

# Mountain Lakes Research Group Newsletter

## Summary of 2018 activities



### Activities

2018 was another busy and productive year for our [Mountain Lakes Research Group](#), with a full schedule of research activities across the Sierra Nevada. These activities extended from the Desolation Wilderness (near Lake Tahoe) in the north to the Golden Trout Wilderness (near Mount Whitney) in the south. During a summer that was memorable for several weeks of thick smoke in the Yosemite high country (cough!), the following activities stand out:

- We reestablished mountain yellow-legged frog populations at two sites in Yosemite National Park and added additional frogs to four populations that were reestablished in previous years (one in Yosemite and three in the Desolation Wilderness). This brings the total number of frog populations we've reestablished since 2006 to 14. One of the new populations is located in upper Lyell Canyon, Yosemite National Park. This accomplishment felt particularly significant because this is where Joseph Grinnell and his field team from the [Museum of Vertebrate Zoology](#) spent several weeks in July 1915 describing the vertebrate species in the area. Notable from their surveys were the dense mountain yellow-legged frog populations found throughout the area. Frogs disappeared from upper Lyell Canyon in the 1970s following the arrival of the amphibian chytrid fungus. This pathogen is native to Asia, but has been spread globally by human commerce, causing the extinction of at least 200 amphibian species to date. The amphibian chytrid fungus remains one of the biggest challenges we face in our efforts to recover mountain yellow-legged frogs. Returning frogs to upper Lyell Canyon after their 40+ year

absence was amazing. We'll be adding more frogs to this site in future years and have high hopes that these actions will allow frogs to thrive again in this special place.

- We began the effort to reestablish mountain yellow-legged frogs in a basin near Mount Hoffmann in central Yosemite. In past reintroductions, we've had a large frog population located nearby from which we could collect adult frogs to support these recovery efforts. The Hoffmann area lacks such a donor population, so instead we collected tadpoles from two smaller populations in the vicinity, hiked them out of the backcountry, and handed them off to personnel from the [San Francisco Zoo](#). The zoo is now raising the animals to adulthood and we'll reintroduce them in 2019 and 2020. The Hoffmann area contains abundant frog habitat and we're hopeful that this work will result in the reestablishment of another large mountain yellow-legged frog population in the near future.
- The August 2018 field trip to view mountain yellow-legged frogs in Yosemite was a hit! The feedback from trip participants was overwhelmingly positive, so we'll host another field trip this coming summer: a three-mile hike will bring us to one of the largest mountain yellow-legged frog populations left in the world. When Roland discovered this population in 1992, frogs were restricted to a small fishless pond and all surrounding lakes contained nonnative trout. The California Department of Fish and Wildlife removed trout from the entire basin in the early 2000s and that resulted in rapid recovery of the frog population. We'll send out information about this trip in early summer, so stay tuned.
- We assisted filmmaker Michael Love in his efforts to get footage of mountain yellow-legged frogs in the Sierra Nevada, to be included in his film "Endangered in California". This movie tells the story of six iconic endangered species and their remarkable recoveries. Check out the promotional trailer [here](#).

## **New projects**

We received grant funding to allow us to start three new projects in 2019.

- A grant from the California Department of Fish and Wildlife provides funding to reestablish mountain yellow-legged frogs at a site in the Golden Trout Wilderness, south of Mount Whitney. Although frogs were once abundant throughout this unique unglaciated portion of the Sierra Nevada, only a single population remains. Frogs for this project are currently being raised at the [Oakland Zoo](#) and will be ready for release in 2019.
- A grant from the National Park Service provides funding to reestablish mountain yellow-legged frogs in one basin in Kings Canyon National Park and one basin in Yosemite National Park.
- A grant from the Yosemite Conservancy will allow us to analyze the data from all frog reintroduction efforts we've conducted to date in Yosemite. The goal of this analysis is to identify site characteristics associated with successful frog reestablishment, information that will allow us to better prioritize future frog recovery efforts and ensure the greatest return on

grant funding. This grant is particularly significant because all of our field work is for naught if we don't have funding to analyze the collected data. As such, we are grateful to the Yosemite Conservancy for providing funding for this critical analysis.

### Challenges & Opportunities

Despite the notable successes of 2018, we've also experienced some challenges. Our research and conservation work is supported entirely on grant funding, and raising the funds necessary to meet our annual budget (~\$250,000) is always a challenge. Nonetheless, we've been able to do that since Roland started this endeavor in 1995. However, this year looks to be different. The protracted government shutdown delayed processing of some of our already-awarded funding (including some of the grants mentioned above), and that has put our frog restoration efforts at risk. Our 2019 field season in Yosemite is particularly uncertain, and we are anticipating having to substantially scale back our planned frog recovery actions. After all of the gains we've made in recent years to recover mountain yellow-legged frogs, having to consider reducing the scope of our Yosemite activities is disheartening. Regardless, we're busy developing contingency plans and hope to have our Yosemite effort back at full force in 2020.

We've faced similar challenges in the past that have also complicated our frog recovery efforts. So, we've thought a lot in recent months about how to better insulate our research effort from these funding vagaries. Having an endowment to support some of our work would be ideal, and we are exploring opportunities to accomplish that. In the short term, we hope to increase our fundraising efforts and through these efforts raise approximately \$100,000 per year for frog recovery activities. This would allow the year-to-year consistency necessary for longer-term planning and efficient implementation of recovery activities. If any of you have thoughts or suggestions, please contact Roland ([roland.knapp@ucsb.edu](mailto:roland.knapp@ucsb.edu)).



Adult mountain yellow-legged frog being released into upper Lyell Canyon, 2018.

Thanks for your support during the past year, and for helping us to continue our efforts to make the Sierra Nevada a better (and froggier!) place. Also, have a look at our new [website](#) and stay in touch.

Roland Knapp   Tom Smith   Ericka Hegeman   Maxwell Joseph