



California-Nevada Amphibian Populations Task Force

January 10-11, 2019

Humboldt State University
Kate Buchanan Room
1 Harpst Street
Arcata, CA 95521

AGENDA

- Chair:** Dave Bradford, Las Vegas, NV
- Meeting Coordinator:** Jef Jaeger, School of Life Sciences, University of Nevada, Las Vegas
- Local Organizers:** Michael van Hattem, California Department of Fish and Wildlife
Karen Pope, US Forest Service, Pacific Southwest Research Station
Sharyn Marks, Humboldt State University, Department of Biology
Matt Kluber, Green Diamond Resource Company
Adam Cummings, US Forest Service, Pacific Southwest Research Station
Will Devenport, Green Diamond Resource Company
Ryan Bourque, California Department of Fish and Wildlife
- Parent Organization:** Amphibian and Reptile Conservancy

Wednesday, January 9, 2019

- 6:00-9:00 pm **No Host Meet-and-Greet** at Mad River Brewing Company, 101 Taylor Way, Blue Lake, CA (Kitchen closes at 8 pm)

Thursday, January 10, 2019

- 7:45-8:30 am **Registration and Refreshments**
- 8:30-8:45 am **Introduction and Announcements:** Dave Bradford

8:45-8:55 am **Welcome from Local Hosts:** Michael van Hatten and Sharyn Marks

8:55-9:40 am **Plenary Presentation**

Strategic Learning: The Science of Climate Change Adaptation Management for Herpetofauna

Deanna H. (Dede) Olson
Research Ecologist
US Forest Service
Pacific Northwest Research Station
Corvallis, OR

Session 1

Moderator: Michael van Hatten, California Department of Fish and Wildlife, Arcata, CA.

9:45-10:10 am **Assessing the Impact of Illegal Pesticide Use on National Forest Headwater Stream Communities.** Adam K. Cummings^{1*}, Karen Pope¹, Mourad Gabriel², And Greta Wengert². ¹US Forest Service Pacific Southwest Research Station, Arcata, CA; adamcumplings@fs.fed.us; ²Integral Ecology Research Center, Blue Lake, CA (25 min).

10:10-10:45 am **Break** (35 min). Photo contest submissions will be projected during Thursday's breaks.

10:45-11:10 am **Annual Amphibian Update for California Red-legged Frog, Sierra Nevada Yellow-legged Frog, American Bullfrog, and Western Pond Turtle in Yosemite National Park.** Rob L. Grasso*, and Colleen Kamoroff. Resources Management and Science Division, Yosemite National Park, El Portal, CA, rob_grasso@nps.gov (25 min).

11:10-11:35 am **Hybridization Between Two Sympatric Ranid Frog Species in the Northern Sierra Nevada, California.** Ryan A. Peek. Center for Watershed Sciences, University of California, Davis, CA (25 min).

11:35-12:00 pm **Monitoring Protocol Development and Assessment for a Narrowly Endemic Species of the Great Basin: The Dixie Valley Toad (*Anaxyrus williamsi*).** Patrick M. Kleeman^{1*}, Brian J. Halstead², Jonathan P. Rose², and Adam Duarte³. ¹U.S. Geological Survey, Western Ecological Research Center, Point Reyes Station, CA, pkleeman@usgs.gov; ²U.S. Geological Survey, Western Ecological Research Center, Dixon, CA; ³Oregon State University, Corvallis, OR (25 min).

12:00 – 1:30 **Lunch** (90 min)

Session 2

Moderator: Karen Pope, US Forest Service, Pacific Southwest Research Station, Arcata, CA.

1:30-1:55 pm **An Update on the Center for Biological Diversity's Work to Protect Amphibians in California and Nevada.** Jenny Loda. Center for Biological Diversity, Oakland, CA, jloda@biologicaldiversity.org (25 min).

- 1:55-2:20 pm **California Department of Fish and Wildlife Conservation and Policy Update.** Laura C. Patterson. California Department of Fish and Wildlife, Sacramento, CA, laura.patterson@wildlife.ca.gov (25 min).
- 2:20-2:45 pm **A Remarkable Cave-dwelling Population of *Hydromantes* from the Lower Sierra Nevada Foothills.** Robert W. Hansen. Herpetological Review, Clovis, CA (25 min).
- 2:45-3:10 pm **Rock Corrals, a Novel Low-Tech Approach to Successful Foothill Yellow-legged Frog (*Rana boylei*) Egg Mass Relocation.** Emily C. Eppinger*, Sara Viernum*, and Bernadette Bezy. Stantec Consulting Services Inc., Nevada City, CA, emily.eppinger@stantec.com. (25 min).
- 3:10-3:40 pm **Break** (30 min). Poster session during break. Presenters please be at posters.
- 3:40-4:05 pm **Sierra Nevada Yellow-legged Frog (*Rana sierrae*) Habitat Suitability in Northern Sierra Nevada Streams.** Sarah M. Yarnell¹*, Ryan A. Peek², Neil Keung², Brian Todd³, Sharon Lawler⁴, and Cathy Brown⁵. ¹Center for Watershed Sciences, University of California, Davis, CA, smyarnell@ucdavis.edu; ²Center for Watershed Sciences, University of California, Davis, CA; ³Dept of Wildlife, Fish and Conservation Biology, University of California, Davis, CA; ⁴Dept of Entomology and Nematology, University of California, Davis, CA; ⁵Stanislaus National Forest, US Forest Service, Albany, CA (25 min).
- 4:05-4:25 pm **A Novel Method for In-Situ Videography of Amphibian Behavior in Aquatic Habitats.** Ethan H. Snee*, and John O. Reiss. Humboldt State University, Arcata, CA (20 min).
- 4:25-4:50 pm **The Mystery of Whitewater Canyon: A Tale of Survival for the Declining California Red-legged Frog *Rana draytonii* in Southern California.** Jonathan Q. Richmond*, Adam R. Backlin, Elizabeth A. Gallegos, and Robert N. Fisher. U.S. Geological Survey, San Diego, CA (25 min).
- 4:50-4:55 pm **Announcements**

BANQUET

at Blue Lake Casino's Sapphire Palace
777 Casino Way, Blue Lake, CA 95525

Dinner is included with registration. A no-host bar will be available.

6:30-7:00 pm **Guests Arrive**

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

Conserving California (or at least our Amphibians)

H. Bradley Shaffer

Distinguished Professor, Department of Ecology and Evolutionary Biology
Director, La Kretz Center for California Conservation Science,
UCLA, Los Angeles, CA

Friday, January 11, 2019

- 7:00-8:00 am **CDFW Amphibian Working Group Meeting – CDFW Staff Only** – Karshner Lounge outside of Kate Buchanan Room.
- 7:30-8:15 am **Registration and Refreshments**
- 8:15-8:20 am **Announcements:** Dave Bradford

Session 3

Moderator: Ryan Bourque, California Department of Fish and Wildlife, Arcata, CA.

- 8:20-8:45 am **Population Trends and Drought Responses of California Tiger Salamanders (*Ambystoma californiense*) and California Red-Legged Frogs (*Rana draytonii*) in the California Bay Area.** Wynne E. Moss, Dana M. Calhoun, Travis Mcdevitt-Galles, and Pieter T. J. Johnson. Department of Ecology and Evolution, University of Colorado, Boulder, CO, wynne.moss@colorado.edu (25 min).
- 8:45-9:10 am **Where Do Mountain Yellow-Legged Frogs Go in Winter? Remote Underwater Observations in the Alpine Zone.** Roland A. Knapp^{1,2*}, Rob L. Grasso³, Stacey L. Brown⁴, Ericka E. Hegeman^{1,2}, and Thomas C. Smith^{1,2}. ¹Sierra Nevada Aquatic Research Laboratory, University of California, Mammoth Lakes, CA, roland.knapp@ucsb.edu; ²Earth Research Institute, University of California, Santa Barbara, CA; ³Resources Management Division, Yosemite National Park, El Portal, CA; ⁴Rural Health Clinic, Northern Inyo Healthcare District, Bishop, CA (25 min).
- 9:10-9:35 am **Host – Parasite Synchronization Drives Variation in Amphibian Malformation Patterns.** Travis McDevitt-Galles*, Wynne E. Moss, Dana M. Calhoun, and Pieter T. J. Johnson. Department of Ecology and Evolutionary Biology, University of Colorado: Boulder, Boulder, CO (25 min).
- 9:35-10:00 am **How Can the APTF Community Do More for California/Nevada Conservation?** H. Bradley Shaffer. Department of Ecology and Evolutionary Biology, and La Kretz Center for California Conservation Science, UCLA, Los Angeles, CA (25 min).
- 10:00-10:30 am **Break** (30 min)
- 10:30-10:55 am **Foothill Yellow-legged Frog (*Rana boylei*) Distribution and Oviposition Sites in Streams Located on or Adjacent to Managed Timberlands in Coastal Northern California.** Matt R. Kluber*, Matthew R. House, and William D. Devenport. Green Diamond Resource Company, Korbelt, CA, matt.kluber@greendiamond.com (25 min).
- 10:55-11:20 am **Genetic Structure in the California Giant Salamander (*Dicamptodon ensatus*): A Large Salamander with a Small Range.** Brian R. Lavin, B. Callahan, R. Connell, and D. J. Girman. Department of Biology, Sonoma State University, Rohnert Park, CA (25 min).

- 11:20-11:45 am **Beaver Ponds as Crucial Habitat for a Sensitive Great Basin Amphibian.** Chad Mellison^{1*}, Rachel Van Horne², and Kent McAdoo³. ¹U.S. Fish and Wildlife Service, Reno Fish and Wildlife Office, Reno, Nevada, chad_mellison@fws.gov; ²U.S. Forest Service, Humboldt-Toiyabe National Forest, Sparks, Nevada; ³University of Nevada Cooperative Extension, Elko, Nevada, deceased (25 min).
- 11:45-12:10 pm **Creating Large Oxbow Ponds Parallel to a Coastal Stream for *Rana draytonii* Breeding Habitat: Lessons Learned.** Michael F. Westphal. US Bureau of Land Management, Marina, California (25 min).
- 12:10-1:40 pm **Lunch** (90 min)

Session 4

- Moderator:** Rob Grasso, Yosemite National Park, El Portal, CA
- 1:40-2:05 pm **The Role of Salamanders in the Capture of Forest Carbon: Take Two.** Michael Best^{1*}, Hartwell Welsh², Sharyn Marks³, Mark Wilson³, Malcolm North⁴, and Lucas Silva⁵. ¹Department of Wildlife, Humboldt State University, Arcata, CA, best.michael.707@gmail.com; ²USDA Forest Service, Pacific Southwest Research Station, Arcata, CA; ³Department of Biological Sciences, Humboldt State University, Arcata, CA; ⁴USDA Forest Service, Pacific Southwest Research Station, Davis, CA; ⁵Environmental Studies and Geography, University of Oregon, Eugene, OR (25 min).
- 2:05-2:30 pm **Effects of Severe Drought on Pathogenic Infections Within California Amphibian Communities.** Pieter T. J. Johnson^{1*}, Dana M. Calhoun¹, Travis Mcdevitt-Galles¹, Wynne E. Moss¹, Cheryl J. Briggs², and Jason T. Hoverman³. ¹Department of Ecology & Evolution, University of Colorado, Boulder, CO, pieter.johnson@colorado.edu; ²Ecology, Evolution and Marine Biology, University of California, Santa Barbara, Santa Barbara, CA; ³Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN (25 min).
- 2:30-2:55 pm **Using Dynamic Occupancy and State Space Models to Identify Trends in a Population of California Red-Legged Frog (*Rana draytonii*).** Matthew J. Sharp Chaney^{1*}, and Brian J. Halstead². ¹Midpeninsula Regional Open Space District, Los Altos, CA, mchaney@openspace.org; ²U.S. Geological Survey, Western Ecological Research Center, Dixon, CA (25 min).
- 2:55-3:20 pm **Break** (25 min)
- 3:20-3:45 pm **Mountain Gartersnake Diet and Mountain Yellow-Legged Frog Restoration.** Thomas C. Smith^{1*}, Roland A. Knapp^{1,2}, and Brian Halstead³. ¹University of California Santa Barbara, Earth Research Institute, Santa Barbara, CA; ²Sierra Nevada Aquatic Research Laboratory, Mammoth Lakes, CA; ³USGS Western Ecological Research Center, Dixon, CA (25 min).
- 3:45-4:10 pm **How Do We Determine When a Cryptic Species is Extirpated Versus Not Detectible? The Case of the Desert Slender Salamander (*Batrachoseps aridus*).** Robert N. Fisher^{1*}, Todd Esque², Adam R. Backlin³, and Elizabeth A. Gallegos³. ¹San Diego Field Station – San Diego Office, USGS Western Ecological Research Center, San Diego, CA, rfisher@usgs.gov; ²Henderson Field Station, USGS Western Ecological Research Center,

Henderson, NV; ³Santa Ana Substation, USGS Western Ecological Research Center, Santa Ana, CA (25 min).

- 4:10-4:35 pm **Time-to-detection Occupancy Modeling: An Efficient Method for Analyzing the Occurrence of Amphibians and Reptiles.** Jonathan P. Rose^{1*}, Brian J. Halstead¹, and Patrick M. Kleeman². ¹U.S. Geological Survey, Western Ecological Research Center, Dixon Field Station, Dixon, CA, jprose@usgs.gov; ²U.S. Geological Survey, Western Ecological Research Center, Point Reyes Field Station, Point Reyes Station, CA (25 min).
- 4:35-4:40 pm **Announcements and Closing Remarks.** Dave Bradford.

Alternate Presentations

Climate, Topography, and Hydropattern: An Interaction of Abiotic Factors Affecting Larval Abundance and Phenology of the California Tiger Salamander, *Ambystoma californiense*, in Sonoma County, CA. Jonathan P. Edwards*, and Derek J. Girman. Department of Biology, Sonoma State University, Rohnert Park, CA, cyclokinesis@gmail.com.

Foothill Yellow-legged Frog Assessment Model (FYFAM): A Virtual Sex Model. Don Ashton^{1*}, Scott McBain¹, and Steve Railsback²; ¹McBain Associates, Arcata CA, ashton.don@gmail.com; ²Lang, Railsback, and Associates, Arcata CA.

Friday Evening Field Trip (Optional)

- 5:00-6:30 pm **Eye-shining for Giants in the Redwoods.** Led by Adam Cummings, USFS Pacific Southwest Research Station, Arcata, CA.

Expect 1-3 miles walking in dark forest on and adjacent to HSU campus. See flyer at meeting for information. Sign up at the registration desk.

Saturday Field Trip, January 12, 2019 (Optional)

- 8:30 am-1:30 pm **Amphipalooza 2.0: How many species can we find?** Led by Matt Kluber and Will Devenport, Green Diamond Resource Company, Korb, CA.

Trip departs from Blue Lake Casino, and car pools to several places to search aquatic and terrestrial habitat within the redwood and Douglas-fir forest ecosystems. See flyer at meeting for information. Sign up at the registration desk.

POSTERS

All Day, Thursday and Friday

Monitoring Amphibian Communities on a Passively Restored Golf Course. Rachel B. Anderson. Hartnell College, Salinas, CA, rachel.betts.anderson@gmail.com.

Western Pond Turtle Monitoring: 23 Years on the Mad River. William D. Devenport*, Matt R. Kluber, and Matthew R. House. Green Diamond Resource Company, Korb, CA, william.devenport@greediamond.com.

Life History Variation of the Coastal Tailed Frog (*Ascaphus truei*) Across an Elevational Gradient in the Trinity Alps Wilderness, CA. A. D. Macedo^{1,2*}, J. D. Demianew^{2,3}, J. O. Reiss¹, and J. M. Garwood². ¹Department of Biological Sciences, Humboldt State University, Arcata, CA, adm566@humboldt; ²California Department of Fish and Wildlife, Arcata, CA; ³Department of Wildlife, Humboldt State University Arcata, CA.

Biogeography of the Skin-associated Microbiome across Body Regions of the Sierra Nevada Yellow-legged Frog (*Rana sierrae*). Sonia L. Ghose^{1*} and Jonathan A. Eisen^{1,2,3}. ¹Department of Evolution and Ecology, University of California, Davis, CA, slghose@ucdavis.edu; ²Department of Medical Microbiology and Immunology, University of California, Davis, CA; ³Genome Center, University of California, Davis, CA.

Climate, Topography, and Hydropattern: An Interaction of Abiotic Factors Affecting Larval Abundance and Phenology of the California Tiger Salamander, *Ambystoma californiense*, in Sonoma County, CA. Jonathan P. Edwards*, and Derek J. Girman. Department of Biology, Sonoma State University, Rohnert Park, CA, cyclokinesis@gmail.com.

The Southern Mountain Yellow-legged Frog: New Challenges and New Insights after Nearly Two Decades of Research. Adam R. Backlin*, E.A. Gallegos, K.L. Baumberger, and R.N. Fisher. U.S. Geological Survey, Western Ecological Research Center, Santa Diego, CA, abacklin@usgs.gov.

Arroyo Toad Upland Habitat Use on Marine Corps Base, Camp Pendleton, 2011-2017. Elizabeth A. Gallegos*, Kathy L. Baumberger, Cheryl S. Brehme, Jeff R. Tracey, and Robert N. Fisher. U.S. Geological Survey, Western Ecological Research Center, San Diego, CA, egallegos@usgs.gov.

* Indicates presenter in multi-authored talks or posters.



The Local Planning Committee would like to dedicate this meeting to the memory of Lowell V. Diller (1947 – 2017), an accomplished and dedicated wildlife biologist and educator with a passion for herpetology. Lowell was a mentor, inspiration, and friend to many students and wildlife professionals here on the north coast. He left us before his time and will be missed, but he will live on in the people who experienced his passion for scientific discovery, eternal optimism, humor, generosity and curiosity for the natural world. R.I.P. Lowell.

Cover Art, Dicamptodon Yin Yang by Michael Zontos.

