

## Pika Inventory in the UCBN

### Network parks where resource is being inventoried

- Craters of the Moon National Monument and Preserve (CRMO)

### Importance: Species vulnerable to climate change

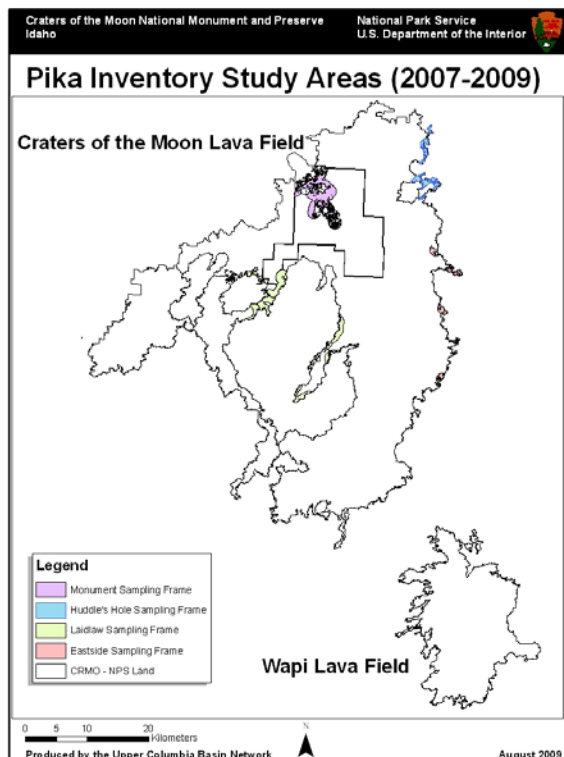
Localized extirpations of the American pika (*Ochotona princeps*) have recently been documented in isolated mountain ranges of the Great Basin. The hypothesized mechanism for these extirpations is increased warming resulting from accelerated climate change. Given the current predictions of climate change over the next century, the risk of extinction is now considerable, and the species is currently under review for listing under the Endangered Species Act. The lava flow environments found at CRMO provide a unique and potentially critical habitat type for pikas. The cool microclimates in the deep cracks and crevices of the lava flows allow pikas to survive despite extreme summer surface temperatures. These flows are extensive, which may permit a larger and more genetically diverse population to persist than those in highly fragmented montane environments. Consequently, CRMO could be a regionally significant refugia for pikas if warming over the next century occurs as predicted and the need for establishing a baseline against which future population change can be detected is clear.



Pika (*Ochotona princeps*)  
Photo: John Apel, CRMO

### Inventory of a focal species

The UCBN has completed a 3-year inventory of pika at CRMO. In September 2007, presence/absence surveys were conducted in the northern portion of the Monument and the southern portion of the Preserve (Wapi lava flow). In June 2008, the Monument was re-surveyed, and in September 2008, new Preserve areas of intermediate elevation south (Laidlaw Park) and east (Huddle's Hole) of the Monument were surveyed. The last of the inventory work was completed in July 2009 with surveys in the eastside frame of the Preserve (see below). Methods involved searching a random sample of 12-m radius circular plots for 20 minutes for direct and indirect sign of pika presence.



### Results and a future monitoring protocol

Pikas were detected in 45 of 144 sites surveyed during 2007-2009 (31%). Targeted searching in the southern Wapi flow portion of the Preserve failed to find any evidence of pika in 2007, and searching along the lava flow edge near Lava Lake also failed to detect pika sign. Only old feces were found in 2 sites of the Laidlaw sampling frame and no sign was found in the low-elevation pahoehoe flows of the eastside sampling frame during the final survey. Approximately 89% of pika detections were made in sites classified as pahoehoe lava, most (56%) of which were classified as highly complex.

The emerging picture is one in which pika are restricted to the specific lava flows in the northern tier of the park (Monument and Huddle's Hole areas), and habitat models suggest pika are more likely to use structurally complex pahoehoe lava flows with relatively moderate forb cover rather than unvegetated Aa lava flows. This limited distribution has considerable implications for population viability and pika may face higher extinction risk in CRMO than was initially hypothesized. The UCBN has now begun development of a long-term pika monitoring protocol with 3 other Pacific West Region parks, which is scheduled for review in December 2009.

### Contact Information

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