

Lois Webster Fund Final Report:
Climate-driven range contraction for the American pika
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Since I submitted our interim report to the Lois Webster Fund, our research on the potential for range contraction of the American pika in the Southern Rockies has progressed very well. With the help of multiple Colorado Division of Wildlife (CDOW) crews, three University of Colorado undergraduates, two Research Experience for Undergraduate (REU) students, my academic advisors, and my father, we were able to survey 69 historical pika sites this summer. Two of these sites were rejected due to misleading historical site descriptions. Absence sites, of which there were only four, were all either resurveyed for confirmation or are still on the itinerary for resurvey this fall. In fact, some of the absences we reported in July were revisited later in the season and presence was confirmed. This was often due to discrepancies between descriptions and georeferences of historical locations or lack of adequate time for thorough surveying during the initial site visit.

Since most of our spare time continues to be tied up in site resurveys, we are still entering data and do not have any concrete conclusions to report. We can report that the proportion of sites that were unoccupied in the Southern Rockies is considerably less than what ~~has~~ been found in other regions of the United States, such as the Great Basin. The pattern of the absences found is certainly intriguing, and we look forward to delving into those analyses. It was surprising to find a relatively nonexistent influence of latitude on the occupancy of historical sites, but after seeing the habitat in the southern reaches of the Rocky Mountains first-hand, this makes sense. In general, the historical locations in New Mexico and some areas of southern Colorado consist of high-quality habitat, with large expanses of deep talus surrounded by easily accessible vegetation. If we can make a general, off-the-cuff statement about the results of this summer's work, it would be that pikas in the Southern Rockies are disappearing from some of the lesser-quality habitats available to them. Absence sites seem to have at least two things in common. They are relatively low in elevation (8,500 to 10,000 feet) and the talus is patchy and often broken up by encroaching forest.

We look forward to including sites such as these into our long-term monitoring of historical pika sites in the coming years. CDOW and CU were able to deploy over 30 climate data loggers this summer that are (hopefully) taking regular measurements from under the talus every hour until they are collected next summer. We will increase the number of data loggers placed in the field when we select our 20-25 long term monitoring stations, at which we will deploy four data loggers each and do more intensive research. That research will include investigations into population connectivity (are there populations of pikas within reasonable dispersal distance?) and detailed vegetation analyses. Once again I would like to thank the Lois Webster Fund for their generosity in funding portions of my first year of research. This project couldn't have taken flight without you!