



# The NAPgA Bleat!

The Official Newsletter of the North American Packgoat Association

July 2017

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## NAPGA RENDEZVOUS 2017 A SUCCESS!

June 26, 2017, Nan Hassey

Many thanks to all the wonderful folks who attended Rendy 2017 in Lake City, CO. You made this event work!



We especially want to thank all the generous folks who donated some really incredible items to the store/ auction this

year! It was amazing and the fundraiser was a huge success! Finally, special thank-you's go out to Maggie Highland for coming so far to share about Bighorn disease research

to John Mionczynski for traveling down to share his wealth of wisdom and experience, to Edna Mason of the Lake City Forest Service for sharing her experiences working with Bighorns and domestic



sheep grazing issues in the Lake City area, and to Jim Lovelace and Elijah Waters of the Gunnison BLM office for allowing us to host this event in Lake City. A great time was had by all!

Grant Houston, editor of the Lake City Silver World newspaper was impressed with our group and did a nice write-up about it here:

<http://lakecitysilverworld.com/SWN16/2017/06/23/packgoat-enthusiasts-aid-trail-work/>

(Cont Pg 2, Col 1)

## NAPgA & Goatpacking Need Your Help, and Input

### The Deadline for Input is August 10th

(It is remotely possible that this date could be extended, but don't rely on that.)

**Please Comment NOW**

### Please Help Us Preserve Goatpacking in the National Forests!

**You have the opportunity to comment on the use of domestic sheep, goats and pack goats in the Shoshone National Forest. The comment deadline of August 10th is fast approaching!**

**The outcome of the final decision by the Shoshone National Forest regarding packgoat use will very likely have a domino effect on how other National Forests address packgoat use.**

The Shoshone National Forest has prepared a Supplemental Draft Environmental Impact Statement (SDEIS) for Use of Domestic Sheep, Goats, and Pack Goats, which is a Supplement to the Shoshone National Forest Plan, which was revised in May of 2015.

The Shoshone National Forest proposes to limit areas where domestic sheep allotments are stocked and restrict the use of domestic goats and pack goats on the Forest to reduce the risk of disease transmission to bighorn sheep.

Follow the links to the documents below. Neither is extremely long and you will find plenty to comment on regarding the possibility of disease transmission from pack goats to big horn sheep. ***The new best science available is not being used in these documents!***

**The 2016 GOAT MOVI STUDY CONDUCTED BY DR. MAGGIE HIGHLAND**, a Veterinary Medical

(Cont Pg 3, Col 1)



If you have photos and/or videos of the Rendy that you would like to share, please use the [“Contact Us”](#) page to get in touch with Nan Hassey.

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**Here are a few Rendy highlights:**



*Driving class with Nan and Phil Hassey*



*Conformation class with Carolyn Eddy*



*Work project on the Alpine Gulch Trail, including rerouting water, rebuilding trail with rock, and building bridges over the swollen creek*

(Cont next Col)



*Climb up Uncompahgre Peak, elevation 14,321 feet*



*How we all felt when we reached the top!*

Officer and Researcher with the USDA-ARS-Animal Disease Research Unit, in collaboration with USDA-APHIS personnel is **the best and most current best science available** regarding the possibility of disease transmission from pack goats to Bighorn Sheep.

From spring through fall of 2016, **576 goats** (419 packgoats, and 157 housed on premises with packgoats), from 83 premises located in 13 states, were sampled 3 times, at 4-week minimum intervals, in order to test for nasal presence/shedding of Movi. Nasal swab samples were collected in duplicate at each time point, with one nasal swab from each sample collection being tested in Dr. Highland's laboratory and the second swab from the first sample collection being tested in an independent laboratory. Repeat nasal swab sampling of the goats in this study has confirmed the presence of Movi on just 5 of the 83 premises (6% of premises). Premises that had Movi detected in any of the goats had between 7 to  $\geq 15$  goats present on the premises. Movi was confirmed to be present on the nasal swabs collected from 30 of the 576 goats tested;

This means **94.8% of the goats tested had NO Movi detected on nasal swab samples**. Of the 30 total Movi positive goats, 27 (or 90%) of them were  $\leq 1$  year of age (23 of them were  $< 5$  months).

In addition to the nasal swabs, ocular swabs were collected during the first sample collection. Ocular swabs are still being analyzed for the presence of pinkeye-causing bacteria.

**In summary, not only does the behavior and handling of pack goats drastically decrease the risk of a domestic pack goat coming into contact with a bighorn sheep, it would seem highly improbable based on this large scale study that a domestic pack goat would even be shedding Movi should such an unlikely contact occur.**

*After reading these two documents please submit your comments. Alternative #3 is NAPgA's preferred alternative. It permits pack goat use in the Shoshone National Forest with the least amount of risk for the Bighorn Sheep.*

[https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd541051.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd541051.pdf)

*The alternatives are listed on Page iii of the above document.*

[https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd541057.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd541057.pdf)

Comments on the SDEIS must be submitted via mail, fax, or in person (Monday through Friday, 8AM - 4:30 PM, excluding holidays) to:

Casey McQuiston, Resource Staff Officer  
Shoshone National Forest  
808 Meadowlane Avenue  
Cody, WY 82414  
Fax: (307) 578-5112

Electronic comments including attachments may be submitted by email in Word format (.doc), portable document format (.pdf), rich text format (.rtf), text (.txt), and hypertext markup language (.html) may be sent to: [comments-rocky-mountain-shoshone@fs.fed.us](mailto:comments-rocky-mountain-shoshone@fs.fed.us)

## On Following Pages, See:

- 1) Sample Comment Letter
- 2) Maggie Highland's analysis of the oft quoted 'Rudolph Paper'
- 3) One member's sample response

### *Sample Comment Letter*

*If you use this, pls remember to fill in the # of pack-goats, and add your personal information at the end. It would be best if you would only use this as a guideline, and word it with your personal thoughts.*

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I wish to comment on the Shoshone National Forest Supplemental Draft Environmental Impact Statement and Risk Analysis of Disease Transmission.

I understand that the goal is to have low risk of disease transmission between pack goats and Bighorn Sheep. However, a recent study, conducted by Dr. Margaret Highland, veterinary researcher with the USDA, found that there was a much lower level of disease-causing bacteria than previously thought. Even Dr. Tom Besser, the Chair for the Wild Sheep Disease Research Unit at Washington State, stated the following: "I believe that *M. ovipneumoniae* test-negative pack goats 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" (Wild Sheep Foundation Newsletter, Summer 2016). I am asking you to take this new research and professional opinion under consideration when choosing the best alternative.



I currently own \_\_\_\_ pack goats. I take excellent care of my animals and I follow many of the Best Management Practices suggested by NAPgA. If these practices were required, I would have no problem following them, including permit system and using other methods to reduce the risk of contact between my goats and Bighorn Sheep. I feel that when these practices are used, the risk of contact would be low to very low, or even as close to zero as possible.

I'm interested in the conservation and survival of Bighorn Sheep. However, the recent research and professional opinions of research veterinarians needs to be considered. Pack goats are a much lower risk than originally thought. In addition, requiring Mitigation Measures (Best Management Practices) should result in Bighorn Sheep being at low-to very-low risk from disease caused by contact with Pack Goats. Please do not close off the Wind Rivers to goat packing.

Thank you for your consideration.

Sincerely,

Pack Goat Owner Name/address

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***Maggie Highland's Analysis of the Rudolph Paper***

A single publication is often referenced as “evidence” for domestic goats being a threat to bighorn sheep; that publication was published in 2003 in the Journal of Wildlife Diseases, was authored by Karen M. Rudolph, et al., and is entitled “Sharing of *Pasteurella* spp. between free-ranging bighorn sheep and feral goats”. The use of this publication as evidence that domestic goats, “feral” or not, have ever caused, or may be able to cause, epidemic pneumonia in bighorn sheep is a gross misinterpretation of the results outlined in this publication. The one and only scientific-based conclusion that can be taken from this manuscript is that bighorn sheep and domestic goats that come into close contacts with one another may share the same pathogenic bacteria. Nothing more.

The authors even admit that there is no way of determining which way the same strains of *Pasteurellaceae* were transmitted, from bighorn to domestic or vice versa.

Even after stating this unknown, the authors go on to state that the “evidence suggests transmission of strains from goats to bighorn sheep” and that “in this report we present evidence which suggests transmission of unique *Pasteurellaceae* stains from feral goats to free-ranging bighorn sheep”. What evidence? Personal belief is not scientific based fact.

Let's take a close look at the findings described in this publication:

1 feral goat, 1 bighorn ram, and 1 bighorn ewe were found

in close association to one another, separated from a nearby bighorn herd. None of the animals were sampled to determine what bacteria each carried prior to being in contact with one another (as obviously this wasn't possible in this natural setting). The bighorn ewe was showing evidence of respiratory disease, the bighorn ram and feral goat were not. All 3 were shot and samples collected to investigate what respiratory tract bacteria were present in each animal. The bighorn ewe and domestic goat shared several bacteria that the authors identified as being the same strains of *Pasteurellaceae* bacteria. However, the bighorn ram and bighorn ewe both had what the authors would classify (but don't outright discuss) as the same identical isolate of a pathogenic *Pasteurellaceae* that the feral goat did not have (see Table 1 in the publication). If bighorn sheep don't carry pathogenic *Pasteurellaceae* naturally, from where did this bacteria, not identified in the feral goat, originate?

In short, there is absolutely nothing in this publication that provides even a shred of evidence that domestic goats were the source of bacteria that caused the 1995-1996 epizootic outbreak of pneumonia in bighorn sheep described in this publication. A number of comments by the authors honestly reveal the reservations that they themselves had in their attempts to implicate the goats in this area as the source/cause of the 1995-1996 outbreak of bighorn sheep pneumonia in Hells Canyon. If anything, this publication provided evidence AGAINST the 3 feral goats being the source of bacteria associated with (or that caused) the epizootic bighorn sheep pneumonia outbreak that occurred in Hells Canyon during the winter of 1995-1996, as bacteria identified in the 1st feral goat (the one found with the 1 bighorn ram and 1 bighorn ewe) were not found in any of the other bighorn sheep tested during the outbreak. The authors even state “there is no evidence that those organisms were associated with subsequent disease or death”, with “those organisms” referring to the pathogenic bacteria found in the bighorn ewe and the 1st feral goat.

And again, we have no way of knowing whether the bighorn ewe carried the pathogenic *Pasteurella* bacteria and transmitted it to the feral goat, or vice versa. Additionally the 2<sup>nd</sup> and 3<sup>rd</sup> feral goat found in Hells Canyon around the same time, but “not known to have been closely associated with bighorn sheep” were tested and found to carry non-pathogenic (LktA negative) *Pasteurellaceae* bacteria. Testing of these non-pathogenic bacteria indicated that these bacteria were similar (or the same bacteria strains based on the authors' conclusions) to that identified in bighorn sheep that died during the outbreak. These bighorn sheep had no known contact with the feral goats and the bighorn sheep were certainly not dying from pneumonia caused by the non-pathogenic bacteria found in the 2 feral goats (LktA has been shown to be the necessary virulence factor needed to cause lethal disease, therefore without LktA, Mannheimia

(*Pasteurella*) haemolytica and *Bibersteinia trehalosi* would not be the cause of pneumonia). So what does this mean? It means that no bacteria identified in the 2 feral goats would have caused the bighorn sheep pneumonia outbreak. The authors even mention that the outbreak the 1995-1996 outbreak describe in the publication was "incidental" to sampling of the feral goats and the 2 bighorn sheep that were in close proximity to one of the goats.

If tissues/samples from the 3 feral goats and all or any of the bighorn sheep described in the manuscript are still available, it would be of utmost importance to perform further analyses to determine whether the now recognized primary agent of bighorn sheep pneumonia, *Mycoplasma ovipneumoniae*, was present in the feral goats and whether the same strain of *Mycoplasma ovipneumoniae* was identified in the bighorn sheep that died during the epizootic pneumonia outbreak of 1995-1996. Additionally, genetic screening of the Pasteurellaceae bacteria identified in the Rudolph, et al. publication should be performed, as the limitations and inaccuracy of the methods used to identify the Pasteurellaceae bacteria (particularly *Mannheimia haemolytica*) in the Rudolph, et al. publication have been personally observed (M. A. Highland) and also described in a publication by Miller, et al. ("Phylogentic and epidemiologic relationships among Pasteurellaceae from Colorado bighorn sheep herds", *Journal of Wildlife Diseases*, 2013. 49(3), pp. 653-660.).

If these samples are no longer available for additional analysis, then the use of this publication as evidence that goats are a source or cause of bighorn sheep pneumonia should be dismissed all together, as this publication clearly does not support contact with goats as the cause bighorn sheep pneumonia. In addition, and further providing little support for goats being a threat to bighorn sheep, is the fact that there have now been 4 captive research studies performed in which domestic goats have been penned together with bighorn sheep. Of these studies, just 2 of 7 bighorn sheep died in 1 of the studies; death in both of the bighorn sheep was contributed to *Mannheimia haemolytica*. Overall 2 of 16, or 12.5% of the bighorn sheep placed in forced captive settings with domestic goats died. In 2 of the studies, a goat strain of *Mycoplasma ovipneumoniae* was either known to be present or purposefully introduced, and while all of the animals (both domestic goats and bighorn sheep) developed signs of respiratory disease, they started to recover and none of them died from pneumonia.



Margaret A. Highland, DVM, PhD, Dipl. ACVP  
Animal Disease Research Unit-ARS-USDA (VMO Researcher)  
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Pathologist) School for Global Animal Health (Adjunct Faculty)  
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Pullman, WA 99164

### ***Sample Comment Letter***

*Another sample to guide your thoughts. Please do not quote this member's letter word for word.*

Casey McQuiston, Resource Staff Officer Shoshone  
National Forest  
808 Meadowlane Avenue  
Cody, WY 82414

Dear Mr. McQuiston:

I wish to comment on the Shoshone National Forest Supplemental Draft Environmental Impact Statement and Risk Analysis of Disease Transmission.

I am a pack goat owner from the Logan, Utah area. I have been packing with goats for 18 years and have packed into the Wind River Mountains over 30 times. In all of those times, I have never lost an animal and I have never seen evidence that my goats have been in the proximity of wild sheep. I am also a hunter, but since I live in Utah, I do not hunt in Wyoming. I do have a keen interest in promoting the general well-being of wildlife. As I reviewed the above mentioned document, I would like to ask you to adopt Alternative 3 as the official means to control contact between pack goats and wild sheep.

I am sure that you are aware of the study, conducted by Dr. Margaret Highland, veterinary researcher with the USDA, where she found that there was a much lower level of disease-causing bacteria in pack goats than previously thought. I participated in that study with my 12 goats and all of them tested negative for the MOVI bacteria. Based on the fact that a very small percentage of pack goats carry the disease, and that it can be detected by simple testing, I believe that by adopting alternative 3, we can ensure that there would be very low risk of ever transmitting disease from pack goats to wild sheep.

Please consider that by adopting alternative 2 you will set a precedence that other National Forest administrators will likely follow, thus closing off much prime wilderness and National Forest areas to the pack goat community. I believe that alternative 3 is the only reasonable alternative which considers the rights of people on both sides of the issue and still protects the well-being of the wild sheep.

Thank you for your consideration.

Sincerely

(NAPgA Member)