

California-Nevada Amphibian Populations Task Force

January 12–13, 2023

Sebastopol Community Cultural Center
390 Morris St.
Sebastopol, CA 95472

AGENDA

- Chair:** Dave Bradford, Las Vegas, NV
- Vice Chair:** Jef Jaeger, School of Life Sciences, University of Nevada, Las Vegas
- Local Organizers:** Karla Marlow, Kleinfelder, San Francisco, CA
Dave Cook, Sonoma County Water Agency, Santa Rosa, CA
- Parent Organization:** Amphibian and Reptile Conservancy

Wednesday, January 11, 2023

6:30-9:30 pm **Informal No-host Meet-and-Greet:** Crooked Goat Brewing, 120 Morris St., Sebastopol, CA

Thursday, January 12, 2023

- 7:45-8:30 am **Registration and Refreshments**
- 8:30-8:50 am **Introduction and Announcements:** Dave Bradford

Session 1

- Moderator:** Karla Marlow, Kleinfelder, San Francisco, CA
- 8:50-9:10 am **Social Group Size Influences Pathogen Transmission in Salamanders.** Andrew G. Zink*, Kendra L. Ritchie, Shruti Chaukulkar, Helen M. Butler, and Vance T. Vredenburg. Department of Biology, San Francisco State University, San Francisco, California, zink@sfsu.edu. (20 min)
- 9:10-9:30 am **The Northern Leopard Frog (*Rana pipiens*) Still Occurs in California.** Eric W. Stitt^{1*}, Jason Peters², Nolan Bielinski³, and Robert W. Hansen⁴. ¹ICF International, Sacramento, CA, eric.stitt@icf.com; ²The Institute for Biodiversity and the Environment, William Jessup University, Rocklin, CA; ³College of Southern Idaho, Twin Falls, ID; ⁴Museum of Vertebrate Zoology, University of California, Berkeley, CA. (20 min)

- 9:30-9:50 am **Recovery Actions for the Endangered Mountain Yellow-legged Frog Complex in the Southern Sierra Nevada.** Daniel M. Boiano^{1*}, Laura N. Van Vranken^{1*}, Kristie A. Stein¹, Thomas C. Smith², Alexa L. Lindauer², Roland A. Knapp², Jessie B. Bushell³, Samantha P. Sammons⁴, and James E. Erdman, Jr.⁵. ¹National Park Service, Sequoia and Kings Canyon National Parks, Three Rivers, CA, danny_boiano@nps.gov, laura_van_vranken@nps.gov; ²Sierra Nevada Aquatic Research Laboratory, University of California, Santa Barbara, CA; ³San Francisco Zoo, San Francisco, CA; ⁴Oakland Zoo, Oakland, CA; ⁵California Department of Fish and Wildlife, Bishop, CA. (20 min)
- 9:50-10:25 am **Break** (35 min).
- 10:25-10:45 am **Thermal Ecology of the Relict Leopard Frog.** Robert Pelletier*, Michael Treat, and Jef R. Jaeger. School of Life Sciences, University of Nevada, Las Vegas, NV, peller1@unlv.nevada.edu. (20 min)
- 10:45-11:05 am **Opportunities and Challenges for Reintroduction of Foothill Yellow-Legged Frogs (*Rana boylei*) at their Southwestern Range Limit, Part I: Population and Site Assessment.** Sarah J. Kupferberg^{1*}, Caren S. Goldberg², Andrew Lawrence³, Kimberly Guillian³, Jacquelyn Hancock⁴, and Andrea J. Adams⁵. ¹Consulting Ecologist, Berkeley, CA, skupferberg@gmail.com; ²Washington State University, School of the Environment, Pullman, WA; ³Colorado State University, Center for Environmental Management of Military Lands, Fort Hunter Liggett, CA; ⁴Threatened & Endangered Species Program, United States Army Garrison, Fort Hunter Liggett, CA; ⁵University of California, Santa Barbara, Earth Research Institute, Santa Barbara, CA. (20 min)
- 11:05-11:25 am **Environmental DNA Detection of the California Tiger Salamander (*Ambystoma californiense*) on the Santa Rosa Plain.** Jessica Torres^{1*}, Dave G. Cook², Sean Place¹, Derek Girman¹. ¹Sonoma State University, Department of Biology, Rohnert Park, CA, torresje@sonoma.edu; ²Sonoma County Water Agency, Santa Rosa, CA. (20 min)
- 11:25-11:45 am **Five-year Status Review for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander, *Ambystoma californiense*.** Andrew J. Dennhardt. Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, CA, andrew_dennhardt@fws.gov. (20 min)
- 11:45-1:35 pm **Lunch** (1 hour, 50 minutes)

Session 2

- Moderator:** Kevin Wiseman, Kleinfelder, San Francisco, CA
- 1:35-1:55 pm **The Southern Mountain Yellow-legged Frog (*Rana muscosa*): Update on Trends, Current Research and Recovery Actions.** Adam R. Backlin*, Elizabeth A. Gallegos, and Robert N. Fisher. U.S. Geological Survey, Western Ecological Research Center, San Diego, CA, abacklin@usgs.gov. (20 min)
- 1:55-2:15 pm **Two Decades of Foothill Yellow-legged Frog (*Rana boylei*) Population Monitoring near Mount Tamalpais in Marin County, California.** Joe Drennan^{1*}, Karla Marlow¹, Chloe Scott¹, and Kevin Wiseman^{1,2}. ¹Kleinfelder/Garcia and Associates (GANDA), San

Francisco, CA, jdrennan@kleinfelder.com; ²Department of Herpetology, California Academy of Sciences, San Francisco, CA. (20 min)

- 2:15-2:35 pm **Walking on the Wet Side: Microhabitat Selection in *Batrachoseps relictus*.** Casey D. Moss^{1*}, Robert W. Hansen², Elizabeth L. Jockusch³, and Nicholas Van Gilder³. ¹U.S. Geological Survey, Dixon, CA, hydromantesbrunus@icloud.com; ²Museum of Vertebrate Zoology; University of California, Berkeley, CA; ³Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT. (20 min)
- 2:35-2:55 pm ***Batrachochytrium dendrobatidis* Risk in Yosemite Toads (*Anaxyrus canorus*) Varies across Seasons and Life Stages.** David R. Daversa^{1,2*}, H. Bradley Shaffer¹, Jamie Lloyd-Smith¹, and Rob Grasso². ¹Department of Ecology and Evolutionary Biology, University of California, Los Angeles, CA, ddaversa@gmail.com; ²National Park Service, Yosemite National Park, El Portal, CA. (20 min)
- 2:55-3:25 pm **Break** (30 min).
- 3:25-3:45 pm **Identifying Drivers of Population Dynamics for Foothill Yellow-legged Frogs (*Rana boylei*) Using Time Series of Egg Mass Counts.** Jonathan P. Rose^{1*}, Sarah Kupferberg², Ryan Peek³, Don Ashton⁴, James Bettaso⁵, et al. ¹U.S. Geological Survey, Western Ecological Research Center, Santa Cruz Field Station, Santa Cruz, CA, USA, jprose@usgs.gov; ²Independent Scholar and Consulting Ecologist, Berkeley, CA; ³Center for Watershed Sciences, University of California, Davis, CA; ⁴McBain Associates, Applied River Sciences, Arcata, CA; ⁵USDA Forest Service, Six Rivers National Forest, Lower Trinity Ranger District, Willow Creek, CA. (20 min)
- 3:45-4:05 pm **Anecdotal Data Associated with 116 California Tiger Salamander (*Ambystoma californiense*) Observations During a Construction Project in Livermore, California.** C. A. Klinkowski^{1*}, Christine O. Gaber², Jim R. Sherar², Karen E. Swaim³, Steven D. Powell⁴, Kevin D. Wiseman⁵, and Robert A. Aramayo². ¹PG&E, Oakland, CA, CKC7@pge.com; ²Kleinfelder, San Francisco, CA; ³Swaim Biological, Inc., Livermore, CA; ⁴BioMaAS, San Francisco, CA; ⁵Department of Herpetology, California Academy of Sciences, San Francisco, CA. (20 min)
- 4:05-4:25 pm **Ten Years of Evolutionary Research on the Yosemite Toad (*Anaxyrus canorus*): What Can the Past and Present Tell Us About Their Future?** Paul A. Maier^{1,2*}, Amy G. Vandergast³, and Andrew J. Bohonak². ¹FamilyTreeDNA, Gene by Gene, Houston, TX, paulm@genebygene.com; ²Department of Biology, San Diego State University, San Diego, CA; ³U.S. Geological Survey, Western Ecological Research Center, San Diego Field Station, San Diego, CA. (20 min)
- 4:25-4:45 pm **Comparative Microhabitat Use of Two California Native Ranids, California Red-legged Frog and Foothill Yellow-legged Frog in a Riparian Woodland.** Anna Erway. Sonoma State University, Rohnert Park, CA, erwaya@sonoma.edu; Stantec, Petaluma, CA, anna.erway@stantec.com. (20 min)
- 4:45-5:05 pm **Assessing Environmental Noise and Hearing Abilities among Populations of Pacific Chorus Frogs (*Hyllola regilla*) along an Urban-Rural Gradient.** Carolyn F. Schwartz*

and Alejandro Vélez. Department of Biology, San Francisco State University, San Francisco, CA, cschwartz3@sfsu.edu. (20 min)

5:05-5:10 pm **Announcements:** Dave Bradford

6:00-ish pm **Informal No-host Congregation at Handline:** 935 Gravenstein Highway South, Sebastopol, CA. Food, wine, and beer (on tap) available.

Friday, January 13, 2023

7:00-8:30 am **CDFW Amphibian Working Group Meeting – CDFW Staff Only** – Main Hall, Green Room.

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

8:30-8:40 am **Announcements:** Dave Bradford

Session 3

Moderator: Derek Girman, Sonoma State University, Department of Biology, Rohnert Park, CA

8:40-9:00 am **Environmental DNA as an effective tool for detecting northwestern pond turtles (*Actinemys marmorata*) in freshwater streams.** Colleen Kamoroff^{1*}, Andrea E. Herman², Marissa Montjoy¹, Annabelle Howe¹, and Holly Burger¹. ¹Stillwater Sciences, Berkeley, CA; ckamoroff@stillwatersci.com; ²Pacific Gas and Electric Company, Oakland, CA. (20 min)

9:00-9:20 am **Attempted Population Reduction of the American Bullfrog, *Rana catesbeiana* Shaw 1802 (Amphibia, Anura, Ranidae) at the Resighini Rancheria, Klamath, Del Norte County, California.** Bradford R. Norman* and Thomas A. Kirk. ¹Resighini Rancheria, Natural Resources Department, Wetland Program Office, Klamath, CA, Bradford.Norman@resighinirancheria.com; ²GreenCoast GIS, Arcata, CA. (20 min)

9:20-9:40 am **In Hot Water: Dixie Valley Toad Distribution and Behavior in Dixie Meadows, Nevada.** Brian J. Halstead^{1*}, Patrick M. Kleeman², and Jonathan P. Rose³. ¹U.S. Geological Survey, Western Ecological Research Center, Dixon Field Station, Dixon, CA, bhalstead@usgs.gov; ²U.S. Geological Survey, Western Ecological Research Center, Point Reyes Field Station, Point Reyes Station, CA; ³U.S. Geological Survey, Western Ecological Research Center, Santa Cruz Field Station, Santa Cruz, CA. (20 min)

9:40-10:00 am **Microbiomes, Disease Research and Population Management – How Collaboration is Key to Western Pond Turtle Conservation Across the Range.** Jessie Bushell, San Francisco Zoo and Gardens, San Francisco, CA, jessieb@sfzoo.org. (20 min)

10:00-10:30 am **Break** (30 min)

10:30-10:50 am **Ovipositioning Phenology of the California Red-legged Frog (*Rana draytonii*) in the Sierra Nevada of California.** Alvarez, Jeff A.^{1*}, Jeffrey W. Jones², Hanna Sheldon³,

Elizabeth Lopez⁴, Maura Santora⁵, and Matt Coyle⁶. ¹The Wildlife Project, Sacramento, CA, jeff@thewildlifeproject.com; ²Bureau of Land Management, Motherlode Field Office, El Dorado Hills, CA; ³Dokken Engineering, Folsom, CA; ⁴Sequoia Ecological Consulting, Danville, CA; ⁵USDA Forest Service, Eldorado National Forest, Placerville, CA; ⁶Westervelt Ecological Services, Sacramento, CA. (20 min)

- 10:50-11:10 am **Comparing Skin and Gut Microbiome Diversity Across the Phylogeny of a Salamander Ring Species, *Ensatina eschscholtzii*.** Jessie A. J. James*, Vance T. Vredenburg, and Andrew G. Zink. Department of Biology, San Francisco State University, San Francisco, CA.
- 11:10-11:30 am **Fraying Edges and Widening Gaps: How Patterns of Population Decline Translate to the Rangelwide Genetic Structure of the California Red-legged Frog *Rana draytonii*.** Jonathan Q. Richmond^{1*}, Anny Peralta-García², Adam R. Backlin¹, Michael F. Westphal³, H. Brad Shaffer⁴, and Robert N. Fisher¹. ¹U.S. Geological Survey, San Diego, CA, jrichmond@usgs.gov; ²Fauna del Noroeste, Ensenada, Baja California C.P., Mexico; ³US Bureau of Land Management, Marina, CA; ⁴Department of Ecology & Evolutionary Biology, University of California, Los Angeles, CA. (20 min)
- 11:30-11:50 am **An Emerging Extinction Vortex in the Santa Barbara County Distinct Population Segment of the California Tiger Salamander, *Ambystoma californiense*.** Toffelmier, Erin^{1,2*}, Robert D. Cooper^{1,2}, and H. Bradley Shaffer^{1,2}. ¹Department of Ecology and Evolutionary Biology, University of California, Los Angeles, CA, etoff@ucla.edu; ²La Kretz Center for California Conservation Science, University of California, Los Angeles, CA. (20 min)
- 11:50-1:40 pm **Lunch** (1hour, 50 minutes)

Session 4

- Moderator:** Brian J. Halstead, U.S. Geological Survey, Western Ecological Research Center, Dixon Field Station, Dixon, CA
- 1:40-2:00 pm ~~**A Pond Array for Studying the Interactions of Native Pacific Newts (Genus *Taricha*) with California Red-legged Frogs (*Rana draytonii*).** Michael F. Westphal. US Bureau of Land Management, Central Coast Field Office, Marina, CA, mwestpha@blm.gov. (20 min)~~ Substituted with:
- Conservation Genomics of California Amphibians and Reptiles: the California Conservation Genomics Project and Beyond.** H Bradley Shaffer^{1*}, Erin Toffelmier¹, and Peter Scott². ¹Department of Ecology and Evolutionary Biology, and La Kretz Center for California Conservation Science, University of California, Los Angeles, CA, brad.shaffer@ucla.edu; ²Department of Biology, Eckerd College, St. Petersburg, FL. (20 min)
- 2:00-2:20 pm **An Intensive Capture-Mark-Recapture Study of Cascades Frogs, *Rana cascadae*, on Managed Private Timberlands in the Southern Cascades.** Bennie Johnson^{1*}, and

Matthew Reno². ¹Collins Pine Company, Collins Almanor Forest, Chester, CA, bjohnson@collinsco.com; ²Sierra Pacific Industries, Stirling District, Chico, CA. (20 min)

- 2:20-2:40 pm **Can Hydroperiod Management Reverse Invasive Hybridization in the California Tiger Salamander?** Robert D. Cooper^{1,2*} and H. Bradley Shaffer^{1,2}. ¹Department of Ecology and Evolutionary Biology, University of California, Los Angeles, CA, rdcooper408@g.ucla.edu; ²La Kretz Center for California Conservation Science, Institute of the Environment and Sustainability, University of California, Los Angeles, CA. (20 min)
- 2:40-3:00 pm **Cascades Frog (*Rana cascadae*) Egg Mass Survival Pre and Post Process-Based Restoration of a Montane Meadow in the Southern Cascades.** Matthew Reno^{1*}, Kevin Swift^{2*}, Bennie Johnson³, Karen Pope⁴, Adam Cummings⁴. ¹Sierra Pacific Industries, Stirling District, Chico, CA, mreno@spi-ind.com; ²Swift Water Design, Sebastopol, CA, kevin@swiftwaterdesign.com; ³Collins Pine Company, Collins Almanor Forest, CA; ⁴USDA Forest Service, Arcata, CA. (20 min)
- 3:00-3:25 pm **Break** (25 min)
- 3:25-3:45 pm **Opportunities and Challenges for Re-Introduction of Foothill Yellow-Legged Frogs (*Rana Boylii*) at their Southwestern Range Limit, Part II: In Situ Rearing and Translocation.** Rebecca Jones^{1*}, Sarah Kupferberg², Andrew Lawrence¹, Kimberly Guillian¹, Dana M. Calhoun³, Jacquelyn Hancock⁴, and Andrea Adams⁵. ¹Colorado State University, Center for Environmental Management of Military Lands, Fort Hunter Liggett, CA, Rebecca.lynn.jones@colostate.edu; ²Independent Scholar, Berkeley, CA; ³Department of Ecology and Evolutionary Biology, University of Colorado, Boulder, CO; ⁴Threatened & Endangered Species Program, United States Army Garrison, Fort Hunter Liggett, CA; ⁵Earth Research Institute, University of California, Santa Barbara, CA. (20 min)
- 3:45-4:05 pm **Restoration of Amphibian Habitat: Geographic Differences and Lessons Learned.** Ken Mierzwa. ERM, Ferndale, CA, ken.mierzwa@gmail.com. (20 min)
- 4:05-4:25 pm **Annual Amphibian Update for California Red-Legged Frog, American Bullfrog, and Yosemite Toad in Yosemite National Park.** Robert L. Grasso*, and Carson E. Lillard*. Resources Management and Science Division, Yosemite National Park, El Portal, CA; Rob_Grasso@nps.gov, carson_lillard@nps.gov. (20 min)
- 4:25-4:45 pm **Potential Benefits of Beaver to Wetland and Wet Meadow Restoration and Cascades Frog Recovery, *Rana cascadae*.** Kate Lundquist^{1*}, and Karen Pope^{2*}. ¹Occidental Arts & Ecology Center WATER Institute, Occidental, CA, kate@oaec.org; ²Pacific Southwest Research Station, US Forest Service, Arcata, CA, karen.pope@usda.gov. (20 min)
- 4:45-4:50 pm **Announcements and Closing Remarks.** Dave Bradford.

Saturday Field Trip, January 14, 2023 (CANCELLED)

8:30 - 11:30 am. The field trip will be to Mitsui Ranch, which is a 632-acre working cattle ranch located atop of Sonoma Mountain, east of Petaluma. Habitats include grassland, oak woodland, riparian forest along Copeland Creek, and three stock ponds. The ranch supports several terrestrial and aquatic amphibian species. Jeff Wilcox, herpetologist and ranch manager, will describe the amphibian resources and research on the California red-legged frog and foothill yellow-legged frog. Participants can visit ponds in an easy short walk, or hike over a mile to visit other habitats. A decontamination station will be provided (required).

The Mitsui Ranch, at 3124 Sonoma Mountain Road, Petaluma, is a 45-min drive from Sebastopol and 25-min from Petaluma. Parking is limited and carpooling is encouraged. Weather on the mountain top is highly variable. Boots and layered clothing are recommended. Children and well-behaved dogs on leash are welcome. More details will be provided at the meeting.

POSTERS (alphabetical by author)

All Day, Thursday and Friday

Land Use Impacts on Movement Patterns of California Tiger Salamanders (*Ambystoma californiense*) in a Vernal Pool Complex. Victoria Brunal^{1*}, Derek Girman¹, Dave Cook², and Dan Crocker¹. ¹Biology Department, Sonoma State University, Rohnert Park, CA, brunal@sonoma.edu; ²Sonoma County Water Agency, Santa Rosa, CA.

***In situ* Treatment of Juvenile Frogs for Disease Can Reverse Population Declines.** Kimberly Cook¹, Karen Pope^{2*}, Adam Cummings², Jonah Piovio-Scott¹. ¹School of Biological Sciences, Washington State University, Vancouver, WA; ²USDA Forest Service, Pacific Southwest Research Station, Arcata, CA; karen.pope@usda.gov.

Assessing Variation in Acoustic Signals and Auditory Processing in Pacific Chorus Frogs (*Hyla regilla*) along an Urban-Rural Gradient. Tarah Haslett* and Alejandro Velez Melendez. Biology Department, San Francisco State University, San Francisco, CA, thaslett03@gmail.com.

* Indicates presenter in multi-authored presentation