

To: Frank Beum, Acting Regional Forester, Intermountain Region USFS
Steve Beverlin, Director of Natural Resources, Intermountain Region USFS
John Proctor, Regional Botanist/Invasive Species, Intermountain Region USFS
David Whittekiend, Forest Supervisor, Uinta Wasatch-Cache National Forest, USFS
Jenefer Parker, District Ranger, Logan Ranger District, UWC Cache National Forest
Brian Steed, Director, Utah Department of Natural Resources
Mike Fowlks, Director, Utah Division of Wildlife Resources
Yvette Converse, Field Supervisor, Utah Ecological Services Field Office, US Fish & Wildlife Service

From: Hilary Shughart, President, Bridgerland Audubon Society
Jack Green, Cache Valley Chapter, Citizens' Climate Lobby
Mary O'Brien, Utah Forests Program Director, Grand Canyon Trust
Marc Coles-Ritchie, Utah Forests Program Associate, Grand Canyon Trust
Bryce Johnston, Student Organization for Society & Nat Resources, Utah State University
Tony Frates, Utah Native Plant Society
Kirk Robinson, Executive Director, Western Wildlife Conservancy
Allison Jones, Board of Directors, Western Wildlife Conservancy
John Carter, Ecologist, Yellowstone to Uintas Connection

Date: August 03, 2020

RE: Questions regarding proposed introduction of Mountain Goats into the Logan Ranger District, Cache National Forest

We would appreciate your answers to the following questions regarding the proposed introduction of non-native Mountain Goats into the Logan Ranger District of the Cache National Forest. Please let us know if any questions are not clear.

- 1) There is an exceptional number of rare native plants on the Logan Ranger District. Does the Forest know the distribution of each of these 12 rare/endemic plant species that are known to be present within/near the Logan Ranger District?
 - a) Maguire's primrose - *Primula maguirei* Threatened (G1S1)
 - b) Logan buckwheat - *Eriogonum loganum* FS Sensitive (G2S2)
 - c) Maguire's draba - *Draba maguirei* FS Sensitive (G3T2S2)¹
 - d) Rydberg's musineon - *Musineon lineare* FS Sensitive (G2S2)
 - e) Mount Naomi's parsley - *Musineon naomiensis* (G2SNR)

¹ The status of *Draba maguirei* is based on the inclusion of *D. maguirei* var. *maguirei* and *D. maguirei* var. *burkei* as varieties of the species (both rated as G3T2S2). *D. maguirei* and *D. burkei* have since been described as entirely unique species, thus global rarity of each species is assumed to be G2 based on T2 status of each variety. Further, according to the [Flora of North America](#): *Despite this very narrow distribution, the species includes two ploidy levels (diploid and tetraploid) that are morphologically and ecologically distinct (M. D. Windham, unpubl.)*. It was suggested, at one point, that the two ploidy levels, which occur at distinct elevations, be separated into two unique varieties of *D. maguirei*.

- f) Frank Smith violet - *Viola frank-smithii* FS Sensitive (G1S1)
- g) Cronquist daisy - *Erigeron cronquistii* FS Sensitive (G2S2)
- h) Cache beardtongue - *Penstemon compactus* FS Sensitive (G2S2)
- i) Wasatch rockcress - *Boechera lasiocarpa* (G3S3)
- j) Wasatch bladder pod - *Physaria multiceps* (G3S3)
- k) King's aster - *Tonestus kingii* (G3S3)
- l) Holmgren's owls clover *Orthocarpus holmgreniorum* (G4T3?S2S3)

2) Population trend of rare species.

- a) Do you know the current population trend of those species whose habitat is located where Mountain Goats might forage/travel?
- b) Most or all of these rare and endemic plants in Logan Canyon grow in rock crevices on sheer cliff faces and related very difficult terrain that the goats will most certainly impact. What feasible monitoring would be possible to detect any statistical significance of trend?²

3) Detection of Mountain Goat impacts. Mountain Goats graze, browse, dig wallows, and trample vegetation; and in most cases continue an upward trend in herd size. If Mountain Goats were introduced to the Logan RD, what methods would the FS or and/or UDWR use to, over time:

- a) track trends of all these rare species that exist where Mountain Goats may forage/travel; and
- b) distinguish Mountain Goat contributions to any declining trends from climate change (e.g., aridification of soil, increasing heat, drought), cattle (e.g., amid drought), recreational impacts, or other impacts?

4) Triggers for action re: rare plants. If any or all of these species were trending downward amid areas where Mountain Goats are present and Mountain Goats could be the cause or contributing cause of a downward trend, what level of decline would trigger action to remove the continuing stress of Mountain Goats? Similarly, for declines in ground cover and loss of overall plant cover, what levels would trigger action?

5) Wallows. Wallows are attributable directly to Mountain Goats. What presence of wallows would be unacceptable, and trigger action?

6) Action(s) that would be triggered. What action(s) would be triggered by evidence of decline in a rare plant that could be due or partially due to Mountain Goats? In other words, if damage/decline exceeded pre-set triggers, and Mountain Goats were known to be using the area of decline, what action(s) would be taken? Similarly, for ground disturbance at or exceeding triggers, what action(s) would be taken?

² After five years of monitoring population trend of the endemic La Sal daisy (*Erigeron mancus*) that grows out on easily accessible terrain, the UDWR and FS are arguing about statistical significance of declining trend.

- 7) Decisionmaking to prevent damage to endemic/rare plant species. If the Forest Service believes it should take action to prevent the Mountain Goat introduction do you believe the Forest Service has the authority to prevent the introduction of the Mountain Goats?
- 8) Decisionmaking to halt damage to endemic/rare plant species. If the Forest Service believed it should take action to halt impacts of Mountain Goats and the Utah Division of Wildlife Resources disagreed, do you believe the Forest Service has the power to remove the Mountain Goats?
- 9) The habitat of the federally listed Maguire primrose would likely be affected by the introduction of Mountain Goats. The Current Recovery Criteria under the most recent *Recovery Plan for Primula maguirei (Maguire Primrose)* provides direction to “Ensure that *Primula maguirei* habitat is protected from environmental degradation through Section 7 of the Act”.
 - a) What methods would be used to detect whether *Primula maguirei* habitat is or is not protected?
 - b) What measurable endpoints would indicate lack of protection of *Primula maguirei* habitat?
 - c) How would impacts by Mountain Goats within *Primula maguirei* habitat be distinguished from drought, cattle grazing or other impacts?
 - d) What degree of lack of protection would trigger action to halt the degradation of *Primula maguirei* habitat?
 - e) What actions would be taken if *Primula maguirei* habitat was being impacted in part by Mountain Goats and in part by other factors (e.g., drought)?
- 10) Is your agency concerned that this introduction would raise the NatureServe risk for the rare plants and may prompt petition for listing under the Endangered Species Act for one or more species?

We underscore that we are a diverse group of scientists and citizens, and that we have concerns about the proposed introduction of mountain goats in this part of the Uinta Wasatch-Cache national forest. As conservationists and biologists, we believe in the precautionary principal, which suggests that it is more favorable to err on the on the side of caution when it comes to managing complex systems. We fear that the agencies may setting up a situation on the Forest where future cumulative effects acting on fragile systems and a threatened plant might be difficult to tease apart and attribute to the newest stressor that would have been introduced to this system (the goats), while at the same time manipulating interactions between the introduced goats and their native predators and creating yet additional problems if the goats, if introduced, go well over objective, like they have in other locales where introduced.

Thank you for your prompt response to these questions. When any agency has answers to the questions that pertain to their agency, please respond to our email with the letter, and cc-all, so all of our signers can see the agency answers.