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Comments: See attachment

All over the west, where Land Use Plans are being re-accomplished, or created, goats and goatpackers are being ushered out of the forest. Are there legitimate concerns? Or is the purported risk of goats in the forest simply a erroneous belief that has been repeated often enough to gain credibility. My vote is certainly the latter.

A land managers stated reason for restricting goats from the wilderness where Bighorn sheep (BHS) are located, is the suggested [lsquo]risk[rsquo] of [lsquo]disease transmission[rsquo], specifically disease that is caused, or triggered by, *Mycoplasma ovipneumoniae*.

The other variable in the [lsquo]risk[rsquo] equation is the supposed risk of a Packgoat getting away from his/her handler and exposing a BHS to this or other pathogens.

I will submit to you that this fear of [lsquo]disease transmission[rsquo] by packgoats cannot be substantiated by any current scientific data. In point of fact, the most recent science says exactly the opposite. Furthermore, in the formulation of Land Use plans, NEPA requires that current science be followed, and decisions made relevant to that science, especially where it restricts or eliminates any user. Decisions must be based exclusively on what science is directly attributable to that particular user. I will submit that in regards to any potential National Forest (NF) or wilderness closure, NEPA dictates frequently have been resoundingly ignored.

As a framework for my comments on these issues, I will be referring solely to animals used as Packgoats. Due to a packgoat[rsquo]s socialization and bonding to his/her human leader, the packgoat is not mentally the same as a weed eater or other so-called domestic goat. He is bonded/imprinted on humans from birth, and in his animal mind, his human is the Alpha-Goat. This affects a number of issues, not the least of which is what one can expect of him in an unexpected, stressful or a separation situation. I intend to elaborate more regarding that below.

1. Goat Packer Traffic Numbers: In point of fact, in the entirety of the mountain west, there is an extremely small number of folks using goats as a pack animal. So small as to render a goatpacker as a statistical irrelevancy.
2. Current mythological Suppositions Regarding BHS Themselves: Any verbiage suggesting that BHS could possibly show up on the trail or in a goatpacker[rsquo]s camp is to completely ignore a BHS[rsquo] normal behavior. They live up high and only generally come down in the very early morning or late evening to their preferred water source. In my experience, which goes far beyond 1000 miles of hiking in Idaho & Oregon, neither I, nor any other NAPgA goatpacker has ever encountered such a situation. Therefore I would suggest that that particular occurrence is more than highly unlikely. Rather than behavior that would create a [lsquo]trail encounter[rsquo], I would go further to suggest that a normal BHS would be more likely to rapidly [lsquo]distance themselves[rsquo] from what to them is a foreign presence (the goat(s) and their handler). I have only seen one group of BHS in over 20 years, they were already about 1/8 of a mile away, plus quite a bit higher than we were, and as soon as they became aware of our presence, after a period of clear nervousness about our presence, they began to move up and away. THAT is what I believe would be the normal for an [lsquo]encounter[rsquo]. Never less that a great deal of separation.
3. A Goat[rsquo]s Likelihood to Wander or Separate Himself from His Handler: As I noted above, packgoats, due to early imprinting and socialization, are extremely tightly bonded to their owner, such that they never will tolerate [lsquo]their[rsquo] human to be out of their direct line of sight. They don[rsquo]t go [lsquo]wandering[rsquo]. Whether in camp, or out on the trail, they follow religiously. In camp, if allowed to, they may graze around and may even look like they are quite a ways away, and unconcerned with me their leader. However, let me appear

as to be leaving, if only to go out and deal with my biological needs, and here they all come. They will NOT allow themselves to be any further than a direct line-of-sight with their bonded human (in their minds, their [lsquo]security[rsquo]).

4. But What About a Lost Goat: Additionally, a packgoat, also due to early imprinting/socialization, if lost or separated, goes looking, not for a herd to mingle with, but either his, or another human. That is a matter of record. Please be aware that although I deal with the subject of a [lsquo]lost[rsquo] animal here, such a circumstance is unusual as it would be to be struck by lightning on one[rsquo]s pack trip.

5. What/where Does A Separated Animal Go: Further, a packgoat, if lost, will be the subject of an extensive effort to return it to its owner. Not only are packgoat owners painfully aware of the many issues surrounding a lost animal, but once again from a purely practical standpoint, by the time one gets a packgoat to the point of full service as a pack animal (approximately 4 years), the owner has a lot of money and time invested in the animal, and further, our animals are as much pets, as pack stock. We would consider the loss of one of our animals as a worst-case scenario.

6. Do Packgoats Carry the Pathogens in Question Anyway: Finally, as two recent research projects have indicated, one of which tested over 570 packgoats in the entire western half of the United States, *Mycoplasma Ovipneumoniae* is at an exceedingly low prevalence in our packgoats. Additionally, with appropriate testing, we can prove that our packers are NOT carrying it. If we can substantiate that our goats are test-negative, then there is NO legitimate reason for keeping them out of the forest. In keeping with NEPA guidelines, if there is no realistic possibility that I can carry a destructive pathogen into the forest, then there is no justification to rule me out of that forest.

#### Comments on Direct Sections of the Land Use Plan DEIS:

The entire DEIS: Packgoats are mixed, in philosophy, with Weed Eating Goats, Domestic Goats, Herd Goats, Grazing Herd Goats, et. al. As I have already noted, a Packgoat is NOT the same animal as the other herd goats covered/noted in this DEIS. Although a goat is a genetically herd animal, he therefore recognizes someone/something as the [lsquo]head of the herd[rsquo] and therefore the Alpha leader. In the case of all the other options above, the herd will choose its own leader, or Alpha-goat, usually due to a combination of physical strength, size and attitude. The packgoat because of early socialization/imprinting, has the Alpha-goat position chosen for him, and once he accepts that as a young animal, it never changes. The packgoat recognizes a human, usually [lsquo]his[rsquo] human, but a human nonetheless, as the Alpha-goat. And if he can[rsquo]t find [lsquo]his[rsquo] human, he will attempt to bond with any human he finds. Packgoats are a different animal, and must be considered differently.

#### Potential Addition to Pack Goat Guidelines:

Although not in the current guidelines, NAPgA believes that the following should be added: [ldquo]No packgoats under 1 year old be taken into the wilderness.[rdquo] The reason for this suggestion, is that in the research project conducted by Margaret Highland, 90% of the *Mycoplasma ovipneumoniae* [lsquo]positives[rsquo] that were found occurred in goats under 1 year.

Wildlife Resources (My comments are in Red) Comments related to suppositions and assumptions contained within or implied by this DEIS.

1. Contact between pack goats and bighorn sheep can result in disease transmission [Possibly, but this is unproven and speculative. No record of that has ever occurred except in controlled research situations; situations that are wildly unlikely to occur in a natural habitat, where these animals are much more likely to want to remain separated. NEPA requires that real science and real instances of stated contacts be cited as a justification for the limitations placed on a wilderness user].

2. *Mycoplasma ovipneumoniae*, which is commonly carried by domestic goats [This sadly, is a patent falsehood as it is not 'commonly' carried at all. In fact, two recent research reports indicate that there is very little

occurrence of *Mycoplasma ovipneumoniae* in the goat community as a whole. Additionally, the recent Besser, et. al, research project quoted below, indicates that even goats purposely infected with *Mycoplasma ovipneumoniae*, still didn't cause lethal pneumonia in the captive research bighorn sheep],

3. [...]can be transmitted to bighorn sheep when the species interact [Once again, unproven and speculative. When has an interaction like this ever occurred in the real world (ie. outside of a research setting)? Meaning when has a packgoat left his/her handler and gone looking for BHS. Quite simply, it hasn't. and it hasn't because it mitigates against normal Packgoat behavior as noted above. Once again, NEPA requires that justifications for limitations placed on a wilderness user must be based on documented science and events. Not on suppositions that it 'probably has happened' or 'could happen'.].

4. This pathogen can trigger pneumonia outbreaks in bighorn sheep, leading to high mortality in the bighorn sheep populations (Besser et al. 2017) [This is the most egregious statement of all. Quite simply, That was NOT the conclusion of Besser's research, and indeed is patently false]. His actual conclusion as stated in his research: 'M. ovipneumoniae strains carried by domestic goats were transmitted to comingled bighorn sheep, triggering development of pneumonia. However, the severity of the disease was markedly milder than that seen in similar experiments with domestic sheep strains of the bacterium'. Furthermore, although there was reported evidence of respiratory illness while the bighorn sheep were alive, Besser never confirmed that the animals had pneumonia, not even after he had killed them in order to look at their lungs to verify pneumonia actually had occurred. The end result was that they didn't actually have pneumonia. (note: the researcher killed the bighorn sheep, not disease from comingling with domestic goats).

It is also very relevant that Besser's study goats in one of the 2 described studies were ONLY infected with *Mycoplasma ovipneumoniae* because he purposely gave it to them. They were unquestionably not infected until his intervention. The BHS reaction, according to Dr. Besser, was markedly milder AND there was no proof that the bighorn sheep even had pneumonia. The eventual result of the histopathology performed after they were put down did NOT indicate or describe the presence of pneumonia.

Now, finally, in addition to the fact that there is no concrete indication that would indicate the need to restrict goats from wilderness areas inhabited by BHS,

Dr. Besser also stated in his article to the Wyoming Wild Sheep Foundation: [If the low prevalence of the carriage of M. ovipneumoniae by packgoats is confirmed by testing] (and it was) [...] believe that M. ovipneumoniae test-negative packgoats represent a negligible risk for triggering pneumonia outbreaks in bighorn sheep and that it would be reasonable to take this into account when setting public lands policies.]

The final analysis is that the Forest Service, F&G & other land managers, cannot possibly justify restricting goatpackers out of the forest. The many reasons stated above indicate that there is no reasonable suspicion that goats can, or will, cause a disease event in BHS, now or in the foreseeable future.

Many goatpackers are using goats due to age (for this writer personally, age 77), or disabilities that mitigate against the carrying of a full pack. It would be sad indeed to restrict those folks out of the wilderness when they are enjoying the last few years of their ability to use the forest.