American pika (Photo from http://planetsave.com/blog/2009/02/27/government-will-consider-listing-american-pika-as-endangered/)

Cross-posted at CPRBlog.

The US Fish and Wildlife Service has completed its review of the status of the cute little American pika. The verdict is good news for the pika, at least as far as it goes and if FWS is right about the science. FWS has decided that the pika is not endangered or threatened because, according to FWS biologists, the pika is not as vulnerable to the impacts of climate change as has been believed. Unfortunately, the explanation FWS offers is not very persuasive.

Global warming threatens the pika in two different ways. Pikas are prone to overheating; they can die if exposed to temperatures as mild as 77°F (25°C) for several hours. Hiding under and between the rocks in a talus field helps them keep cool, but if air temperatures get too hot, even those refuges won't be cool enough in the summer. Ironically, global warming could also cause pika to freeze in the winter. The snowpack provides insulation for their talus homes. If that snowpack is lost, as it will be if winter precipitation comes mostly as rain in the future, pikas could die of exposure. Pikas cannot respond simply by moving to colder locations because they are poor dispersers, they have highly specialized habitat requirements, and they already typically live near the tops of mountains. As a result, the pika are often described as one of the most likely species to be adversely affected by global warming. As J.B. Ruhl put it in a recent law review article, "The pika is toast." Many others, including prominent pika biologists, agree.

So how come the pika is not, according to FWS, threatened or endangered? A combination of optimism and a short time horizon account for that.

FWS agreed that climate change has already extirpated some populations in the Interior Great Basin (indeed, the Federal Register notice says that the "most recent information indicates that 9 out of 25 (36 percent) historically occupied pika sites within the Great Basin have been extirpated), and that some reports have documented upslope range shifts in the eastern Great Basin and Sierra Nevada.

But the agency discounted studies suggesting that the pika's habitat in the Great Basin will nearly disappear by the end of this century, because it decided that it did not need to look that far into the future. The Endangered Species Act defines an "endangered" species as

one currently “in danger of extinction throughout all or a significant portion of its range,” and a “threatened” species as one not currently endangered but “likely to become” so “within the foreseeable future.” FWS decided that it could not see beyond 2050, because climate model projections are less reliable beyond that point. It chose simply to ignore projections beyond that date, rather than considering a range of possibilities or trying to evaluate the most likely possibilities.

In addition, FWS adopted some rosy assumptions about the ability of pika populations to adapt to higher temperatures. Apparently basedon the fact that pika populations persist in a couple of hot locations, at Lava Beds National Monument in California and Craters of the Moon National Monument in Idaho, FWS concludes that:

> American pika can tolerate a wider range of temperatures and precipitation than previously thought. The American pika has demonstrated flexibility in its behavior and physiology that can allow it to adapt to increasing temperature.

Although it acknowledged that these seemed to be unusual areas where deep talus or caves provided unusually cool refuge sites, it looks like FWS then proceeded to extrapolate the ability of those populations to persist across the southern range of the species.

I hope FWS is right about the pika, but I wouldn’t count on it.

Stay tuned for the litigation that will surely follow. For more on the pika, see the FWS press release and Federal Register notice; Washington Post story about the decision; reactions from Earthjustice and Center for Biological Diversity; and an open-access news article from the journal *BioScience*.