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Re. Forest Plan Revision: Wild Mammal Species of Concern

The Gallatin Wildlife Association (GWA) is a non-profit volunteer wildlife conservation organization representing hunters, anglers and other wildlife advocates in Southwest Montana and elsewhere. Our mission is to protect habitat and conserve fish and wildlife. GWA supports sustainable management of fish and wildlife populations through fair chase public hunting and fishing opportunities that will ensure these traditions are passed on for future generations to enjoy. We support the Montana constitution which states: "the opportunity to harvest wild game is a heritage that shall forever be preserved" and that "the legislature shall provide adequate remedies to prevent unreasonable depletion of natural resources."

It is our understanding that the next Custer-Gallatin Forest plan will include a list of wildlife species of concern on the Forest. We note that Region 1 of the Forest Service states as a management objective: "to restore and maintain habitat for the full suite of native fauna at the landscape or other appropriate level." We consider the Custer-Gallatin Forest as such an "appropriate level". A Forest plan designation of species of concern will influence Forest projects toward this objective, likely for a few decades or longer.

Given the rates of human population growth and development of the local landscapes, demands upon the CG Forest habitats are certain to increase, causing increasing jeopardy to imperiled species in the future. It is therefore imperative to list all insecure species in the Forest plan now.

Here, we discuss species of wild mammals for listing as "of concern" in the Forest plan. Our members are most familiar with mammal species. However, we request Forest biologists to give equal attention to species of plants, fish and birds as the list of species of concern is developed. We believe the Forest Service should recognize those species identified by the Montana Natural Heritage Program as being "at high risk" (S1), "at risk" (S2) and "potentially at risk" (S3). While it may be tempting to not list some species, especially S3 species, in the Forest plan, it would be dishonorable to suggest that the Forest is not concerned for their future.

The following species of wild mammals, native to the Custer-Gallatin Forest, are listed as "of concern" by the Montana Natural Heritage Program. The 2015 Montana Fish, Wildlife & Parks State Wildlife Action Plan "adopts" all these species (although it emphasizes only S1 and S2 species, due to limited resources). Species with an asterisk (*) are listed by the Forest Service as Region 1 Sensitive species (2011).

Bison S2
White-tailed prairie dog * S1
Black-tailed prairie dog * S3
Wolverine * S3
Lynx S3
Fisher * S3
Black-footed ferret S1
Grizzly bear S2S3
Swift fox S3

While the Yellowstone-area grizzly bear has recently been delisted from threatened status by the Fish and Wildlife Service, it is clear that the long-term genetic health of this isolated population will depend upon interchange of animals with bear populations to the north. The Gallatin Forest provides part of a key movement corridor for this hoped-for, but uncertain, interchange.

In addition, we recommend the following species, for reasons provided below. These species are listed a S4, apparently secure, yet possibly quite rare in parts of their ranges and/or suspected of declining.

Bighorn * S4
Pika S4 (See attachment, not highlighted sentence.)

Bighorn sheep are absent from most of their native range on the CGNF. They persist in dispersed, mostly small populations. All populations are genetically inadequate for the long term. Exchanges of animals and genes among these herds is largely unknown, if they occur. These herds are threatened by diseases, especially pneumonia, almost certainly exacerbated by some degree of inbreeding.

Population trends for pika do not appear to be well documented on CGNF, but their range is quite limited and threatened by ongoing climate change.

Gallatin Wildlife Association requests that the above 11 wild mammal species be listed as "of concern" in the new Custer-Gallatin Forest plan; and that additional species of plants, fish and birds be reviewed for inclusion in this list.

Thank you for this opportunity to comment on development of the CGNF plan.

Sincerely,

for: Glenn Hockett, Volunteer President, Gallatin Wildlife Association

James A Bailey, GWA Board

Future for charismatic pika not as daunting as once feared

Date:
January 29, 2016
Source:
Oregon State University
Summary:
The American pika is thought by many biologists to be a prime candidate for extirpation as the planet continues to warm. But a new study paints a different, more complex future for this rock-dwelling little lagomorph. Pikas may survive, even thrive, in some areas, the researchers say, while facing extirpation in others. The research is important because pikas are considered a sentinel species for climate change impacts.

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The American pika is thought by many biologists to be a prime candidate for extirpation as the planet continues to warm, done in by temperatures too severe for this small mammal native to cold climates.

But a new study, published this week in the journal *Global Change Biology*, paints a different, more complex future for this rock-dwelling little lagomorph -- the same order that includes rabbits and hares. Pikas may survive, even thrive, in some areas, the researchers say, while facing extirpation in others.

The research is important because pikas are considered a sentinel species for climate change impacts.

Led by Oregon State University post-doctoral researcher Donelle Schwalm, the study delved into where pikas live and how they move among habitat patches. The team used that information to create species distribution models for eight National Park Service areas in the western United States and forecast pika distribution 30, 60 and 90 years into the future, based on expected climate change scenarios.

The Pikas in Peril research project, funded by the National Park Service, was launched in 2010 to determine how vulnerable the animals are to climate change in eight NPS units.

"If you look at the overall picture, the amount of suitable habitat will decline and temperatures will warm in most of these National Parks," Schwalm said. "But many of these sites have areas that are colder, higher and sometimes wetter than other areas, and pikas should do quite well there.

"In some parks, risk of extinction will increase," she added. "But in other parks, like Grand Teton and Lassen, their populations should remain stable."

Pikas seek out icy pockets in rock fields or lava flows and live near other pikas in small patches of these cool habitats. One key to their survival appears to be maintaining connectivity among different pika patches, which keeps a satisfactory level of genetic diversity among the broader population and allows for the inevitable downturns in survival due to weather, predation, disease and other factors, noted Clinton Epps, an associate professor in the Department of Fisheries and Wildlife, and co-author on the study.

"If you just have three or four pikas in a given area, that's a pretty small group and at the patch level, they can wink out pretty quickly," said Epps, who studies habitat connectivity for many animal species. "But if you can maintain good connectivity, pikas can disperse from other patches and the overall system remains strong as long as habitat remains generally suitable."

The study found that connectivity influenced where pikas persist in most of the eight parks, and thus must be incorporated in forecasts of future pika populations, the researchers noted.

The ideal habitat for pikas is a high-elevation, cold boulder field with north- and east-facing slopes that is adjacent to similar boulder fields. The herbivorous pikas also need access to high-quality forage, including forbs, grasses, sedges, twigs, moss and lichen, said Thomas Rodhouse, a biologist with the National Park Service.

"The study is important because it suggests that some parks may be more appropriate areas to focus our resources than others," Rodhouse said. "If we look at it on a system-wide basis, the pika should survive. But we can't say that they will be thriving, or even present, at all eight parks down the road."

"We potentially could move pikas from vulnerable areas to locations with suitable habitat," Rodhouse added. "Or we could discuss enhancing habitat and creating more connectivity, though you have to examine whether that is something we should be doing in a National Park. But this study allows us to begin having these strategic discussions."

Study results for the eight National Park Service units suggest that:

- Crater Lake National Park's pikas already occupy the highest-elevation habitat, thus there is no refuge to which pikas may escape. Warming temperatures, particularly in winter, may reduce the insulating snow layer and decrease patch occupancy by 50 to 100 percent;
- Craters of the Moon National Monument is hotter and drier than the other parks and the best habitat is occupied. Although temperature and precipitation may change in this park, it appears that the pika will persist, although at lower numbers;
- Grand Teton National Park has exceptional connectivity among habitat patches, which likely will persist over time. Cool temperatures and increasing precipitation at high elevations make this park an important refuge for the species;
- Great Sand Dunes is a cool, dry park and pika populations may experience slight declines initially, but they also could increase over time as precipitation is projected to increase in the future;
- Lassen Volcanic National Park has pikas well-distributed through the talus boulder fields and lava flows. Strong connectivity suggests pikas will persist under most climate change scenarios;
- Lava Beds National Monument is unusually hot, dry and low in elevation, though the extensive lava flow is good habitat. Climate change modeling in this park was inconclusive, but low genetic diversity and warming suggests that this population is vulnerable;
- Rocky Mountain National Park's low elevations and south-facing slopes are impediments to gene flow. Rising temperatures, especially during the winter, and changing connectivity result in increasing likelihood of pika extirpation by the end of the century;
- **Yellowstone National Park also is predicted to see complete extirpation of pikas under most climate change scenarios because of warming and loss of connectivity.**

As a sentinel species, pikas may provide a clue to how other animals react to climate change, the researchers note. "They can act as the proverbial canary in the coal mine, but they're also just really cute, charismatic little animals," Schwalm said. "There is a lot of public interest in preserving the pikas."

Journal Reference:

1. Donelle Schwalm, Clinton W. Epps, Thomas J. Rodhouse, William B. Monahan, Jessica A. Castillo, Chris Ray, Mackenzie R. Jeffress. **Habitat availability and gene flow influence diverging local population trajectories under scenarios of climate change: a place-based approach**. *Global Change Biology*, 2015; DOI: 10.1111/gcb.13189