineering), Mark Lawler

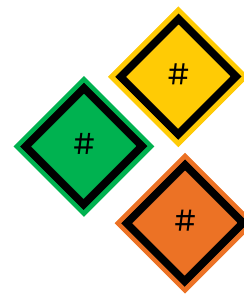


## **Wildlife Usage of Various Sized Underpass Structures in Eastern North Carolina**

Travis Wilson (North Carolina Wildlife Resources Commission)

# POSTER PRESENTATIONS

Poster Session will be held Tuesday, May 13<sup>th</sup> from 5-7pm MDT in the North and South Convention Lobbies. For poster locations, please reference the ICOET website.



# = Abstract Number

Green Denotes Student

Orange Denotes State DOT



## **6PPD-q Triggers New Focus on Stormwater and Creates New Challenges for ESA Consultations**

Jeff Dreier (Washington State Department of Transportation)



## **Innovations In Field Studies for Ecology and Transportation – With Advancing Technology Are We Up to The Challenge?**

Kimberly Laframboise (HDR Inc.)



## **Bridging the Gap: Community Strategies to Address Wildlife-Vehicle Collisions and Road Safety**

Christie Greene (Wild Aware)



## **Conserving Pollinators and Identifying Roadside Management Strategies**

Cathy Ford (Idaho Transportation Dept.), Julie Hausknecht,



## **Analysis of Wildlife-Vehicle Collision Patterns, Roadkill Distribution, and Raven Scavenging Behavior in the Upper Gunnison Basin**

Clayton BonDurant (Colorado Parks and Wildlife), Jackson Doyel, Molly Miller

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If you have any questions during the conference, please contact the staff below. They will be able to assist you.



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**Eugene Murray**

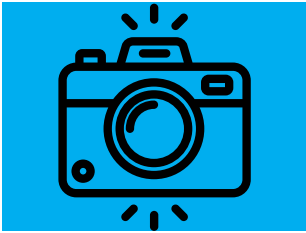
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