



# **FINAL PROGRAM**

47<sup>th</sup> Annual Meeting and Symposium

**Virtual**

February 15, 17, 18, 22, 24, and 25, 2022

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## **Requirements for Speakers and Presentations**

The Desert Tortoise Council **does not permit inappropriate images** as part of presentations in the program or as any part of symposia. Inappropriate photos include, but are not limited to: vulgar, lewd, or suggestive images of people; people in awkward positions or scanty attire; and people engaged in personal and private activities. The Desert Tortoise Council expects all participants and speakers to maintain a high level of professionalism.

## **Guidelines for Asking and Answering Questions at the Symposium**

Several years ago, several attendees approached members of the Board of Directors with concerns about the tone of questions to speakers. The concerned parties included members of the audience as well as speakers. Some members of the audience noted that some questioners appeared to be vitriolic and angry; some questioners used the opportunities at the microphone to present their views in long winded soliloquies rather than to ask questions. Furthermore, some speakers were irritated with the questions asked of them. To avoid a similar occurrence at future meetings, the Board of Directors developed guidelines for asking and answering questions at Symposia. These guidelines offer an opportunity to review the purpose for holding annual symposia and to reiterate our long-standing policy of professionalism and civility to all participants.

The Desert Tortoise Council promotes conservation of the desert tortoise in a variety of ways, including annual symposia. One purpose of the Symposia is to bring together scientists, wildlife biologists, managers, representatives of non-government organizations, and other interested parties to share the latest information on tortoises and their management. The speakers vary in their interests and areas of expertise, as well as in experience in giving presentations. Some speakers are giving their very first public presentations; others have presented hundreds of lectures and power point programs. All are welcome. The symposium is a learning experience and learning is facilitated by respect and courtesy. All speakers should receive courteous and professional treatment and, in turn, all speakers should treat the audience with respect. By following the simple guidelines outlined above, the Board hopes to have a collegial atmosphere and productive meeting.

To assist with the policy of professional and civil behavior, the Board requests that questioners follow the guidelines listed below:

1. Ask one question at a time. If you have two questions, do not ask both at once. Allow the speaker to answer the first question before proceeding to the second question.
2. If more than one person is waiting to ask, then ask only one question.
3. All questions are legitimate. However, the way the question is framed is usually the issue. Each question can be framed in a professional and courteous manner. Speakers, too, can draw on the following guidelines when answering questions.
4. Speakers should consider that all questions are legitimate and fair. However, some may be poorly worded because the questioner may not fully understand the subject or may need some assistance in framing the question in a professional manner. The speaker may need to clarify the question and should then repeat the question to the audience so that the audience will hear it clearly.

5. Some questions are not easily answered for a variety of reasons: no data, insufficient data, topic cannot be discussed because court proceedings are underway, etc. The speakers should state why the question cannot be answered or can only be addressed in part. The speaker may need to think at length about an appropriate answer and, in such cases, may need to say just that. The speaker may refer the questioner to the email in the Abstracts.

## PROGRAM

### 47<sup>th</sup> ANNUAL DESERT TORTOISE COUNCIL SYMPOSIUM (Virtual)

Held the mornings of February 15<sup>th</sup>, 17<sup>th</sup>, 22<sup>nd</sup>, and 24<sup>th</sup> and afternoons of the 18<sup>th</sup> and 25<sup>th</sup>, 2022

All sessions and presentations are in Pacific Standard Time

**Note:** Speakers are the first person noted for each presentation unless \*denotes otherwise  
**Raffles and announcements shall be held at the end of each break and day**

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#### FEBRUARY 15, 2022, TUESDAY

- 8:00 a.m.     **Introduction of Meeting Chairs and Opening Remarks**  
*Ed LaRue and Michael Vamstad: Members, Board of Directors of the Desert Tortoise Council, Palmdale, CA and Chairs of the Symposium*
- 8:15 a.m.     **The year in review**  
*Ken MacDonald, Chair, Desert Tortoise Council, and NewFields, Las Vegas, NV*

#### Session 1. An Overview of Climate Change and Effects in North America

- 8:30 a.m.     **Keynote and Plenary Address: Jonathan T. Overpeck**  
**Climate change and the aridification of North America**  
*Jonathan T. Overpeck: Samuel A. Graham Dean of the School for Environment and Sustainability, University of Michigan, Ann Arbor*
- 9:00 a.m.     Questions for the speaker and discussion

#### Session 2. Progress and Thoughts on Managing Predation by the Common Raven on Desert Tortoises. Session arranged by Kerry Holcomb

- 9:15 a.m.     **Estimating trends of common raven populations in North America 1966–2018**  
*Seth Harju<sup>1</sup>, Peter Coates<sup>2</sup>, Seth Dettenmaier<sup>2</sup>, Jonathan Dinkins<sup>3</sup>, and Pat Jackson<sup>4</sup>: <sup>1</sup>Heron Ecological, LLC, Kingston, ID; <sup>2</sup>U.S. Geological Survey, Dixon, CA; <sup>3</sup>Oregon State University, Corvallis; and <sup>4</sup>Nevada Department of Wildlife, Reno*
- 9:30 a.m.     **A desert tortoise-common raven viable conflict threshold: A generalizable approach to corvid depredation management**  
*Kerry L. Holcomb<sup>1</sup>, Peter S. Coates<sup>2</sup>, Brian G. Prochazka<sup>2</sup>, Timothy Shields<sup>3</sup>; William I. Boarman<sup>3</sup>: <sup>1</sup>U.S. Fish and Wildlife Service, Palm Springs, CA; <sup>2</sup>U.S. Geological Survey, Dixon, CA; and <sup>3</sup>Hardshell Labs, Inc., Haines, AK*
- 9:45 a.m.     **The Techno-Tort™: An active predator aversion training device**  
*William I. Boarman<sup>1</sup>, Tim Shields<sup>1</sup>, and Mark Cridge<sup>2</sup>: <sup>1</sup>Hardshell Labs, Inc., Joshua Tree, CA; <sup>2</sup>Cornerstone Research Group, Miamisburg, OH*
- 10:00 a.m.    Break

- 10:15 a.m.      **Common raven subsidy denial via laser**  
*Tim Shields<sup>1</sup> and William I. Boarman<sup>2</sup>: Hardshell Labs, Inc., <sup>1</sup>Joshua Tree, CA, and <sup>2</sup>Spring Valley, CA*
- 10:30 a.m.      **Identifying population management strategies for avian predators: A decision tool**  
*Andrea Currylow<sup>1</sup>, Brenda Hanley<sup>2</sup>, Kerry Holcomb<sup>3</sup>, Timothy Shields<sup>4</sup>, Stephen Boland<sup>5</sup>, William Boarman<sup>4</sup>, and Mercy Vaughn<sup>5</sup>: <sup>1</sup>U.S. Geological Survey, Homestead, FL, and University of North Carolina, Wilmington; <sup>2</sup>Cornell University, Ithaca, NY; <sup>3</sup>U.S. Fish and Wildlife Service, Palm Springs, CA; <sup>4</sup>Hardshell Labs, Inc., Haines, AK; and <sup>5</sup>Sundance Biology Inc., Paso Robles, CA*
- 10:45 a.m.      **A citizen science raven research project: Raven nest mapping**  
*Tim Shields<sup>1</sup> and Erin Eichenberg<sup>2</sup>: Hardshell Labs, Inc., <sup>1</sup>Joshua Tree, CA; and <sup>2</sup>Boulder City, NV*
- 11:00 a.m.      **Efficacy of common raven (*Corvus corax*) reproduction manipulations at conserving sensitive prey species: Three case studies**  
*Corina Sanchez<sup>1</sup>, B. Brussee<sup>1</sup>, P. Coates<sup>1</sup>, K. Holcomb<sup>2</sup>, S. Harju<sup>3</sup>, T. Shields<sup>4</sup>, M. Vaughn<sup>5</sup>, B. Prochazka<sup>1</sup>, S. Mathews<sup>1</sup>, S. Cornell<sup>6</sup>, C. Olson<sup>3</sup>, D. Delehanty<sup>7</sup>: <sup>1</sup>U.S. Geological Survey, Dixon, CA; <sup>2</sup>U.S. Fish and Wildlife Service, Palm Springs, CA; <sup>3</sup>HWA Wildlife Consulting, Laramie, WY; <sup>4</sup>Hardshell Labs, Inc., Haines, AK; <sup>5</sup>Sundance Biology, Inc., Paso Robles, CA; <sup>6</sup>Meeteetse Conservation District, WY; <sup>7</sup>Idaho State University, Pocatello*
- 11:15 a.m.      Questions for the panel and discussion
- 11:30 a.m.      **Annual Meeting of the Desert Tortoise Council**  
*Ken MacDonald: Chair, Board of Directors, Desert Tortoise Council, Palmdale, CA*
- 12:30 p.m.      Announcements and adjourn for the day

### **February 17, 2022, Thursday**

- 8:15 a.m.      **Announcements, Introduction the Session and Dr. Smerdon**  
*Ed LaRue: Meeting Chair and Member, Board of Directors, Desert Tortoise Council, Palmdale, CA*

### **Session 3. Climate Change: The Contributions from Anthropogenic Warming**

- 8:30 a.m.      **Plenary Address: Jason Smerdon**  
**Large contribution from anthropogenic warming to an emerging North American megadrought**  
*Jason Smerdon: Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY.*
- 9:00 a.m.      Questions for the speaker and discussion

- 9:15 a.m.      **Did more female than male Agassiz's desert tortoises die in the western Sonoran Desert during California's epic 2012-2016 drought?**  
*Jeffrey E. Lovich<sup>1</sup>, S.R. Puffer<sup>1</sup>, K. Cummings<sup>1</sup>, T.R. Arundel<sup>1</sup>, M.S. Vamstad<sup>2</sup>, and K.D. Brundige<sup>3</sup>: <sup>1</sup>U.S. Geological Survey, Flagstaff, AZ; <sup>2</sup>Joshua Tree National Park, Twentynine Palms, CA; <sup>3</sup>Coachella Valley Conservation Commission, Palm Desert, CA*
- 9:30 a.m.      **Mojave Desert grasslands: 40 years of collecting historical ecological evidence of past and present native plant community diversity**  
*Laura Cunningham: California Director, Western Watersheds Project, Beatty, NV*
- 9:45 a.m.      **Restoration of desert tortoise habitat: Indicators, techniques, effectiveness, and costs**  
*Scott R. Abella<sup>1</sup> and Stefanie Ferrazzano\*<sup>2</sup>: <sup>1</sup>Natural Resource Conservation LLC, Boulder City, NV, and University of Nevada, Las Vegas; and <sup>2</sup>Clark County Department of Environment and Sustainability, NV*
- 10:00 a.m.      Questions for the panel and discussion
- 10:15 a.m.      Break

Session 4. Genomics and Genetics Scaled to Genus, Species, and Region

- 10:30 a.m.      **Genomic insights into the evolution and conservation of threatened Gopherus tortoise species**  
*Kenro Kusumi<sup>1</sup>, Greer A. Dolby<sup>1</sup>, Sarah Baty<sup>1</sup>, Dale F. DeNardo<sup>1</sup>, Paul Crump<sup>2</sup>, Shawn F. McCracken<sup>3</sup>: <sup>1</sup>Arizona State University, Tempe, AZ; <sup>2</sup>Texas Parks and Wildlife Department, Austin TX; and <sup>3</sup>Texas A&M University-Corpus Christi, TX*
- 10:45 a.m.      **Understanding the adaptive potential between different regions of the range for the Mojave desert tortoise (Student Paper)**  
*Anjana Parandhaman<sup>1</sup>, N. Byer<sup>1</sup>, M.D. Matocq<sup>1</sup>, T. Dilts<sup>1</sup>, S. Wright<sup>1</sup>, D. Friend<sup>1</sup>, D.P. Boyle<sup>1</sup>, S.D. Bassett<sup>1</sup>, A.G. Vandergast<sup>2</sup>, T.C. Esque<sup>3</sup>, J.S. Heaton<sup>1</sup>, and K.E. Nussear<sup>1</sup>: <sup>1</sup>University of Nevada, Reno; and U.S. Geological Survey, <sup>2</sup>San Diego, CA and <sup>3</sup>Henderson, NV*
- 11:00 a.m.      **Reconciling genetic and field estimates of dispersal and gene flow in the Mojave desert tortoise**  
*Nathan W. Byer<sup>1</sup>, A. Parandhaman<sup>1</sup>, S. Hromada<sup>1</sup>, S. Bassett<sup>1</sup>, D. Boyle<sup>1</sup>, T. Esque<sup>2</sup>, A. Vandergast<sup>3</sup>, T. Dilts<sup>1</sup>, K. Nussear<sup>1</sup>, J. Heaton<sup>1</sup>, M. Matocq<sup>1</sup>: <sup>1</sup>University of Nevada, Reno, NV; and U.S. Geological Survey, <sup>2</sup>Boulder City, NV <sup>3</sup>San Diego, CA*
- 11:15 a.m.      Questions for the panel and discussion



Session 5. Monitoring Sonoran Desert Tortoises

- 11:30 a.m.     **Monitoring results from Pima County’s 2021 Sonoran desert tortoise campaign**  
*Amanda Webb, Ian Murray, and Sami Hammer: Pima Count Office of Sustainability and Conservation, Tucson, AZ*
- 11:45 a.m.     Questions for the speaker and discussion
- 12:00 Noon     Announcements and adjourn for the day

February 18, 2022, Friday

- 1:45 p.m.     **Announcements, Introduction of the Session and Dr. Stahle**  
*Ed LaRue: Meeting Chair and Member, Board of Directors, Desert Tortoise Council, Palmdale, CA*

Session 6. Assessing Climate Change and Frequency of Droughts Using Tree Rings

- 2:00 p.m.     **Plenary Address: David W. Stahle**  
**The tree-ring record of North American drought and pluvial, including the precipitation reconstructions for southeastern California over the past 600 years**  
*David W. Stahle: University of Arkansas, Fayetteville*
- 2:30 p.m.     Questions for the speaker and discussion

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Session 7. Movements and Connectivity in Tortoise Populations in the Mojave and Sonora Deserts

- 2:45 p.m.     **Evaluating connectivity model predictions using Sonoran desert tortoise movements (Student Paper)**  
*Sean Sutor, Nancy E. McIntyre, and Kerry Griffis-Kyle: Texas Tech University, Lubbock, TX*
- 3:00 p.m.     **Movement of Mojave desert tortoises is altered by landscape and small-scale disturbances (Student Paper)**  
*Steven J. Hromada<sup>1</sup>, Todd C. Esque<sup>2</sup>, Amy G. Vandergast<sup>3</sup>, K. Kristina Drake<sup>2</sup>, and Kenneth E. Nussear<sup>1</sup>: <sup>1</sup>University of Nevada, Reno; U.S. Geological Survey, <sup>2</sup>Boulder City, NV and <sup>3</sup>San Diego, CA*
- 3:15 p.m.     Questions for the speakers and discussion
- 3:30 p.m.     Break

Session 8. Desert Apocalypse: A Film about Solar Development in Deserts

- 3:45 p.m.     **Desert Apocalypse: A series about the assault on desert habitats**  
*Justin McAfee<sup>1</sup>, Kevin Emmerich<sup>2</sup>, and Laura Cunningham<sup>2</sup>: <sup>1</sup>Independentt Filmmaker, and <sup>2</sup>Co-founders, Basin and Range Watch, Beatty, NV*
- 4:15 p.m.     Questions and discussion

Session 9. The U.S. Fish and Wildlife Service Issues a Decision that Federal Listing of the Sonoran Desert Tortoise is not Warranted

- 4:30 p.m.     **A quick synopsis of the finding by the U.S. Fish and Wildlife Service for the Sonoran Desert Tortoise**  
*Ed LaRue: Chair, Ecosystems Advisory Committee, Desert Tortoise Council, Palmdale, CA*
- 4:40 p.m.     **A critique of and concerns about the U.S. Fish and Wildlife Service's determination that the Sonoran Desert Tortoise does not warrant the protection of the Endangered Species Act**  
*Cyndi Tuell: Arizona and New Mexico Director at Western Watersheds Project*
- 4:55 p.m.     Questions for the speakers and discussion
- 5:10 p.m.     Adjourn for the day

February 22, 2022, Tuesday

- 8:15 a.m.     **Announcements, Introduction of the Session and Dr. Bertolero**  
*Ed LaRue: Meeting Chair and Member, Board of Directors, Desert Tortoise Council, Palmdale, CA*

Session 10. Translocations and Headstarting of Tortoises in the United States and Europe

- 8:30 a.m.     **Plenary Speaker: Albert Bertolero**  
**Chelonian translocations in Catalonia: A 30-year overview**  
*Albert Bertolero: Associació Ornitològica Picampall de les Terres de l'Ebre, Catalonia, Spain*
- 9:00 a.m.     Questions for the speaker and discussion
- 9:15 a.m.     **Desert tortoise translocation of the Marine Corps Air Ground Combat Center (Combat Center) in 2021**  
*Brian T. Henen: Marine Corps air Ground Combat Center, Twentynine Palms, CA*
- 9:30 a.m.     **A comparison of the post-release survival and behavior of indoor-reared and combination-reared head-started Mojave desert tortoises (*Gopherus agassizii*) (Student Paper)**  
*Susanna Mann<sup>1</sup>, Brian Todd<sup>2</sup>, Kurt Buhlmann<sup>1</sup>, Clark Rushing<sup>1</sup>, Tracey D. Tuberville<sup>1</sup>: <sup>1</sup>University of Georgia, Aiken, SC; and <sup>2</sup>University of California, Davis, CA*
- 9:45 a.m.     **Importance of age and microsite on habitat selection and space use in headstarted juvenile Mojave desert tortoises**  
*Melissa J. Merrick, Talisin T. Hammond, and Ronald R. Swaisgood: San Diego Zoo Wildlife Alliance, Escondido, CA*
- 10:00 a.m.    Break

- 10:15 a.m.      **Multi-year space-use and survival of head-started Mojave desert tortoises following release in Mojave National Preserve, California, USA (Student Paper)**  
*Collin Richter<sup>1,2</sup>, Michel Kohl<sup>2</sup>, Pearson A. McGovern<sup>1,2</sup>, Carmen M. Candal<sup>1,2</sup>, Kurt A. Buhlmann<sup>1</sup>, Brian D. Todd<sup>3</sup>, and Tracey D. Tuberville<sup>1,2</sup>: <sup>1</sup>Savannah River Ecology Laboratory, University of Georgia, Aiken, SC; <sup>2</sup>University of Georgia, Athens, GA; and <sup>3</sup>University of California, Davis, CA*
- 10:30 a.m.      **Innate testosterone identifies sex of hatchling Mojave desert tortoises (*Gopherus agassizii*) (Student Paper)**  
*M. A. Walden<sup>1</sup>, K. J. Loope<sup>2,3</sup>, E.A. Hunter<sup>4</sup>, S.J. Divers<sup>5</sup>, J.R. Comolli<sup>5</sup>, T.C. Esque<sup>6</sup>, K. T. Shoemaker<sup>1</sup>: <sup>1</sup>University of Nevada, Reno, NV; <sup>2</sup>Georgia Southern University, Statesboro, GA; <sup>3</sup>Virginia Tech, Blacksburg, VA; <sup>4</sup>U.S. Geological Survey Blacksburg, VA; <sup>5</sup>University of Georgia, Athens, GA; and <sup>6</sup>U.S. Geological Survey, Boulder City, NV*
- 10:45 a.m.      Questions for the panel and discussion

Session 11. Equipment and Methods to Enhance Surveys for Tortoises, A Paper and Posters

- 11:00 a.m.      **AI-assisted drone surveys detect desert tortoises and soil burrows at rates comparable to human observers**  
*Matthew S. Bandy<sup>1</sup>, Cameron Rognan<sup>2</sup>, and Michael W. Tuma<sup>3</sup>: <sup>1</sup>Resi Solutions, Albuquerque, NM; <sup>2</sup>Washington County HCP, St. George, UT; and <sup>3</sup>Resi Solutions*
- 11:15 a.m.      Posters: Questions and discussion
- BurrowFinder: Increasing survey efficiency with offline imagery processing and machine learning**  
*Timothy J. Divoll<sup>1</sup>, Ohad Nir<sup>1</sup>, and William T. Whitehead<sup>2</sup>: SWCA Environmental Consultants, <sup>1</sup>Phoenix, AZ and <sup>2</sup>Albuquerque, NM*
- Detecting desert tortoises in highway culverts with wildlife cameras and machine learning**  
*Timothy J. Divoll and Ohad Nir: SWCA Environmental Consultants, Phoenix, AZ*

Session 12. The Role of Climate in Human Migrations

- Plenary Address**
- 11: 30 a.m.      **Acting on Internal Climate Migration: Findings from the latest *Groundswell* Report**  
*Viviane Clement, Senior Climate Change Specialist: World Bank Group, Washington, DC*
- 11:50 a.m.      Questions and discussion
- 12:00 Noon      Announcements and adjourn for the day

**February 24, 2022, Thursday**

8:15 a.m.      **Announcements and Introduction of the Session and Dr. Kuchling**  
*Ed LaRue: Meeting Chair and Member, Board of Directors, Desert Tortoise Council, Palmdale, CA*

**Session 13. New and Exciting Report on Viviparity in a Turtle Species**

8:30 a.m.      **INVITED and FEATURED SPEAKER**  
**Discovery of a new reproductive strategy for the Order Testudines: Beating the heat through facultative viviparity in the south African tortoise *Chersina angulata***  
*Gerald Kuchling<sup>1</sup> and Margaretha Delina Hofmeyr<sup>2†</sup>: <sup>1</sup>The University of Western Australia, Crawley, Western Australia, Australia; and <sup>2</sup>University of the Western Cape, Bellville, South Africa. <sup>†</sup>Deceased*

8:55 a.m.      Questions of the speaker and discussion

**Session 14. Legal and Conservation Actions Directed to Recovery of Tortoises**

9:10 a.m.      **Advancing tortoise protection and recovery across the country**  
*Lisa Belenky<sup>1</sup>, Patrick Donnelly<sup>2</sup>, and Ileene Anderson<sup>3</sup>: Center for Biological Diversity, <sup>1</sup>Oakland, CA, <sup>2</sup>Las Vegas, NV, and <sup>3</sup>Los Angeles, CA*

9:30 a.m.      **The Desert Tortoise Recovery Office: A 17-year review**  
*Roy C. Averill-Murray, Kimberleigh J. Field, Linda J. Allison: Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, NV*

9:45 a.m.      **U.S. Fish and Wildlife Service Update on Desert Tortoise Recovery Activities**  
*Garrett Sisson: Utah Ecological Service Field Office, U.S. Fish and Wildlife Service, West Valley City, Utah*

10:00 a.m.      Break

10:15 a.m.      **Recovery Progress at Mojave National Preserve**  
*Michael Burchett, Neal Darby, Debra Hughson, and Mike Gauthier: Mojave National Preserve, Barstow, CA*

10:30 a.m.      **Clark County Multiple Species Habitat Conservation Plan Update**  
*Scott Cambrin: Clark County Desert Conservation Program, Las Vegas, NV*

10:45 a.m.      **Desert Tortoise Management and Research in Joshua Tree National Park**  
*Michael S. Vamstad: Joshua Tree National Park, Twentynine Palms, CA*

11:00 a.m.      Questions and panel discussion

11:20 a.m.      **Announcements: Winners of the Photography Contest**  
*Maggie Fusari: Chair, Photography Awards, Desert Tortoise Council, Palmdale, CA*

- 11:45 a.m.      **Announcements: Student Award Winners**  
*Michael W. Tuma: Chair, Student Awards, Desert Tortoise Council, Palmdale, CA*
- 11: 55 a.m.      **Announcement of the Winner of the David J. Morafka Memorial Research Award**  
*Michael W. Tuma: Chair, Grants and Awards Committee, Desert Tortoise Council, Palmdale, CA*
- 12:00 p.m.      Adjourn for the day

**February 25, 2022, Friday afternoon**

- 12:45 p.m.      **Announcements and Introduction to the Session by Dr. Esque**  
*Ed LaRue<sup>1</sup> and Todd Esque<sup>2</sup>: <sup>1</sup>Meeting Chair and Member, Board of Directors, Desert Tortoise Council, Palmdale, CA; <sup>2</sup>U.S. Geological Survey, Boulder City, NV*

**Session 15. Roads—Dirt and Paved—Off-highway Vehicle Tracks, Trails, and Proliferation**

- 1:00 p.m.      **Challenges facing route restoration in the West Mojave**  
*Ed LaRue: Desert Tortoise Council, Palmdale, CA*
- 1:15 p.m.      **Road density and Mojave desert tortoise population trends**  
*Roy C. Averill-Murray and \*Linda J. Allison: U.S. Fish and Wildlife Service, Reno, NV*
- 1:30 p.m.      **OHV restoration: Factors of success**  
*Randy Banis: Friends of Jawbone, Leona Valley, CA*
- 1:45 p.m.      **Monitoring restoration effectiveness in the Fremont-Kramer Desert Wildlife Management Area**  
*Sam Easley and Sarah Berryman: Transition Habitat Conservancy, Piñon Hills, CA*
- 2:00 p.m.      **Challenges and opportunities managing private mitigation lands in the California deserts**  
*Jacob Robinson: Wildlands, Rocklin, CA*
- 2:15 p.m.      **Habitat acquisition considerations and OHV management challenges for conservation organizations in the California desert**  
*Cody Hanford: Mojave Desert Land Trust, Joshua Tree, CA*
- 2:30 p.m.      Break
- 2:45 p.m.      **Route proliferation challenges at the urban interface in the eastern Mojave**  
*Lara A. Kobelt, Jonathan P. Smith, and Jimmy O. Linares: Bureau of Land Management, Las Vegas, NV*

- 3:00 p.m.      **Evaluating use of restored unauthorized incursions on BLM lands in California's Mojave Desert**  
*Todd C. Esque, Phil G. Wilt, Jaden M. McKiernen, and Lesley A. DeFalco: U.S. Geological Survey, Boulder City, NV*
- 3:15 p.m.      **A challenge of managing desert tortoise conservation—unauthorized motorized travel**  
*Amy L. Fesnock: California Desert District, Bureau of Land Management, Sacramento, CA*
- 3:30 p.m.      **Fences and barriers work for managing unauthorized uses: A valuable tool**  
*Kristin H. Berry<sup>1</sup> and Ann McLuckie<sup>2</sup>: <sup>1</sup>U.S. Geological Survey, Reno, NV; and <sup>2</sup>Utah Division of Wildlife Resources, Hurricane, UT*
- 3:45 p.m.      Questions and panel discussion
- 4:15 p.m.      **Announcements: Winners of the Annual Awards of the Desert Tortoise Council**  
*Kristin Berry: Chair, Awards Committee, Desert Tortoise Council, Palmdale, CA*
- 4:40 p.m.      **Closing Remarks**  
*Ed LaRue<sup>1</sup> and Mari Quillman<sup>2</sup>: <sup>1</sup>Meeting Chair and <sup>2</sup>Host Chair, Desert Tortoise Council, Palmdale, CA*
- 5:00 p.m.      **Adjourn the Symposium**

## **Nonprofit Partner Organizations**

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