

## **Questions and Answers Regarding the Status Review Finding For the American Pika**

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### **What is the status review finding regarding the American pika?**

The U.S. Fish and Wildlife Service has completed a status review of the American pika and has determined it does not warrant protection as a threatened or endangered species under the Endangered Species Act (ESA). The Service bases its conclusion for this finding after a thorough review of all the available scientific and commercial information regarding the status of the American pika and the potential threats to the species.

### **What is a status review?**

A status review, also known as a 12-month finding, makes public the Service's decision on a petition to list a species as threatened or endangered under the ESA. The finding is based on a thorough assessment of the available information on the species, as detailed in the species' status review. One of three possible conclusions can be reached as part of the finding: that listing is warranted, not warranted, or warranted but presently precluded by other higher-priority listing activities involving other species. In the case of the American pika, the Service found that the American pika is not likely to become a threatened or endangered species within the foreseeable future in all or a significant portion of its range. Therefore, listing of the American pika as a threatened or endangered species under the ESA is not warranted at this time.

### **What specifically does the Service look at to determine if a species needs to be listed as threatened or endangered?**

We consider the factors specified in the ESA to determine whether a species meets the definition of "threatened" or "endangered" per the criteria stated in the Act. In order to be considered a threat, a substantial demonstrable effect should be shown to play a significant role in the population dynamics of the species such that it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of the range. None of the five listing factors (present or threatened destruction, modification or curtailment of a species habitat or range; overutilization for commercial, recreational, scientific or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting a species' continued existence) meet this standard, thus the Service does not believe the American pika is a candidate for listing.

### **What is the American pika and where is it found?**

The American pika is a small montane mammal that inhabits talus fields fringed by suitable vegetation in alpine and subalpine mountain areas extending south from central British Columbia and Alberta into the Rocky Mountains of New Mexico and the Sierra Nevada Mountains of California.

A key characteristic of the American pika is its temperature sensitivity. Pikas cannot tolerate much higher body temperatures than their norm of 104 degrees Fahrenheit. Therefore, species is found at progressively higher elevations, where cooler temperatures are found, as one moves south through the range of the species. In Canada, populations occur from sea level to 9,842 feet, but in New Mexico, Nevada, and southern California, populations rarely exist below 8,202 feet.

The historical range of the species includes California, Nevada, Oregon, Washington, Idaho, Montana, Wyoming, Colorado, Utah, and New Mexico.

Based on the most recent information, the five subspecies of American pika are classified as: (*Ochotona princeps princeps*) - the Northern Rockies; (*O.p. saxatilis*) - the Southern Rockies; (*O.p. fenisex*) - the Coastal Mountains and Cascade Range; (*O.p. schisticeps*) - the Sierra Nevada and Great Basin; and (*O.p. uinta*) - the Uinta Mountains and Wasatch Range of Central Utah.

**What factors that can potentially affect American pika populations did the Service examine?**

The Service analyzed potential factors that may affect the habitat or range of the American pika including climate change, livestock grazing, invasive plant species, fire suppression, disease and predation, off-road vehicles use, and the adequacy of regulatory mechanisms.

Climate change was identified as the only potential threat to the species.

**Climate Change:**

The Intergovernmental Panel on Climate Change (IPCC) concludes that human-caused global climate change is occurring and has published research that represents the best available science on the subject. Because most of the IPCC climate change models apply to large, general scales, the Service worked with the National Oceanic and Atmospheric Administration (NOAA) to model historic and future temperatures at a more local scale within the range of the American pika. The models indicate summer temperatures were likely to increase an average of 5.4 degrees Fahrenheit in pika habitat.

NOAA reviewed historical climate observations and climate projections of surface temperatures for 20-year periods centered on 2025, 2050, and 2100 in alpine and subalpine mountain areas that are habitat for the American pika. Because increases in greenhouse gas emissions can be interpreted with greater confidence until approximately mid-century, model projections for the next 30 to 50 years centered on 2050 have greater credibility than results projected further into the future.

The Service used the NOAA report to determine risk assessments due to increased temperature in the foreseeable future to American pika populations throughout its range in the western United States.

Several climate change variables can affect pika populations including extremely hot or cold days, average summer temperatures, and duration of snow cover. In general, pika biologists agree that temperatures below the habitat surface, such as in talus crevices, better approximate the conditions experienced by individual pikas because pikas rely on subsurface habitat to escape hotter summer daytime temperatures and obtain insulation during the colder winter months. Therefore, surface temperatures may not be as useful as subsurface temperatures for predicting the affects of climate change on pika populations.

Current information indicates that the Northern Rockies, Southern Rockies, Coastal Mountain/Cascade, and Uinta Mountains populations will not be adversely affected by climate change because the majority of pika populations occur at high elevations with correspondingly lower mean temperatures. Pikas should be able to survive temperature changes at these high elevations.

The Great Basin population could be affected by climate change along with some lower elevation American pika populations outside of the Great Basin. These populations could be affected because they represent lower elevation sites that will have correspondingly higher mean temperatures by mid-century. Therefore, we expect to continue to see pikas disappear from some low-elevation habitats. However, these losses will not be on the scale that would cause any species, subspecies or distinct population segments of pika to become endangered in the foreseeable future.

Despite the trends of increasing American pika declines in the Great Basin due to increasing temperatures, there is ample evidence that the species can survive and thrive in some habitats with relatively hot surface temperatures. American pika populations thrive at a lower elevation site in the mountains near Bodie, California and in the hot climates of Craters of the Moon (Idaho) and Lava Beds National Monuments (California). Pika persist at these sites because they reduce activity during hot mid-day temperatures by retreating to significantly cooler conditions under the talus surface and perform daily activities during the cooler morning and evening periods. Despite altering their behavior in response to high temperatures, pikas can maintain high birth and low mortality rates.

The American pika has demonstrated flexibility in its behavior and physiology that can allow it to adapt to increasing temperatures and is believed to be able to survive in a wider range of temperatures and precipitation than previously understood.

### **Grazing:**

The Service found that grazing can impact populations on a local level, but found no information that grazing significantly affects the local or rangewide status of pika.

### **Nonnative Plants:**

Nonnative plant invasions vary according to climate, elevation, soils, and topography, as well as human-caused disturbance. Alpine and subalpine plant communities including wilderness areas and national parks within the northwest mountain regions of the United States are still relatively unaffected by invasive plants. This is due in part to the remoteness of these areas and limited human access to these areas. Invasions of nonnative plants could change the composition of meadows used for foraging by the American pika. However, studies document that alpine and subalpine ecosystems are relatively intact and free from invasive species. Based on the available information, the Service concludes that nonnative plant species are not likely a threat to American pika sites in alpine and subalpine communities.

### **Fire Suppression:**

Human suppression of wildfires could allow for the establishment of trees in subalpine meadows; however, in general, most wildfire suppression efforts focus on protection of urban areas. The American pika typically occurs in remote areas far from urban settings where human access for suppression is sometimes difficult due to the remoteness of the area and steep terrain.

### **Disease/Predation:**

The Service has no evidence that disease or predation are threats to the pika.

### **Regulatory Mechanisms:**

There are no known regulatory mechanisms currently in place that effectively address climate-induced threats to pika at this time. However, the Service's analysis of threats to the pika does not indicate that the threat of increased summer surface temperatures is at the level that currently threatens any pika subspecies.

Existing regulations at the national, state, local and international level are adequate to address threats to pikas from human activities.

### **Off-Road Vehicle Use and Roads or Trails:**

Since pika populations may be sensitive to disturbance from roads and the activities that occur on them, the Service analyzed whether these impacts could adversely affect the species. Any disturbance from roads may have an impact on the landscape and pika populations. However, nearness to roads does not play a substantial role in pika persistence when compared to other factors such as climate variables. Road construction can create habitat for pika due to placement of rubble as road grades and riprap for waterways. Pikas were found to inhabit mine tailings and a rock wall in the Sierra Nevada and Great Basin Mountains. Based on this information, the Service has determined that roads and their related human disturbance do not constitute a threat to the continued existence of the pika.

Based on the current available information, the Service finds that the magnitude and imminence of threats do not indicate the American pika is in danger of extinction or likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

**Did the Service consider listing the American pika by distinct population segments?**

After making the determination that the American pika is not threatened or endangered throughout its range, the Service next considered whether a distinct population segment (DPS) met the definition of endangered or is likely to become endangered in the foreseeable future.

Under the DPS policy, the following three elements are considered concerning the classification of a possible DPS: (1) the discreteness of a population in relation to the remainder of the species to which it belongs; (2) the significance of the population segment to the taxon to which it belongs; and (3) the population segment's conservation status.

The Service determined that portions of the Coastal Mountains/Cascade Range, Northern Rockies, Southern Rockies, and Great Basin populations are likely to experience increased declines in the foreseeable future due to increased summer temperatures and analyzed whether these portions met the definition of DPS. Under the threat of climate change, the population segments met the discreteness criteria because they are markedly separate from other populations; however, the Service found that none were significant in relation to the remainder of the taxon and therefore not listable entities.

**The Fish and Wildlife Service has publicly described the pika as an example of a species likely to be uniquely affected by climate change. Why are you now stating that it is not?**

At the time the Service initiated a status review of the pika, the available scientific evidence suggested that rising global temperatures have historically resulted in the extirpation of pika populations at lower elevations. Given the historical evidence, the general scientific consensus was that the pika was vulnerable to continued rising temperatures that would further push populations back into dwindling high-elevation habitat, potentially threatening the species with extinction. However, new peer-reviewed information and rigorous scientific research demonstrates that the pika is able to survive despite higher temperatures and will have enough suitable high elevation habitat to ensure that it will not face extinction in the foreseeable future. For that reason, the Service has determined that the species does not warrant protection under the Endangered Species Act.