

**California-Nevada Amphibian Populations Task Force
January 8-10, 2014**

**Pepperdine University
Pendleton Learning Center, Room 125
Malibu, CA**

AGENDA

- Chair:** Dave Bradford, Las Vegas, NV
- Meeting Coordinator:** Jef Jaeger, School of Life Sciences, University of Nevada, Las Vegas
- Meeting Committee:** Robert Fisher, USGS Western Ecology Research Center, San Diego, CA
H. Bradley Shaffer, Department of Ecology and Evolutionary Biology and La
Kretz Center for California Conservation Science, UCLA, Los Angeles, CA
Cheryl Brehme, USGS Western Ecology Research Center, San Diego, CA
Lee Kats, Natural Sciences Division, Pepperdine University, Malibu, CA.
- Meeting Sponsors:** Pepperdine University
Animex® Animal Exclusion Fencing, Knowle, United Kingdom
La Kretz Center for California Conservation Science, UCLA
- Registration Support:** Amphibian and Reptile Conservancy

Wednesday, January 7, 2015

- 5:30-9:30 pm BBQ/drinks at La Kretz Center for California Conservation Science, 31915
Mulholland Hwy., Malibu, CA 90265. Cost is \$15.

Thursday, January 8, 2015

- 7:45-8:30 am **Registration and Refreshments**
- 8:30-8:40 am **Introduction and Announcements.** Dave Bradford
- 8:40-8:50 am **Welcome to Pepperdine University.** Rick Marrs, Provost, Pepperdine University,
Malibu, CA.

Session 1

Moderator: Dave Bradford, Las Vegas, NV

- 8:50-9:15 am **Conservation Genomics of the California Tiger Salamander (*Ambystoma californiense*): Past, Present, and Future.** Evan McCartney-Melstad^{1*}, Benjamin Fitzpatrick², Jarrett Johnson³, Genevieve Mount^{1,4}, and H. Bradley Shaffer¹. ¹Department of Ecology and Evolutionary Biology, University of California, Los Angeles, Los Angeles, CA; ²Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville, TN; ³Department of Biology, Western Kentucky University,

Bowling Green, KY; ⁴Department of Biological Sciences and Museum of Natural Science, Louisiana State University, Baton Rouge, LA. (25 min)

- 9:15-9:40 am **Chytrid Infection, Drought, and Flow Regulation Create Multiple Stressors on Foothill Yellow-Legged Frog Populations in the Alameda Creek Watershed.** Andrea Adams^{1*}, Sarah Kupferberg², Steve Bobzien³, Marcia Grefsrud⁴, Vance Vredenburg⁵, and Cheryl Briggs¹. ¹Department of Ecology, Evolution, and Marine Biology, University of California, Santa Barbara, CA; ²Visiting Scholar, Department of Integrative Biology, University of California, Berkeley, CA; ³East Bay Regional Park District, Oakland, CA; ⁴California Department of Fish and Wildlife, Bay Delta Region, Napa, CA; ⁵San Francisco State University, San Francisco, CA. (25 min)
- 9:40-10:15 am **Break** (35 min)
- 10:15-10:40 am **Landscape Ecology of the California Tiger Salamander (*Ambystoma californiense*): Past, Present, and Future.** H. Bradley Shaffer^{1*}, and Christopher Searcy². ¹Department of Ecology and Evolutionary Biology, University of California, Los Angeles, Los Angeles, CA; ²Department of Biology, University of Toronto, Mississauga, Ontario, Canada. (25 min)
- 10:40-11:05 am **Re-introduction of the Federally Threatened California Red-legged Frog (*Rana draytonii*) to the Santa Monica Mountains.** Kathleen Delaney^{1*}, Mark Mendelsohn^{1&2}, and Seth Riley¹. ¹National Park Service, Santa Monica Mountains National Recreation Area, Thousand Oaks, CA; ²Mountains Restoration Trust, Calabasas, CA. (25 min)
- 11:05-11:30 am **Populations of the Endangered Frog *Rana sierrae* Are Increasing in Abundance Despite Ongoing Disease.** Roland Knapp¹, Gary Fellers², Patrick Kleeman², and David Miller³. ¹Sierra Nevada Aquatic Research Laboratory, Mammoth Lakes, CA; ²U.S. Geological Survey, Western Ecological Research Center, Point Reyes National Seashore, Point Reyes, CA; ³Pennsylvania State University, University Park, PA. (25 min)
- 11:30-11:55 am **Uncovering a Fossorial Species: Home Range and Habitat Preference of the Western Spadefoot, *Spea hammondi* (Anura: Pelobatidae), in Orange County Protected Areas.** Katherine Baumberger, U.S. Geological Survey, Western Ecological Research Center, Santa Ana, CA. (25 min)
- 11:55-1:25 pm **Lunch** (90 min)

Session 2

Moderator: Jonathan Richmond, US Geological Survey, Western Ecology Research Center, San Diego, CA

- 1:25-1:50 pm **Rapid Evolution of *Rana draytonii* Behavioral Responses to an Introduced Predator.** Rachel Anderson^{1*} and Sharon Lawler². ¹Graduate Ecology Group and ²Department of Entomology and Nematology; University of California Davis, Davis CA. (25 min)

- 1:50-2:15 pm **Modelling Colonization of a Reintroduced Population of Chiricahua Leopard Frogs.** Brent Sigafus^{1*}, Blake Hossack², Erin Muths³, Christopher Jarchow¹, Richard Chandler⁴, and Cecil Schwalbe¹. ¹U.S. Geological Survey, Sonoran Desert Research Station, University of Arizona, Tucson, AZ; ²U.S. Geological Survey, Northern Rocky Mountain Science Center, Missoula, MT; ³U.S. Geological Survey, Fort Collins Science Center, Fort Collins, CO; ⁴Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA. (25 min)
- 2:15-2:40 pm **Drought Impacts and Status of an Isolated Population of Western Pond Turtles (*Actinemys marmorata*) in the Santa Monica Mountains.** Rosi Dagit. Resource Conservation District of the Santa Monica Mountains, Agoura Hills, CA. (25 min)
- 2:40-3:05 pm ***Rana boylei* Aging: A Growing Concern.** Joseph Drennan*, Karla Marlow, Kevin Wiseman, Ronald Jackman, Ian Chan, and Joanna Lessard. Garcia and Associates, San Francisco, CA. (25 min)
- 3:05-3:35 pm **Break** (30 min)
- 3:35-4:00 pm **Studying Urban Amphibian Populations through Citizen Science.** Gregory Pauly*. Section of Herpetology, Natural History Museum of Los Angeles County, Los Angeles, CA. (25 min)
- 4:00-4:25 pm **What Drives Variation in the Effect of a Fungal Pathogen on the Cascades Frog (*Rana cascadae*)?** Jonah Piovia-Scott^{1*}, Karen Pope², Janet Foley³, Sharon Lawler⁴, Bennett Hardy⁵, and Monty Larson⁶. ¹Department of Biology, University of California, Riverside, CA; ²Pacific Southwest Research Station, United States Forest Service, Arcata, CA; ³Department of Veterinary Medicine and Epidemiology, University of California, Davis, CA; ⁴Department of Entomology, University of California, Davis, CA; ⁵San Bernardino, CA; ⁶Arcata, CA. (25 min)
- 4:25-4:50 pm **Tracking Newts and Defensive Toxin Levels through Time in the Santa Monica Mountains.** Gary Bucciarelli^{1*}, David B. Green², Lee Kats³, and H. Bradley Shaffer¹. ¹Department of Ecology and Evolutionary Biology, University of California Los Angeles, Los Angeles, CA; ²Department of Chemistry, Pepperdine University, Malibu, CA; ³Natural Science Division, Pepperdine University, Malibu, CA. (25 min)
- 4:50-5:05 PM **Healing High Mountain Lakes: A Video about Aquatic Restoration in Sequoia and Kings Canyon National Parks.** Daniel M. Boiano^{1*} and Ryan Christensen². ¹Sequoia and Kings Canyon National Parks, National Park Service, Three Rivers, CA; ²Bristlecone Media, Bishop, CA. (15 min)
- 5:05-5:10 pm **Announcements**

BANQUET

**Catered by The Latigo Kid Mexican Restaurant
at the**

**Agoura Hills/Calabasas Community Center
27040 Malibu Hills Rd.
Calabasas, CA 91301**

Directions to Center: From Pepperdine, return up Las Virgenes Road towards Hwy. 101, then take a left on Lost Hills Road about 1.5 miles before reaching Hwy. 101. Travel 0.8 miles on Lost Hills Road, then turn left on Malibu Hills Road and travel 0.3 miles; destination is on your left.

From Hwy. 101, take the Lost Hills Road exit heading south. Shortly, turn right on Agoura Road and travel for 0.4 miles. Then turn left on Malibu Hills Road and travel for a short distance; destination is on your right.

6:00-7:00 pm **Guests Arrive**

7:00-9:30 pm **Dinner and Presentation:**

A Newt in Malibu: No Movie Star Life

Lee B. Kats

Professor of Biology
Vice Provost for Research and Strategic Initiatives
Associate Dean for Research
Frank R. Seaver Chair of Natural Science
Pepperdine University
Malibu, California

POSTERS
(All Day, Thursday and Friday)

Implications of the Drought on California Tiger Salamanders and the Downstream Consequences on their Prey Amphibian Species. Haley Glass and Runyang Lou. Department of Ecology and Evolutionary Biology, University of California, Los Angeles, Los Angeles, CA.

Life in the Fast Lane: Urban Lizards Ignore the Risks. Elizabeth Grolle, Marina Gerson, and Michelle Lopez. Department of Biological Sciences, CSU Stanislaus, Turlock, CA.

Statewide Coordination and Stakeholder Input to Inform 2015 CDFW Regulation Changes Affecting Scientific Collecting Permits. Craig Martz¹, Russ Bellmer², Dan Kratville², Justin Garcia³, Esther Burkett³, Brian Owens⁴, and Mark Stopher⁵ (Ona Alminas^{1,2} presenter). ¹California Department of Fish and Wildlife, Regulations Unit, Sacramento, CA; ²California Department of Fish and Wildlife, Fisheries Branch, Sacramento CA; ³California Department of Fish and Wildlife, Wildlife Branch, Sacramento CA; ⁴California Department of Fish and Wildlife, Marine Region, Belmont, CA; ⁵California Department of Fish and Wildlife, Redding, CA.

Using Genomic Tools for the Conservation of the Western Spadefoot Toad, *Spea hammondi*. Kevin Neal^{1*} and H. Bradley Shaffer¹. ¹Department of Ecology and Evolutionary Biology, La Kretz Center for California Conservation Science, Institute of the Environment and Sustainability, University of California, Los Angeles, CA.

Friday, January 9, 2015

7:45-8:30 am **Registration and Refreshments**

8:30-8:35 am **Announcements.** David Bradford

Special Session
Amphibian (and Amphibious Reptile) Road Ecology

Moderator: Robert Fisher, U.S. Geological Survey, Western Ecological Research Center, San Diego, CA

8:35-8:45 am **Introduction.** Robert Fisher, U.S. Geological Survey, Western Ecological Research Center, San Diego, CA (10 min)

8:45-9:20 am **Featured Presentation:**

Road Ecology: Science-based Solutions for the Big and Small

Anthony P. Clevenger
Western Transport Institute
Montana State University
Bozeman, Montana

With nearly 20 years of experience in the field of road ecology, Tony has led or co-authored several major Federal Highway Administration publications and BMPs on mitigating wildlife-transportation conflicts in addition to publishing over 50 scientific works on the topic.

9:20-9:55 am **Featured Presentation:**

Developing Wildlife Road Crossing Structures for Herpetofauna

Tom Langton
Herpetofauna C I Ltd.
Suffolk, United Kingdom

Tom is a world-renowned expert in researching innovative and cost-effective crossing designs for amphibians and reptiles on four continents. He has been involved in over 80 road mitigation projects involving amphibians and reptiles since 1984.

9:55-10:30 am **Break** (35 min)

10:30-10:55 am **Planning for Landscape Connectivity: Examples from Southern California.** Sally D. Brown, U.S. Fish and Wildlife Service, Carlsbad Field Office, Carlsbad, CA.

10:55-11:20 am **Highway One Revisited: Twenty Years of Road Surveys for California Red-legged Frogs in Coastal Santa Cruz and San Mateo Counties.** Michael Westphal^{1*}, Richard Seymour², Diane Kodama³ and H. Bradley Shaffer⁴. ¹U.S. Bureau of Land Management, Hollister Field Office, Hollister, CA; ²Seymour & Assoc, Sierra Madre, CA; ³U.S. fish and Wildlife Service, Don Edwards NWR, Newark, CA; ⁴Department of Ecology and Evolutionary Biology, UC Los Angeles, Los Angeles, CA. (25 min)

11:20-11:45 am **Amphibian Mortality on Roads: A Case Study in Santa Cruz Long-toed Salamander Habitat.** Michael Hobbs* and Lynne Trulio. Department of Environmental Studies, San José State University, San José, CA. (25 min)

11:45-12:10 pm **Status and Management of the Pacific Pond Turtle in San Diego County with Consideration of Road Effects.** Chris Brown*, Melanie Madden, and Robert Fisher. USGS Western Ecological Research Center, San Diego, CA. (25 min)

12:10-1:40 pm **Lunch** (90 min)

Session 4

Moderator: Gary Bucciarelli, Department of Ecology and Evolutionary Biology,
University of California Los Angeles, Los Angeles, CA

- 1:40-2:05 pm **The Value of Museum Collections: The Examination of Museum Specimens Leads to a Contraction of the Known Geographical Extent of the Endangered Arroyo Toad (*Anaxyrus californicus*).** Edward L. Ervin^{1*}, Kent R. Beaman², and Robert N. Fisher³.
¹Merkel & Associates, Inc. San Diego, CA; ²Natural History Museum of Los Angeles County, Section of Herpetology, Los Angeles, CA and Department of Biology, La Sierra University, Riverside, CA; ³U.S. Geological Survey, Western Ecological Research Center, San Diego, CA. (25 min)
- 2:05-2:30 pm **Influence of Landscape Heterogeneity on Genomic Diversity and Adaptation in the Yosemite Toad (*Anaxyrus canorus*).** Paul Maier^{1,2,3*}, Steven Ostoja², Amy Vandergast³, Andres Aguilar⁴, and Andrew Bohonak¹. ¹San Diego State University, San Diego, CA; ²US Geological Survey, Oakhurst, CA; ³US Geological Survey, San Diego, CA; ⁴California State University, Los Angeles, Los Angeles, CA. (25 min)
- 2:30-2:55 pm **Challenges and Opportunities: Evaluating the Conservation Status of Amphibians in California.** Christopher Evelyn. Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara, Santa Barbara, CA. (25 min)
- 2:55-3:10 pm **Re-Frogging America: Building Wetlands for Wildlife.** Kathlyn Franco. SAVE THE FROGS!, Berkeley, CA. (15 min)
- 3:10-3:35 pm **Break** (25 min)
- 3:35-4:00 pm **Population Threats and Declines of the California Red-Legged Frog (*Rana draytonii*) in Baja California, Mexico.** Anny Peralta Garcia^{1*}, Jonathan Richmond², Bradford Hollingsworth³, Patricia Galina-Tessaro¹, and Robert Fisher². ¹Centro de Investigaciones Biológicas del Noroeste, S. C. La Paz, Baja California Sur, Mexico; ²USGS Western Ecological Research Center, San Diego, CA; ³San Diego Natural History Museum, Herpetology Department, San Diego, CA. (25 min)
- 4:00-4:25 pm **Ugly at the Edges: Genetic Consequences of Rapid Population Declines and Local Extirpation within the Distribution of the California Red-Legged Frog *Rana draytonii*.** Jonathan Q. Richmond^{1*}, Anny Peralta-Garcia², Adam R. Backlin¹, Elizabeth Gallegos¹, and Robert N. Fisher¹. ¹US Geological Survey San Diego CA; ²Centro de Investigaciones Biológicas del Noroeste, La Paz, Baja California Sur, México. (25 min)
- 4:25-4:50 pm **California Department of Fish and Wildlife's Sensitive Amphibian and Western Pond Turtle Research and Conservation Efforts.** Laura C. Patterson. California Department of Fish and Wildlife, Sacramento, CA. (25 min)
- 4:50-5:00 pm **Announcements, Discussion of Future Meeting Venues, and Closing Remarks.** Dave Bradford

Saturday, January 11, 2014

Two Field Trip Options:

- 9:00-1:00 pm **Field Trip: California Red-legged Frog site in Santa Monica Mountains.** Sign-up and details will be provided at meeting. This will be an exciting hike up Solstice Canyon to see one of two reintroduction streams for California red-legged frogs in southern California. Other amphibians that may be encountered include treefrogs and newts. We will have a discussion of the techniques utilized in the reintroduction and search for metamorphs during the trip. Expect air temperatures to be in the 50s, and water temperatures a bit cooler. Pants and shoes with good grip recommended. You can likely stay dry if you'd prefer; however, wear appropriate gear if you want to get wet. (You will need to freeze for a minimum of 36 hours anything that gets wet to avoid spreading the invasive New Zealand mud snail; please bring a plastic bag for your gear.) After viewing the reintroduction pool, there will be the option of descending the way we came up, or another route that involves more rock hopping, a bit more risk, and lots more water, increasing the chances of seeing frogs.
- 11:00-x:xx pm **Field Trip: Behind the scenes tour of the LAIR (Living Amphibians, Invertebrates, and Reptiles) at the Los Angeles Zoo led by zoo staff.** Includes free entry to zoo. Sign-up and details will be provided at meeting. Meeting participant may particularly appreciate the Chinese giant salamanders and the *Rana muscosa* breeding facility. The LAIR encompasses several visually stunning areas that include habitats for various unique and endangered species. The diverse collection in the LAIR comprises some of the rarest species among North American zoos – some of which are not showcased anywhere else in the world and others that have never been displayed at the Los Angeles Zoo. Zoo Director John Lewis comments that “the LAIR is home to fantastic and stunning creatures that were present on Earth well before humans arrived, but now unfortunately depend on us for their survival.” Over 60 species of amphibians, invertebrates, and reptiles are represented in this assortment of living jewels. Each habitat is beautifully themed with hand-painted murals of damp and misty forests, rainforest canopies, red rock formations, mountain ranges and vistas, and dry arid deserts to exemplify the natural environments of the many diverse species. Additionally, this new structure provides a vital base for the Zoo’s reptile and amphibian-focused conservation initiatives. Additional details at <http://www.lazoo.org/animals/lair/>

* Indicates presenter in multi-authored talks