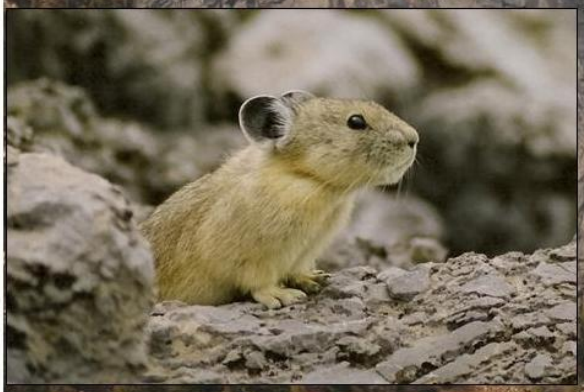
1st North American Pika Conference

Summary Report

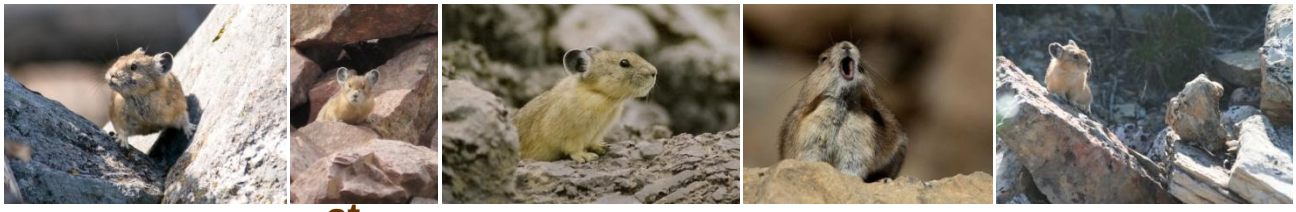


Teton Science Schools
Jackson, Wyoming

March 25th - 27th, 2010

Additional Sponsors

EXUM MOUNTAIN GUIDES PIKA WORKS



1st North American Pika Conference

Summary Report Overview

March 25-27, 2010 ● Teton Science Schools ● Jackson, Wyoming

Thank you for attending the 1st North American Pika Conference hosted by the Conservation Research Center at Teton Science Schools in Jackson, Wyoming.

Enclosed in this summary report, you will find the following:

1. Conference schedule
2. Paper and poster abstracts
3. Participant list
4. Working group session notes
5. Working group sub-committee spreadsheet
6. Evaluation summary

We hope that this is the first of an annual conference and look forward to continued work and collaboration throughout the year.

A special thanks to the California Pika Consortium for serving as a model and informing our event. Thanks also to our sponsors for making it all possible:

- US Forest Service
- National Park Service
- Exum Mountain Guides
- Wildlife Expeditions of Teton Science Schools
- Pika Works

If you have questions about the 1st North American Pika Conference, please call 307.733.1313 or email pikaconference@tetonscience.org. Please visit http://www.tetonscience.org/index.cfm?id=crc_home and click on the 1st North American Pika Conference icon for more information.

1st North American Pika Conference
Schedule

March 25-27, 2010 ● Teton Science Schools ● Jackson, Wyoming

Thursday, March 25		
Arrival and Check-in	12:30 – 5:30 PM	Welcome Center
Greater Yellowstone Coordinating Committee (GYCC) Pika Initiative Organizational Meeting	3:00 – 4:30 PM	Welcome Center
Welcome and Social	6:30 PM – 8:00 PM	Dining Lodge
Friday, March 26		
Check-in	7:00 – 7:30 AM	Welcome Center
Breakfast	7:30 – 8:00 AM	Dining Lodge
Welcome	8:00 – 8:15 AM	Tessler Family Education Center
Mackenzie Shardlow, University of Idaho and NPS Upper Columbian Basin Inventory and Monitoring Network *Standardized protocol for monitoring American pika*	8:15 – 8:40 AM	
Brian Maxfield, Utah Division of Wildlife Resources *Status of American pika in Utah*	8:40 – 9:05 AM	
Sue Wolff, Grand Teton National Park *Pika monitoring in Grand Teton National Park*	9:05 – 9:30 AM	
Bradley Bauman, Nevada Department of Wildlife *American pika surveys in northwest Nevada*	9:30 – 9:55 AM	
Chris Ray, University of Colorado-Boulder *Demographic change and physiological stress in Rocky Mountain pikas*	9:55 – 10:20 AM	
Break	10:20 – 10:35 AM	
Justine Smith, University of Colorado-Boulder *Bodie pikas: What they have to tell us*	10:35 – 11:00 AM	
Liesl Peterson-Erb, University of Colorado-Boulder *Precipitation as a driver of American pika distribution*	11:00 – 11:25 AM	
Embere Hall, Teton Science Schools *Understanding precipitation variability in the Snake River watershed*	11:25 – 11:50 AM	
Jennifer Wilkening, University of Colorado-Boulder *Modeling contemporary range contraction in Great Basin pikas*	11:50 AM – 12:15 PM	
Lucas Moyer-Horner, University of Wisconsin-Madison *Effects of temperature on American pika activity*	12:15 – 12:40 PM	
Lunch	12:40 – 1:40 PM	Dining Lodge
Andrea Ray, NOAA Earth System Research Laboratory *NOAA Rapid-Response Climate Assessment to support status review*	1:40 – 2:05 PM	Tessler Family Education Center
Janet Foley, UC Davis School of Veterinary Medicine *Infectious disease in spatially structured pika populations*	2:05 – 2:30 PM	
Katryna Fleer, UC Davis School of Veterinary Medicine *Small mammal pathogens and ectoparasites in Yosemite National Park*	2:30 – 2:55 PM	
Phillipe Henry, University of British Columbia Okanagan *Investigating the genetic basis of adaptation in American pikas*	2:55 – 3:20 PM	
Break	3:20 – 3:35 PM	
Jessie Zgurski, University of Alberta *Dispersal habits and mating system of a Collared Pika population*	3:35 – 4:00 PM	
John Isenhart, US Fish and Wildlife Service *Federal Status Review of the American pika*	4:00 – 4:25 PM	
Michael Calkins, Center for Applied Spatial Ecology, New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University *Conservation priorities models for the American pika*	4:25 – 4:50 PM	

Dinner	5:30 – 6:30 PM	Dining Lodge
Keynote Presentation: **Dr. Erik Beever** *Silence of the Lambs (and the mountains): what alpine mammals can tell us about how our world is changing*	7:00 – 8:30 PM	Tessler Family Education Center
Poster Session	8:30 – 9:30 PM	
Roger Christophersen, North Cascades National Park Service Complex *Factors affecting pika populations in the North Cascades National Park Service Complex*		
April Craighead, Craighead Environmental Research Institute *Utilizing habitat suitability models to predict the effects of global climate change on three different species of pika (Family Ochotonidae)*		
Cody Massing, California Polytechnic State University *Surveys and temperature profiling of historic and current pika sites in the Lassen Peak Region*		
Megan Mueller, Center for Native Ecosystems *Pika citizen science in the Southern Rockies*		
Raychel Parks, Central Washington University *Pika habitat occupancy along the I-90 corridor in the Washington Cascade Range*		
Leah Yandow, University of Wyoming, Wyoming Cooperative Fish and Wildlife Research Unit *Delineating critical habitat elements for American pikas in the face of climate change*		
Saturday, March 27		
Breakfast	7:30 – 8:00 AM	Dining Lodge
Working Group Sessions	8:15 – 9:40 AM	Tessler Family Education Center
Break	9:40 – 10:15 AM	
Working Group Sessions Continued	10:15 – 11:00 AM	
Full Group Session – Report Out & Next Steps	11:00 – 12:00 PM	
Closing Remarks	12:00 – 12:15 PM	
Lunch	12:15 – 1:00 PM	Dining Lodge
Sunday, March 28		
Check-out	8:00 – 10:00 AM	Welcome Center

Additional Sponsors

Exum Mountain Guides

Pika Works

1st North American Pika Conference
Paper and Poster Abstracts

March 25-27, 2010 ● Teton Science Schools ● Jackson, Wyoming

PAPERS (in presenting order)

* Denotes presenting author

PARTNERING FOR PIKA: A STANDARDIZED PROTOCOL FOR MONITORING THE AMERICAN PIKA IN SEVERAL NATIONAL PARK UNITS

Mackenzie Shardlow, Lisa K. Garrett, and Thomas J. Rodhouse, University of Idaho and National Park Service Upper Columbia Basin Inventory and Monitoring Network, Boulder City, NV*

Four National Park units, Crater Lake NP, Craters of the Moon NM&P, Lassen Volcanic NP, and Lava Beds NM, have formed a partnership with the Upper Columbia Basin Inventory and Monitoring Network to develop a long-term monitoring protocol for American pika. The protocol features an occupancy modeling-based approach to monitoring pika in which trends in percent of area occupied and local extinction and colonization rates are assessed. The methods allow for inclusion of key environmental predictor variables providing an ideal framework for testing hypotheses about drivers of pika population dynamics and for improving the precision of trend estimates. Pilot data from this effort has been used for predictive distribution modeling of pika in lava flows of Craters of the Moon.

Mackenzie Shardlow, Research Associate, University of Idaho and National Park Service Upper Columbia Basin Inventory and Monitoring Network, shardlow@uidaho.edu

Mackenzie Shardlow has been working as a Research Associate under a cooperative agreement with the University of Idaho and the National Park Service Upper Columbia Basin Inventory and Monitoring Network since August 2009. Mackenzie's primary focus has been to develop a monitoring protocol for American pika to be implemented in four western National Parks. Mackenzie holds bachelor's degrees in Wildlife Resources and Conservation Biology from the University of Idaho and a master's degree in Biology from Kansas State University.

THE STATUS OF THE AMERICAN PIKA IN UTAH

Brian Maxfield, Utah Division of Wildlife Resources, Vernal, UT*

The American pika *(Ochotona princeps)* is an inhabitant of high-elevation talus slopes, and recent studies in California and Nevada have documented range contractions consistent with predicted responses to global warming. Pikas were known to inhabit many of the mountain ranges in Utah, but little data existed on current distribution and population trends. As such, an inventory and monitoring protocol was developed to document current populations and any changes into the future. A GIS model was created to define potential habitat based on elevation, landcover, and aspect. Occupancy surveys were conducted at 155 randomly selected locations with pikas detected at 84 sites. Statewide, estimated occupancy in suitable habitat was 0.75 (SE=0.04) and detection probability was 0.89 (SE=0.03). Models including meters above pika equivalent elevation, precipitation, and subspecies as occupancy covariates received the greatest support. However, it is unknown whether that represents the historical distribution of pikas or an early response to climate change. Further iterations of the monitoring scheme will document any changes in pika occupancy and be used to direct conservation actions.

Brian Maxfield, Sensitive Species Biologist, Utah Division of Wildlife Resources, brianmaxfield@utah.gov

Brian has been a Sensitive Species Biologist for the Northeastern Region of the Utah Division of Wildlife Resources for 8 years. He completed a graduate degree while conducting research on Rocky Mountain goats in central Utah. He currently works on developing long-term monitoring surveys for a wide range of species, including American pika, northern flying-squirrel, northern river otters, and American three-toed woodpecker.

PIKA MONITORING IN GRAND TETON NATIONAL PARK

Susan Wolff, Grand Teton National Park, Moose, WY*

Pikas are one of the few mammals that inhabit high elevation reaches of western national parks, yet in some areas little information is available about their distribution, habitat requirements, and other important aspects of their ecology. As global warming may have already adversely affected pika living in the parks, information about their population is clearly needed. In 2009, Grand Teton National Park, in cooperation with Teton Science Schools and Yellowstone National Park initiated surveys to evaluate pika occupancy, distribution, and habitat characteristics in the southern portion of the park. These surveys served as the first baseline study of pika use in the Teton Range. This presentation will discuss our methods, modeled after the Upper Columbia Basin Network's Pika Monitoring Protocol, as well as results from our first field season.

Susan Wolff, Wildlife Biologist, Grand Teton National Park, susan_wolff@nps.gov

Sue Wolff is a Wildlife Biologist at Grand Teton National Park. She works on a variety of projects including overseeing the park's avian and sensitive species monitoring program. Sue's interests in montane systems and how climate change and other factors may be impacting the wildlife living at high elevations led her to initiate a pika monitoring program in Grand Teton in collaboration with Yellowstone National Park and Teton Science Schools. Sue is spearheading a Greater Yellowstone Ecosystem pika initiative with assistance from numerous National Forests, the National Elk Refuge, the Craighead Research Institute, and the Teton Science Schools.

AMERICAN PIKA DISCOVERY SURVEYS IN NORTHWEST NEVADA

Bradley Bauman, Nevada Department of Wildlife, Winnemucca, NV*

Distribution of American Pika (*Ochotona princeps*) in Nevada is mostly known from historical records (50+ years old). Recent field research indicates that seven of 25 historically described populations of pika in the Great Basin appear to be extinct. These findings have added emphasis to earlier warnings that Great Basin pika populations, particularly those occurring at lower elevations, may be highly vulnerable to major disturbances such as global climate change. Understanding the dynamics of their current distribution is an important first step to helping conserve the species. Consequently the Nevada Department of Wildlife and USFWS initiated discovery surveys for American Pika in areas of suitable habitat in the Santa Rosa Mountains, and the Sheldon National Wildlife Refuge in northwest Nevada.

Bradley Bauman, Wildlife Diversity Biologist, Nevada Department of Wildlife, bbauman@ndow.org

Brad Bauman is a Wildlife Diversity Biologist with the Nevada Department of Wildlife. He received his Bachelors degree in Conservation Biology from the University of Nevada Reno. He is currently the led for Nevada Department of Wildlife on American Pika inventory and discovery surveys for the State of Nevada.

SIGNS OF DEMOGRAPHIC CHANGE AND PHYSIOLOGICAL STRESS IN ROCKY MOUNTAIN PIKAS

Chris Ray, University of Colorado, Boulder, CO*

Although there is little evidence for local extinction of pikas within the Rockies, long-term demographic data and recent data on physiology and microclimate suggest deleterious, climate-related dynamics in this region. A 21-year study in Montana and data from an LTER site in Colorado both demonstrate recent reductions in annual survival. During 2008-2009, survival and stress metrics were compared between these two sites. Survival was significantly lower and levels of stress-related plasma glucose were significantly higher at the Colorado site. In addition, survival on north-facing slopes in Colorado was significantly lower than on south-facing slopes. These patterns in survival and stress metrics may be explained by microclimate; temperatures were more extreme at the Colorado site, and were significantly colder on north-facing slopes within this site.

Chris Ray, Research Associate, University of Colorado-Boulder, cray@colorado.edu

Chris Ray is a Research Associate at the University of Colorado, studying effects of population structure, disease and climate on the dynamics of animals and plants. She received a Ph.D. in Population Biology from the University of California-Davis, and has studied pikas throughout the western US for over 20 years.

BODIE PIKAS: WHAT THEY HAVE TO TELL US

Andrew T. Smith,[1] Lyle B. Nichols,[2] and John D. Nagy[3] (paper to be presented by Justine Smith[4])*
[1] Arizona State University, Tempe, AZ
[2] Santa Monica College, Santa Monica, CA
[3] Scottsdale Community College, Scottsdale, AZ
[4] University of Colorado, Boulder, CO

We have investigated the American Pika *(Ochotona princeps*) at Bodie, California, since 1969, building on earlier studies in the late 1940's by Joye Harold Severaid. The Bodie pikas primarily inhabit ore dumps that are distributed across approximately 8 km^2. Patch size varies from relatively large "mainlands" to smaller patches which vary in their isolation (distance) from other patches. The pikas have, over time, occupied all available habitat, but at any time occupy only about 40% of available isolated patches. The Bodie pikas represent an active metapopulation with patch extinctions followed subsequently by spatially autocorrelated recolonizations. We will present a long-term, nearly annual, time-sequence of these dynamics from 1989 to the present. As of fall 2009, the northern constellation of patches was 84% occupied.

Andrew T. Smith, President's Professor, Arizona State University, a.smith@asu.edu
Justine Smith, B.S. Student, University of Colorado-Boulder, justine.smith@colorado.edu

Andrew Smith has worked on the American Pika since 1969 (before many in attendance were born!). Andrew's work at Bodie on metapopulation dynamics is on-going; he has worked extensively at high elevations in the Sierra Nevada and in the Rocky Mountains (at the Rocky Mountain Biological Laboratory) – largely on dispersal dynamics of pikas. Andrew has also worked extensively on meadow-dwelling pikas in Tibet, and has served as Chair of the IUCN Species Survival Commission Lagomorph Specialist Group since 1991. Andrew's paper is being presented by his daughter, Justine Smith, a senior in EBIO at the University of Colorado. Justine has censused pika populations throughout the west for the past two summers.

PRECIPITATION AS A DRIVER OF AMERICAN PIKA (*O. PRINCEPS*) DISTRIBUTION IN THE SOUTHERN ROCKY MOUNTAINS

Liesl Peterson Erb, University of Colorado, Boulder, CO*

Do the climate-driven patterns of pika population loss seen in the Great Basin extend to other portions of the species' range? Following a re-survey of 69 Southern Rocky Mountain sites historically occupied by pikas, data indicate that population extirpation has not been as severe in this region. Despite relatively few extirpations, low annual precipitation is implicated as a limiting factor for pika persistence. Sites consistently dry over the last century, regardless of climate change experienced in that period, are lacking current pika populations. While there is no climate change signal in these results, these data provide valuable insight into the potential future effects of climate change on *O. princeps* throughout its range. Future research will focus on climatic limitations on gene flow in this region.

Liesl Peterson Erb, Ph.D. Candidate, University of Colorado-Boulder, liesl.peterson@colorado.edu

Liesl Peterson Erb received her undergraduate degree in biology from Colorado College in 2004. Following graduation, she spent three years working as a wildlife biologist studying grizzly bears in Montana and the impact of habitat fragmentation on large mammals in an acacia plantation in Malaysian Borneo. She returned to her native Rocky Mountain landscape in 2007 to begin her Ph.D. research at the University of Colorado at Boulder. Her dissertation research focuses on the climatic drivers of American pika distribution in the Southern Rocky Mountains.

UNDERSTANDING PRECIPITATION VARIABILITY IN THE UPPER SNAKE RIVER WATERSHED

Embere Hall[1], Erika Wise[2], Sue Wolff[3] and Kerry Murphy[4]*
[1]Conservation Research Center of the Teton Science Schools, Jackson, WY
[2]University of Arizona -Laboratory of Tree Ring Research, Tucson, AZ
[3]Grand Teton National Park, Moose, WY
[4]Bridger Teton National Forest, Jackson, WY

Recent drought and increasing demands on the water supply emphasize the need to account for climatic variability in all aspects of natural resource management. In particular, moisture variability can influence fire occurrence, habitat quality and wildlife distributions. Tree-rings provide a window into past precipitation regimes, yielding critical information on decadal and multi-decadal trends in water resources. We used tree-rings to reconstruct streamflows in the Upper Snake River Watershed (USRW) to better understand historic precipitation patterns in the region. We sampled Douglas fir (*Pseudotsuga menziesii*) and limber pine (*Pinus flexilis*) at 11 sites in the Greater Yellowstone Ecosystem (GYE). Tree cores and cross-sections from each site were used to develop a proxy for annual precipitation that spans 1587 - 2007

A.D. Our work indicates that long, dry periods are a natural part of the climate regime and that resource managers should expect longer, more severe droughts in the future. The USRW provides the headwaters for the Snake River, one of the most heavily used rivers in the West.

In August 2008 we initiated a collaborative pika (*Ochotona princeps*) monitoring project in Grand Teton and Yellowstone National Parks to better understand how climatic variability may influence wildlife. Because of their association with alpine communities and their vulnerability to warm temperatures, pikas may act as harbingers of change in montane environments. The results of this project provide much-needed data on pika habitat use and response to variable environmental conditions. This work will help resource managers better understand natural climatic variation in the GYE and will facilitate sustainable resource management that considers a range of possible conditions. The efficacy of future wildlife management efforts largely depends on changing climate conditions and the underlying natural precipitation variability.

Embere Hall, Research Director, Conservation Research Center of the Teton Science Schools, embere.hall@tetonscience.org

Embere Hall is the Research Director for the Conservation Research Center of Teton Science Schools. She specializes in ecology, quantitative biology and wildlife management. Current projects include work on songbird demography, cougar population indices, ecological thresholds, climate modeling and pika populations.

MODELING CONTEMPORARY RANGE RETRACTION IN GREAT BASIN PIKAS *(OCHOTONA PRINCEPS)* USING DATA ON MICROCLIMATE AND MICROHABITAT

Jennifer Wilkening, University of Colorado, Boulder, CO*

The American Pika *(Ochotona princeps)* inhabits talus slopes on isolated mountaintops in the Great Basin, where they are susceptible to localized extirpations. We re-surveyed 25 sites historically occupied by pikas, and collected extensive microclimatic data from each site. Results show that sites of pika extirpation experienced higher summer temperatures and higher frequency of extremely warm days, than did sites of persistence. Vegetation communities also differed between persistence and extirpation sites, and relative forb cover was positively related to pika persistence. Evaluation of competing models suggests strong support for recent mean summer temperature as the driver of extirpations in this dataset. In agreement with other modeling efforts, this result supports the hypothesis that extirpation results from chronic heat stress during the summer months when pikas must gather and store food for the winter.

Jennifer Wilkening, Ph.D. Candidate, University of Colorado, Jennifer.Wilkening@colorado.edu

Jennifer Wilkening is a Ph.D. student at UC-Boulder studying the physiological response of pikas to climate change in the Rocky Mountains. Her M.S. degree is from the University of Nevada in Reno, where she studied the effects of temperature and vegetation on pika extirpations in the Great Basin.

EFFECTS OF TEMPERATURE ON AMERICAN PIKA ACTIVITY

Lucas Moyer-Horner, University of Wisconsin, Madison, WI*

American pikas have been identified as climate change sentinels because of their specialized niche and low thermal tolerance. We expect animals' first response to climate change will be behavioral adaptation. To measure how pikas behave in different thermal environments, we observed vocal and visual (above talus) activity at eight sites over eleven days in Glacier National Park, MT. Activity correlated negatively with mean above talus temperature at all sites except one. Pikas were more active overall at higher elevation sites. Advanced seasonality at high elevation sites may influence pikas to be more active earlier. Understanding pikas' behavioral adaptations to warm temperatures will allow us to identify mechanisms of site extirpations and anticipate future responses.

Lucas Moyer-Horner, Ph.D. Candidate, University of Wisconsin-Madison, lrmoyerh@wisc.edu

Lucas is currently a dissertator at the University of Wisconsin-Madison. His field experiences include two summers at Rocky Mountain Biological Lab studying Yellow-bellied marmot behavior and distribution, and three summers of pika research in Glacier National Park. Lucas has worked with National Park staff to coordinate and train citizen scientists. He is also interested in science education, outreach, and encouraging positive environmental action.

NOAA Rapid-Response Climate Assessment to Support the FWS Status Review of the American Pika

Andrea J. Ray,[1] Joseph J. Barsugli,[2] Klaus Wolter,[2] and Jon Eischeid[2]*
[1] NOAA Earth Systems Research Laboratory, Boulder, CO
[2] University of Colorado, Cooperative Institute for Research in Environmental Sciences, Boulder, CO

NOAA provided Fish and Wildlife Service with an assessment of climate observations and projections of change in pika habitat, as a climatological context for the status review. We provided western regional detail based on existing observations and projections and new findings from interpreting observations and the IPCC model projections at smaller spatial scales. A key finding of the report is the large spatial scale of recent and projected warming trends in the West. The 2050 summer temperature projections average about 3°C higher than recent climatology for most of the western U.S., and for 22 locations representative of pika habitats. Statistically downscaled temperature projections were used to relate these large-scale trends to habitat elevation bands. Finally, we gave an expert judgment on the "foreseeable future" for climate for the review.

Andrea J. Ray, Physical Scientist, Ph.D., NOAA Earth Systems Research Laboratory, andrea.ray@noaa.gov

Andrea Ray works at the NOAA Earth System Research Lab in Boulder, CO. She works on applications of climate information and forecasts in natural resource management. She has worked extensively with the Bureau of Reclamation to document needs for climate information, refine research questions, and connect research and applications. Currently she is exploring the needs of other resource agencies for guidance on climate change, for example to include in forest management plans or to assess the potential for climate change to threaten species, and is working to engage these agencies to understand their key decisions and decision processes, and entry points for climate information. She is recently led the "Rapid-Response Climate Assessment to Support the FWS Status Review of the American Pika," and was one of the lead authors of "Climate Change in Colorado: A Synthesis to support Water Resources Management and Adaptation." Andrea's education includes an M.S. in Biological Oceanography from the University of Delaware and a Ph.D. in Geography from the University of Colorado.

Emergence and maintenance of infectious disease in spatially structured pika populations

Janet Foley, Katryna Fleer, and Patrick Foley, UC-Davis School of Veterinary Medicine, Davis, CA*

The pika inhabits mountains in spatially networked high altitude patches of talus slope. Most isolated patches containing pika would be below the critical community size needed to support disease agents. Connectivity among patches helps maintain pika populations, but also supports maintenance of disease. Sympatric small mammals and arthropods also provide a source for infectious threats to pika. We review theory of disease and connectivity and discuss how corridors can "rescue" disease from extinction in isolated patches or those not embedded in a larger community of small mammals. We discuss infectious threats to pika. We show that spatial and phenological complexity contribute to maintenance of disease enzootically. Ultimately, ongoing surveillance of the pika metacommunity will be essential in order to manage infectious threats to pika.

Janet Foley, Professor, UC-Davis School of Veterinary Medicine, jefoley@ucdavis.edu

Janet Foley is a disease ecologist at UC-Davis specializing in infectious disease of wildlife and vector-borne disease. She is a professor in the School of Veterinary Medicine and has over 20 years experience with disease in small mammals and wildlife in California. Her research focuses on ticks, natural cycles of tick-borne disease, and theory of disease maintenance and spread.

Altitudinal stratification of small mammal pathogens and ectoparasites in Yosemite National Park

Katryna Fleer, Patrick Foley, and Janet Foley, UC-Davis School of Veterinary Medicine, Davis, CA*

The pika *(Ochotona princeps)* inhabits high elevation talus fields in the Sierra Nevada mountain range. Other small mammal species share this habitat creating a potential for transmission of disease agents pathogens among species. Additionally, due to climate change, some species are changing their ranges, and may increasingly overlap with pikas. We surveyed ticks, fleas, and pathogens in currently and potentially sympatric small mammals across altitudes in Yosemite National Park. Individuals were seropositive for Anaplasma phagocytophilum, Rickettsia rickettsii, and Borrelia burgdorferi. We identified 16 species of fleas and 10 species of ticks, including vectors for plague and tularemia. Fleas in particular showed distinct preferences for particular altitudes. These data provide a baseline for future studies on the health of this potentially vulnerable species.

Katryna Fleer, Graduate Student Researcher, UC-Davis School of Veterinary Medicine, kafleer@ucdavis.edu

INVESTIGATING THE GENETIC BASIS OF ADAPTATION IN AMERICAN PIKAS

Philippe Henry, University of British Columbia-Okanagan, Kelowna, BC, Canada*

At the northern edge of its distribution, the American pika is distributed from sea level up to 2000 meters elevation in the Coast Mountains of British Columbia, Canada. This altitudinal gradient provides an ideal system to study adaptive population divergence, as environmental conditions change rapidly over short distances. I will explore the genetic basis of adaptation in pikas found across an altitudinal gradient using two approaches including: 1) direct sequencing of five targeted genes previously characterized in pikas and known to play a role in local adaptation to environmental conditions; and 2) AFLP-based genomic scans, allowing for genome-wide searches for loci under selection. This study will be among the first applications of population genomics within a climate change sensitive species.

Philippe Henry, Ph.D. Candidate, University of British Columbia-Okanagan, phenry@interchange.ubc.ca

Philippe graduated with a B.S. in Biology from the University of Lausanne in Switzerland and went on to study the population genetics of invasive plants for his M.S. in Behavior, Evolution and Conservation that he completed in 2007 at the University of Lausanne. Philippe started his Ph.D. in Biology investigating the genetic basis of adaptation in American Pika at the University of British Columbia Okanagan in Kelowna in 2007.

THE DISPERSAL HABITS AND MATING SYSTEM OF A COLLARED PIKA (*OCHOTONA COLLARIS*) POPULATION FROM THE SOUTHWEST YUKON

Jessie Zgurski, University of Alberta, Edmonton, AB, Canada*

The purpose of this study was to examine the dispersal and mating behavior of the collared pika (*Ochotona collaris*). Mark-recapture data suggests that collared pikas rarely disperse over 300 m from their natal dens. However, because there is likely pre-capture dispersal in our study population, we decided to examine their dispersal behavior using genetic methods. Pikas were captured at a study site in the Yukon from 1999 to 2008, and each pika caught was genotyped at fifteen microsatellite loci. The data revealed fine-scale genetic structuring in the population in most years, suggesting that most animals are surrounded by close kin. However, there was no evidence for extensive inbreeding. A parentage analysis revealed that pikas do not necessarily mate with their closest neighbors, which would serve to reduce inbreeding in the population.

Jessie Zgurski, Ph.D. Candidate, University of Alberta, jzgurski@ualberta.ca

Jessie Zgurski has a B.S. in Biological Sciences from the University of Lethbridge and an M.S. in Systematics and Evolution from the University of Alberta. She is currently a senior Ph.D. student in Ecology at the University of Alberta, focusing on the changing genetic structure, dispersal habits and mating system of a collared pika population in the southwest Yukon.

FEDERAL STATUS REVIEW OF THE AMERICAN PIKA *(OCHOTONA PRINCEPS)*: FIRST ITERATION OF A CLIMATE CHANGE RISK ASSESSMENT

John Isanhart, U.S. Fish and Wildlife Service, West Valley City, UT*

The U.S. Fish and Wildlife Service recently performed a 12-month status review of the American pika to determine if listing under the Federal Endangered Species Act was warranted. The Service determined that climate change was the primary threat to the existence of the species and performed a deterministic risk assessment to determine if the species warranted protection under the Act. The risk assessment relied on a rapid-response climate assessment from the National Oceanic and Atmospheric Administration in combination with findings from field research studies and climate models. We review the assessment methodology, key findings, and data gaps and provide suggestions to improve the risk assessment process.

John Isanhart, Ecologist, U.S. Fish and Wildlife Service, john_isanhart@fws.gov

John Isanhart is an ecologist at the U.S. Fish and Wildlife Service in Salt Lake City, Utah. He received a B.S. in Environmental Science from the University of Central Arkansas in 2001 and a M.S. in 2004 and Ph.D. in 2008 in Environmental Toxicology from Texas Tech University. He has past experience with ecological risk assessment, natural resource damage assessment, and small mammal and avian ecotoxicological investigations. He served as the lead biologist for the U.S. Fish and Wildlife Service's 12-month status review of the American pika.

CONSERVATION PRIORITIES MODELS FOR THE AMERICAN PIKA IN THE WESTERN UNITED STATES

Michael Calkins, Center for Applied Spatial Ecology, New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University, Las Cruces, NM*

The American pika is a montane species found among talus slopes throughout the western United States. Local extinctions and populations disappearing at lower elevations have been documented. Climate change is believed to be behind this phenomenon. Our objective was to model the future distribution of suitable pika habitat across the western U.S. under increased temperatures to identify which areas of the pikas geographic distribution are more negatively affected by climate change than others, thereby, providing managers a means of prioritizing conservation efforts over the entire U.S. We modeled the future distribution of suitable pika habitat using 1°C-7°C temperature increases, and compared the changes in predicted suitable habitat for subspecies of pika located in the U.S. Results indicate that certain subspecies may be more susceptible than others.

Michael Calkins, GIS Analysit, Center for Applied Spatial Ecology, New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University, conservation84@gmail.com

POSTERS (alphabetical by first author)

FACTORS AFFECTING PIKA POPULATIONS IN THE NORTH CASCADES NATIONAL PARK SERVICE COMPLEX

*Jason Bruggeman[1] and Roger Christophersen[2]**
[1] Beartooth Wildlife Research, LLC, Farmington, MN
[2] National Park Service, North Cascades National Park Service Complex, *Sedro Woolley, WA*

The goal of this work was to address information needs about American pika *(Ochotona princeps)* populations in the North Cascades National Park Service Complex in Washington. We gathered data from late June through September 2009 on pika abundance, habitat attributes, and temperature in 115 talus patches contained within 30 1 km^2 survey areas. We found active pika presence in 90% of survey areas and 74% of patches, which ranged in elevation from 351 to 2130 m. We used statistical modeling techniques to examine climate, habitat, and anthropogenic factors influencing large- and small-scale variation in pika abundance. On large scales, abundance was positively correlated with elevation and total patch perimeter. On small patch scales, temperatures at and below the talus surface, and patch perimeter influenced abundance.

Roger Christophersen, Wildlife Biologist, National Park Service, North Cascades National Park Service Complex, roger_christophersen@nps.gov

Roger Christophersen is a Wildlife Biologist at North Cascades National Park Service Complex, Washington with over 15 years of experience inventorying and monitoring a diversity of wildlife species in the North Cascades mountain range. His primary emphasis has been on Endangered, Threatened, Rare, Sensitive, and keystone mammal and bird species. He has developed a long-standing passion for the conservation of alpine species including pikas and marmots.

UTILIZING HABITAT SUITABILITY MODELS TO PREDICT THE EFFECTS OF GLOBAL CLIMATE CHANGE ON THREE DIFFERENT SPECIES OF PIKA (FAMILY OCHOTONIDAE)

April Craighead, Craighead Environmental Research Institute, Bozeman, MT*

Climate change and its effects on all species may be one of the most difficult challenges to be faced in the twenty-first century. One species that is threatened by climate change is the pika (Family Ochotonidae). We developed habitat suitability models for three different species of pika: Alpine pika (*Ochotona alpine)*, Ili pika (*O. illensis)* and the American pika *(O. princeps),* to determine current habitat and changes in habitat under a 3°C warming scenario. Modeling results were mixed for two species of pikas due to the lack of pertinent GIS layers. Results for the American pika model indicated that an increase in temperature due to climate change will have a significant impact on pikas in the future.

April Craighead, Wildlife Biologist, Craighead Environmental Research Institute, april@craigheadresearch.org

April Craighead has been working at the Craighead Environmental Research Institute (CERI) since 2000 on a variety of projects. She has been doing pika research in Montana since 2007 and was awarded an Alcoa Conservation and Sustainability Fellowship in 2007-2008 to develop habitat suitability models for three different pika species. April has a Master's degree from Montana State University and a Bacherlor's degree from the University of California, San Diego.

SURVEYS AND TEMPERATURE PROFILING OF HISTORIC AND CURRENT PIKA SITES IN THE LASSEN PEAK REGION

Cody Massing and John Perrine, California Polytechnic State University, San Luis Obispo, CA*

American pika populations may be declining due to rising global temperatures. To better understand pika persistence, we resurveyed 17 historic pika sites in the Lassen Peak region of northern California. Ten of the historic sites were currently occupied, as well as an additional 7 of 12 new sites surveyed. At each site we collected habitat information, and are currently analyzing the data for factors that are correlated with site occupancy. We also installed 38 iButton thermal dataloggers in abandoned and occupied pika use sites, to determine if temperature affects occupancy. These probes will be retrieved in summer, 2010. Research on the American pika's persistence and habitat requirements is imperative for understanding the effects of climate change on pikas, and to establish a baseline for future monitoring.

Cody Massing, M.S. Student, California Polytechnic State University, codymassing@yahoo.com

Cody Massing is a second year Master's student at California Polytechnic State University. She studies pika habitat requirements and daily activity profiles in relation to temperature in the southern Cascades and the Sierras. After earning a B.S. at The Evergreen State College in Washington state, Cody worked as a wildlife technician on a number of field projects throughout the west, and has worked with a variety of small mammals, including western gray squirrels, northern Idaho ground squirrels, and Olympic marmots She is most interested in wildlife conservation, particularly of alpine species.

PIKA CITIZEN SCIENCE IN THE SOUTHERN ROCKIES

Megan Mueller[1], Chris Ray[2] and Greg Newman[3]*
[1] Center for Native Ecosystems, Denver, CO
[2] Department of Ecology and Evolutionary Biology, University of Colorado, Boulder, CO
[3] Natural Resource Ecology Laboratory, Colorado State University, Ft. Collins, CO
Affiliated organizations not listed above: Mountain Studies Institute, Durango, CO and Denver Zoo, Denver, CO

In the Southern Rocky Mountains, several researchers and organizations are collaborating to launch a citizen science effort to gather baseline data on the current distribution of pikas and pika habitat, as well as data on the phenology of snowmelt, growing season, and pika haying activity. This is the first phase of a long-term monitoring effort, and involves the development of PikaNet, a web-based database for interactive data mapping and dissemination of tools for further development of citizen research on the pika. The project will provide data to help researchers and managers understand factors that may influence pika distribution over time. This poster outlines the research questions, protocols and citizen science database under development for this project.

Megan Mueller, Conservation Biologist, Center for Native Ecosystems, megan@nativeecosystems.org

Megan Mueller is a conservation biologist with Center for Native Ecosystems, a nonprofit organization working to conserve and restore native species and ecosystems of the greater Southern Rockies region. Megan has a B.S. in biology from the University of Colorado and an M.A. in Environmental Studies from the University of Montana. Megan has worked at the USFS Rocky Mountain Research Station, the New Mexico Department of Game and Fish and a number of conservation organizations in Colorado, and has experience with efforts to conserve a wide range of taxa and ecosystems.

PIKA HABITAT OCCUPANCY ALONG THE I-90 CORRIDOR IN THE WASHINGTON CASCADE RANGE

Raychel Parks, Central Washington University, Ellensburg, WA*

We are surveying pika habitat and monitoring pikas near Interstate 90 in the central Washington Cascades. Our objectives are to collect baseline data on pika distribution and population genetics before wildlife crossing structures (bridges and underpasses) are constructed to increase wildlife connectivity across the interstate. We have mapped pika habitat (talus slopes and rock fill/rock piles) along a 15-mile stretch of the interstate, in a band extending ~ 2 miles from each side of the interstate. In 2008, 95% of 40 sites surveyed were occupied by pikas. In 2009, 88% of 52 sites were occupied. Occupied sites include human-made rock habitats (road fill) directly adjacent to the interstate shoulders and rip-rap under interstate bridges. We are also surveying the different types of pika habitat including talus, road fill and rip-rap to determine what the habitat feature requirements are for pikas such as rock and patch size.

Raychel Parks, M.S. Student, Central Washington University, parksr@cwu.edu

Raychel Parks received a Bachelor of Science degree in Environmental Studies with a Biology option from Southern Oregon University in Ashland, OR in 2008. Raychel is currently pursuing a Master of Science degree in Resource Management at Central Washington University in Ellensburg, WA. Her current research focuses on habitat feature requirements for American pikas along the I-90 corridor in the central Washington Cascades.

DELINEATING CRITICAL HABITAT ELEMENTS FOR AMERICAN PIKAS IN THE FACE OF CLIMATE CHANGE

Leah Yandow, University of Wyoming, WY Cooperative Fish and Wildlife Research Unit, Laramie, WY*

The American pika (*Ochotona princeps)* is particularly vulnerable to climate change due to its unique life history, physiological constraints, and limited dispersal ability. Range shifts and declines of pikas at low elevation and historic sites are linked to rising summer temperatures in parts of its range. However, clear evidence for, or mechanisms causing declines in the Northern Rocky Mountains are not yet evident. I am initiating research on pika subpopulations in the Wind River Range of Wyoming that will focus on quantifying the importance of a variety of climate variables and habitat characteristics on pika presence and densities. Results from this work will allow predictions of shifting pika populations with climate change.

Leah Yandow, M.S. Student, University of Wyoming, WY Cooperative Fish and Wildlife Research Unit, lyandow@uwyo.edu

Leah began her a master's program this semester at the University of Wyoming working with Dr. Dan Doak and Dr. Anna Chalfoun studying the importance of climate and habitat features on pika density. Leah received her B.S. in biology at St. Lawrence University and has since spent several years in the field and lab working on a variety of wildlife projects including climate impacts on plant phenology and ungulate productivity trends in Wyoming, the Teton Bighorn Sheep Project, and the Jackson Moose Study. Leah's thesis work in the Wind River Range in Wyoming will relate pika density with snowpack, temperature and habitat features including aspect, exposure to wind, and elevation.

1st North American Pika Conference

Participant List

March 25-27, 2010 ● Teton Science Schools ● Jackson, Wyoming

Name	Affiliation	Email Address
Bauman, Brad	Nevada Department of Wildlife	bbauman@ndow.org
Baynes, Sheila	NOLS	sheila_baynes@nols.edu
Beever, Erik		ebeever10@gmail.com
Calkins, Michael	New Mexico State University	conservation84@gmail.com
Chalfoun, Anna	University of Wyoming	achalfou@uwyo.edu
Chong, Geneva	USGS - North Rocky Mtn Science Center	geneva_chong@usgs.gov
Christophersen, Roger	North Cascades National Park	roger_christophersen@nps.gov
Costello, Michael	Mountain Studies Institute	costello_M2@fortlewis.edu
Craighead, April	Craighead Environmental Research Institute	april@craigheadresearch.org
Craighead, Lance	Craighead Environmental Research Institute	lance@craigheadresearch.org
Erb, Liesl Peterson	University of Colorado - Boulder	liesl.peterson@colorado.edu
Fagan, Sara	Conservation Research Center	sara.fagan@tetonscience.org
Fleer, Katrina	University of California - Davis	kafleer@ucdavis.edu
Foley, Janet	University of California - Davis	jefoley@ucdavis.edu
Garrett, Lisa	National Park Service	lisa_garrett@nps.gov
Gellhorn, Joyce	University of Colorado	jggellhorn@mac.com
Hall, Embere	Conservation Research Center	embere.hall@tetonscience.org
Hamann, Betsy	Beaverhead National Forest	bhamann@fs.fed.us
Hamann, John		bhamann@fs.fed.us
Henry, Philippe	University of British Columbia	phenry@interchange.ubc.ca
Isanhart, John	US Fish and Wildlife Service	john_Isanhart@fws.gov
Loosen, Annie	Conservation Research Center	annie.loosen@tetonscience.org
Massing, Cody	California Polytechnic University	codymassing@yahoo.com
Maxfield, Brian	Utah Division of Wildlife Resources	brianmaxfield@utah.gov
Merigliano, Mike		mmerig@silverstar.com
Moyer-Horner, Lucas	University of Wisconsin-Madison	lrmoyerh@wisc.edu
Mueller, Megan	Center for Native Ecosystems	megan@nativeecosystems.org
Munts, Mike	National Park Service	michael_munts@nps.gov
Murphy, Kerry	Bridger-Teton National Forest	kmmurphy02@fs.fed.us
Oles, Lara	US Forest Service - Kemmerer Ranger District	lroles@fs.fed.us
Patla, Susan	Wyoming Game and Fish	susan.patla@wgf.state.wy.us
Parks, Raychel	Central Washington University	parksr@cwu.edu
Ray, Andrea	NOAA, US Dept Of Commerce	andrea.ray@noaa.gov
Ray, Chris	University of Colorado - Boulder	cray@colorado.edu

Name	Affiliation	Email address
Richardson, Rachel	Beartooth Wildlife Research, LLC	losbuows@gmail.com
Schneebeck, Chuck	Nature Mapping Jackson Hole	chuckschneebeck@gmail.com
Shardlow, Mackenzie	National Park Service/University of Idaho	shardlow@uidaho.edu
Smith, Justine	University of Colorado - Boulder	justine.smith@colorado.edu
Stone, Marilyn	Freelance Writer	marilyn.stone@live.com
Varner, Johanna	University of Utah	johanna.varner@utah.edu
Watters, Rebecca	Northern Rockies Conservation Coop.	rebecca@nrccooperative.org
Weber, Shana	Princeton University	pikabeast@mac.com
Wilkening, Jennifer	University of Colorado - Boulder	jennifer.wilkening@colorado.edu
Wolff, Sue	Grand Teton National Park	susan_wolff@nps.gov
Yandow, Leah	University of Wyoming	lyandow@uwyo.edu
Zgurski, Jessie	University of Alberta	jzgurski@ualberta.ca

1st North American Pika Conference
Working Group Session Notes

March 25-27, 2010 ● Teton Science Schools ● Jackson, Wyoming

1. Determine Need: Is there a need for a pika working group? Yes
    a. Benefits of a working group:
        i. Compile and distribute information, such as common protocols specific to pikas
        ii. Consistency in data collection
        iii. Collaboration – provide a means for management recommendations to be developed
        iv. Coordinate a unified plan of attack / coordinated response for public education and legal proceedings
        v. Emphasize that pikas are important, add to momentum, leverage funding
        vi. Provide a map of research locations
        vii. Create a website for information sharing
        viii. Move beyond talks
    b. Geographic range: Rocky Mountain group similar to CA Consortium or wider range?
        i. Travel is a restriction for face-to-face meetings
        ii. The smaller the geographic area, the greater the participation
        iii. If multiple working groups, determine communication strategies (add value without duplicating efforts)

2. Goals: Using the CA Consortium as a guide, we modified their goals as follows:
    a. Share information among research scientists, agency biologists and NGO's working on pikas and other high elevation species
    b. Foster collaborations to inform future research, monitoring and conservation work on pikas using the best available science
        i. Policy impact was removed due to weariness of advocacy as a goal which could limit government organization participation
    c. Citizen science and public education

3. Objectives:
    a. Develop data management protocols, including protocol for citizen science and common depository for data
    b. Develop website to house information
    c. Protocol manual with standardization of protocols; 'cookbook'
        i. Need for protocol to collect samples (hair, scat) as there is still a lot of work to be done on genetic diversity (1-2 samples per population would be sufficient)
        ii. Collection of different protocols with pros and cons to foster comparability
    d. Management guidelines: recommended 'best practices'
    e. Critical review resource
    f. Map: provide a dynamic map of current research areas in order to identify 'holes'
    g. Public education and outreach

4. Products:
    a. List of needs from each working group
        i. Detailed goals and objectives
        ii. Educational materials (include talking points)
    b. Website
    c. Monthly conference calls
    d. List serve: TSS will establish, but look for help with long-term management
        i. Post sample website for review

ii. Post working group meeting notes
iii. Invite non-attendees to join working groups
iv. Funding opportunities: encourage members to share, potential collaboration for proposal development / science plan (NASA, NOAA, NSF, etc.)
v. Propose name: "North American Pika Consortium" and gather feedback

e. Collaboration with CA Consortium: Sue will communicate notes
f. Sub-committees: attendees chose committees and others will be emailed to join a committee (see working group sub-committee spreadsheet on next page)
g. 2nd Annual North American Pika Conference?
    i. Steering committee will investigate possibilities of collaborating with other groups, such as an informal gathering at the next The Wildlife Society conference
h. Conference follow-up
    i. Conference notes
    ii. Presentation slides
    iii. Member contact information
    iv. Pika information sheet for general public

5. Sub-committees: Lead (in bold) will email other members in next several weeks on how to move forward. Names highlighted in yellow indicate a need for participation confirmation and further contact information.
    a. HEALTH AND PHYSIOLOGY: **Janet Foley**, Jennifer Wilkening, Katryna Fleer, Lucas Moyer-Horner
        i. Handling
        ii. Animal care
    b. IT: **Mackenzie Shardlow**, Lisa Garrett, Greg N.
        i. Website development and management
            1. Space for researchers to share components of research projects and advertise needs
            2. Investigate possibility of a college / graduate class that can provide ongoing support (develop and manage site)
            3. Post link to pika song
        ii. Database management
    c. RESEARCH / REVIEW: **Erik Beever**, Chris Ray, Anna Chalfoun
    d. EDUCATION, OUTREACH AND CITIZEN SCIENCE: **Embere Hall**, **Megan Mueller,** Liesl Peterson-Erb, Lucas Moyer-Horner
        i. How do we teach about climate change? (see Understanding Evolution website: http://evolution.berkeley.edu/ as an example)
        ii. How we apply research to management?
        iii. So what? How do we engage the public? Tie to how it will affect people / individuals.
        iv. Share curriculum lesson plans and resources to teach about pikas and climate change
        v. Citizen Science Website examples: citsci.org, www.niiss.org (framework), www.pikanet.org. Who will manage? Establish a range of access permissions for different users?
    e. GENETICS: **Liesl Peterson-Erb**, Phillipe Henry, Clint, Mary Peacock
    f. FIELD METHODS: **Janet Foley**, Megan Mueller, Sue Wolff, UT, Mackenzie Shardlow, Lucas Moyer-Horner
    g. STEERING COMMITTEE AND COMMUNICATION: **Sue Wolff**, Mackenzie Shardlow, Lara Oles, (Chris Ray, Erik Beever)
        i. Develop goals and objectives for working group
        ii. Inspire/encourage other sub-committees to move forward
    h. CLIMATE: **Andrea Ray**, Erik Beever, Embere Hall, Leah Yandow
    i. DISTRIBUTION AND HABITAT: **Liesl P-Erb**, Bradley Bauman, Brian Maxfield, Megan Mueller, Sue Wolff, Raychel Parks, Lucas M-Horner, Leah Yandow
        i. Mapping research efforts

1st North American Pika Conference

This spreadsheet is a result of the working group discussion - please notify us if any information needs to be updated. Those names highlighted in yellow were written-in by a conference attendee and need participation confirmation.

Name	Affiliation	Email address	Topic of Interest	Geographic Focus Area	Working Group Membership
Asmus-Hersehy, Kim	Utah Division of Wildlife Resources			Utah	
Bauman, Brad	Nevada Department of Wildlife	bbaumman@ndow.org	Inventories and distribution, long-term monitoring	Nevada	Distribution & Habitat
Beever, Erik		ebeever10@gmail.com			Research & Review; Climate; Steering Committee & Comm.
Calkins, Michael	New Mexico State University	conservation84@gmail.com	Biogeography, climate and future modeling, GIS/spatial data	Entire Range	
Chalfoun, Anna	University of Wyoming	achalfou@uwyo.edu			Climate; Research & Review
Christophersen, Roger	North Cascades National Park	roger_christophersen@nps.gov	Long-term monitoring	North	
Clint					Genetics
Craighead, April	Craighead Environmental Research Institute	april@craigheadresearch.org	Climate, habitat modeling	Greater Yellowstone Ecosystem (GYE)	
Erb, Liesl Peterson	University of Colorado - Boulder	liesl.peterson@colorado.edu	Distribution/habitat, education, genetics	Southern Rockies (S. WY, CO, NM)	Distribution & Habitat; Genetics; EOCS
Ernest, Kristina	Central Washington University	ernestk@cwu.edu		Central Cascades	
Fleer, Katryna	University of California - Davis	kafleer@ucdavis.edu	Health and disease/pathology, development of trapping and sampling methods	Sierra Nevadas	Health & Physiology
Foley, Janet	University of California - Davis	jefoley@ucdavis.edu	Health (both individual and population)	Sp. California but interested in entire range	Health & Physiology; Field Methods
Foley, Patrick	California State University - Sacramento		Population dynamics	Entire Range	
Garrett, Lisa	National Park Service	lisa_garrett@nps.gov	Long-term monitoring protocol development	Pacific Northwest	IT
Hall, Embere	Conservation Research Center	embere.hall@tetonscience.org	Survey protocols, climate, habitat modeling	GYE; Mongolia	EOCS; Climate
Henry, Philippe	University of British Columbia	phenry@interchange.ubc.ca			Genetics
Massing, Cody	California Polytechnic University	codymassing@yahoo.com	Distribution, behavior, monitoring protocol, habitat, range	Northern CA (Lassen Region of the Sierras)	
Maxfield, Brian	Utah Division of Wildlife Resources	brianmaxfield@utah.gov	Field methods, inventory, spatial data	Utah	Distribution & Habitat
Moyer-Horner, Lucas	University of Wisconsin-Madison	lrmoyerh@wisc.edu	Monitoring, modeling, physiology, inventories	Northern Rockies	Distribution & Habitat; Field methods; EOCS; Health & Physiology
Mueller, Megan	Center for Native Ecosystems	megan@nativeecosystems.org	Survey protocols, long-term monitoring, conservation strategies, citizen science	Southern Rockies	Distribution & Habitat; Field Methods; EOCS
Munts, Mike	National Park Service	michael_munts@nps.gov	Monitoring, education	Central Idaho	
N, Greg					IT
Oles, Lara	US Forest Service - Kemmerer RD	lroles@fs.fed.us		GYE	Steering Committee & Comm.
Parks, Raychel	Central Washington University	parksr@cwu.edu	Conservation strategies, inventories of unstudied areas, population dynamics, habitat	Central Cascades	Distribution & Habitat

Name	Affiliation	Email address	Topic of Interest	Geographic Focus Area	Working Group Membership
Peacock, Mary					Genetics
Ray, Andrea	NOAA, US Dept Of Commerce	andrea.ray@noaa.gov	Climate and ecosystems including pika habitat	Western US	Climate
Ray, Chris	University of Colorado - Boulder	cray@colorado.edu			Steering Committee & Comm.; Research & Review
Richardson, Rachel	Beartooth Wildlife Research, LLC	losbuows@gmail.com	Long-term monitoring	North Cascades	
Shardlow, Mackenzie	National Park Service/University of Idaho	shardlow@uidaho.edu	Survey protocols, long-term monitoring	Crater Lake NP, Craters of the Moon NMP, Lava Beds NM, Lassen Volcanic NP	Steering Committee & Comm.; IT; Field Methods
Watters, Rebecca	Northern Rockies Conservation Coop.	rebecca@nrccooperative.org	Biogeography, conservation, interest in gaining better understanding of climate	Mongolia	
Wilkening, Jennifer	University of Colorado - Boulder	jennifer.wilkening@colorado.edu	Physiology	Great Basin, Rockies	Health & Physiology
Wolff, Sue	Grand Teton National Park	susan_wolff@nps.gov			Distribution & Habitat; Steering Committee & Comm.; Field Methods
Yandow, Leah	University of Wyoming	lyandow@uwyo.edu	Climate, protocols	WY (Wind River Range)	Climate; Distribution & Habitat
Zgurski, Jessie	University of Alberta	jzgurski@ualberta.ca	Biogeography and genetics, population dynamics	Yukon	Genetics

*** EOCS = Education, outreach and citizen science*

1st North American Pika Conference
Evaluation Summary

March 25-27, 2010 ● Teton Science Schools ● Jackson, Wyoming

Ranking Values: **1= Poor 2= Fair 3= Good 4= Very Good 5= Excellent.**

Summary based on the 13 evaluations we received.

ORGANIZATION AND COORDINATION

Average Ranking (4)

- Good conference organization
- Good overall length of conference
- Crammed in on Friday, a little long and overwhelming for one day
- Create more break time for networking
- Poster session too short, discussions got cut off by raffle
- Poster session not at good time of day, too tired to look at posters
- Have posters up all day in more central location and designate specific feedback time
- Have a one-time introduction of attendees and respective affiliations
- Field trip to pika sites

TOPICS AND SPEAKERS

Average Ranking (3.5)

- Good job sticking to the schedule
- Less technical content for citizen science night keynote presentation
- Keynote presentations cut into poster session time – a long time to sit for one day
- Need more posters for future meetings
- Working group dragged on at times
- Allow presenters to see computer screen

PERSONAL VALUE

Average Ranking (4)

- Good networking opportunities, though there could have been more time for this
- The conference was good stimulus to continue learning and researching

FACILITIES AND MEALS

Average Ranking (3.5)

- Good food, staff, facilities and general hospitality
- Unclear on final day of conference; registration included Saturday night stay but no food, events
- If food isn't provided on the first and last night, give attendees an option to opt out of that night's lodging
- Provide more meal options for diet-specific individuals

What portion(s) of the conference were most valuable?

- Learning about current research on all levels (graduate, undergraduate, citizen science, etc.)
- Personal contact with researchers
- Liked being able to read abstracts prior to the presentations
- Enjoyed the individual presentations; was able to learn about the variety of current research and put a face to a name
- Keynote evening quite enjoyable
- Having a diverse group of presenters (ie. NOAA, FWS, genetics, pathogens, etc.)

Please list any suggestions for improvement:

- Spread out presentations more to allow for discussion
- Create more time for socializing/networking
- Create more space and time for poster session
- Have a wireless microphone for speakers who move around a lot or those who speak quietly
- Coordinate a summer or fall conference with field time to observe field methods (ie. hair snares, iButtons)
- Clarify prior to conference that registration costs do not include meals Sat night/Sun morning

What post-conference materials would you find valuable? What format would you find most effective in accessing information?

- Website would be great to coordinate research results, basic information and future needs
- Have a blog space on the website for forum discussions
- Listserve
- Have PowerPoints available on the web
- Contact info for attendees in simple format
- Notes from working group session
- Receive updates from working groups
- Notification when related papers are published

Other comments:

- Provide (indoor) compost
- It was nice to have beer/wine available
- Great group of talented minds, personalities and passion for research
- A “dreamy event”