THE DENVER POST

January 14, 2008

Mountain critters' disappearance may be a global warning

By Steve Lipsher

The "canary in the coal mine" on global warming when it comes to the mountains may very well be a hamster-like rodent that squeaks from among the talus above tree line.

Pushed by warmer weather to ever-higher elevations, the tiny pika is losing real estate at an alarming rate, according to scientists, and is disappearing rapidly from much of its historic territory in the West.

"They've been driven upslope a half mile since the end of the last ice age," said Donald Grayson, an archaeologist and paleontologist with the University of Washington who has documented the presence of pika over the past 40,000 years.

Just what is a pika?

Characteristics: Rodent between 6 and 8 inches long, about 6 ounces; round body with peppery brown fur, round ears and no visible tail

Habitat: Rocky mountain areas in North America and Asia, between 8,000 and 13,000 feet

Diet: Grasses, sedges, thistles and fireweed

Sources: Nature Works; Encyclopedia Britannica

"Pikas in general are now found at such high elevations that there's not a lot of places left for them," Grayson said.

The plight of the pika has grown so dire, conservationists are seeking endangered- species protection for the critters and demanding that federal officials target global warming as a threat to their existence.

"We're seeing the effects of global warming right here in our backyard, and we'd better take immediate action if we're going to avoid species extinction," said Shaye Wolf, a Center for Biological Diversity biologist.

The center is suing the U.S. Fish and Wildlife Service to list the pika — along with the polar bear and the ribbon seal — as imperiled by global warming, marking a new legal approach to the Endangered Species Act.

In the past, the 30-year-old law had been used to protect specific territories of endangered species or to eliminate human threats such as pollutants but never to attack an overarching issue like global warming.

"Fortunately, Congress drafted the language of the act very broadly, so I believe it's very clear that the act applies to all threats, which includes global warming," said Cassie Siegel, an attorney for the conservation group.

A mountain-dwelling American pika. (US GEOLOGICAL SURVEY |)

Eric Rickart, a curator at the Utah Museum of Natural History who has studied pikas, didn't think much could be done to save isolated groups of pikas in the West.

"I don't think the pika is going to go extinct, but these local populations certainly are blinking out. That implies that conditions are getting worse than these animals have ever seen," he said.

Living among the sheltered and cool crevices of the rocky alpine terrain, pikas harvest piles of grasses during the short summers and take refuge beneath the winter snow.

Experiments in the 1970s showed that rabbits, a close relative to pikas, are extremely susceptible to warm temperatures, perishing in just a few hours if exposed to 80 degrees.

Climate change is blamed for raising average global temperatures by about 1.5 degrees Fahrenheit in the past century and is attributed primarily to human generation of carbon dioxide — a greenhouse gas — from burning fossil fuels in automobiles, power plants and factories.

"If we're looking at a 1- or 2-degree Celsius rise in the next century, I doubt pikas can survive that," Grayson said.

He has found pika bones cemented in the detritus of ancient pack-rat middens and among archaeological sites, indicating they once ranged far more widely and at much lower elevations during cooler periods.

Erik Beever, an ecologist with the U.S. Geological Survey, found that pikas had vanished from at least seven of 25 historic territories in the Great Basin of Nevada and Utah in the past century.

"The unsettling part is that the rate at which those increases have occurred . . . is about four times faster now than in the 20th century," Beever said. "In most places, their physical habitat hasn't changed one bit in the last 50 years. The single strongest factor seems to be climate change."

Scientists say diminished snowfall associated with global warming also could contribute to pika mortality, leaving them with less insulation against cold winter temperatures.

Pikas in the higher mountain ranges such as the Rockies and California's Sierra Nevada seem less drastically affected because of the lower temperatures and heavy snowfall, although they too look to be moving upward.

"I'm hesitant to suggest that pikas will illuminate for biologists or society as a whole how other species will respond," Beever said. "But it seems pretty clear to me that they are one of the early-warning indicators."