

From: Stan Ebel [REDACTED]
Sent: Friday, April 20, 2018 1:55 PM
To: 'Mike Cox' <mcox@ndow.org>
Subject: RE: Contagious Ecthyma

Hi Mike,

Thanks for getting back to me. I hope the info helped and I appreciate you taking the time to consider what I sent. Don't hesitate to let me know if you want any input on any other pathogens. I will be interested to get the responses from those you speak with.

On a side note, as we've examined the disease issues with the sheep we've had some discussions as to what would best serve the sheep. It's a shrinking world and a shrinking wilderness. As we've monitored WSWG recommendations, it's seemed like WSWG has a good approach and does good interpretation of research as a group.

We're very uneasy with the WSF participation in wild sheep management and looking at their recommendations to replace sheep with cattle makes us question what is going to be gained with this move. Being in the bovid family, cattle harbor a number of pathogens that are transmissible to the sheep and could be of significant impact. Most of the pathogens the CCH RA listed for llamas (Blue Tongue, PI 3, BVDV, MAP, M bovis, and Pasturella spp pneumonias) are not of significance in llamas, but are significant in cattle. The natural lack of attraction and interaction between cattle and wild sheep have likely kept transmission from being significant. However, it seems odd that when a process as contentious as separating (banning) sheep from the wild sheep ranges is effected, that a replacement species would be selected that has as many potential disease impacts as cattle.

There are a number of other issues our pack llama committee has identified specifically regarding WSF's tactics in trying to ban llamas as well as their general approach to managing wild sheep. Those issues are documented in the following pdf.

[Wild Sheep Foundation: Political? Definitely. Scientific? Not so much](#) I would be happy to visit with you about any of these topics and the llama community appreciates your continued efforts to effectively manage North America's wild sheep resource.

Regards, Stan

Stan Ebel, President

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[REDACTED]

From: Mike Cox <mcox@ndow.org>
Sent: Tuesday, March 13, 2018 5:52 PM
To: Stan Ebel <[REDACTED]>
Subject: RE: Contagious Ecthyma

Stan,

My plate is overflowing with assignments and deadlines for the next few months. I will be seeing several vets and thornhorn sheep managers in May at a meeting and will make an effort to speak to them about the statements made in the CCH RA regarding CE in llamas and references to supposedly detecting CE in llamas. I will also try to make time at this same meeting to speak with WSF staff on the language they have in their Conservation 2020 document regarding camelids.

Mike

From: Stan Ebel <[REDACTED]>
Sent: Friday, March 9, 2018 2:00 PM
To: Mike Cox
Subject: Contagious Ecthyma

Hi Mike,

Here is the background I have on Contagious Ecthyma in llamas and wild sheep. This has all come from our committee's research of existing information. None of us had heard of or seen a case of CE in llamas and it was just as perplexing to the llama community that it was listed as a pathogen of concern in the CCH Risk Assessment. Here's the information we've accumulated. Please read this and I will be happy to get any additional information you may have or thoughts you may have.

Contagious Ecthyma (CE) is a disease that is visually remarkable because of the lesions it creates, often on the head and facial area of an infected animal. It can be debilitating or even fatal though most animals recover, given time. CE is endemic in Dall's sheep in AK and other ruminant species, domestic and wild, and has a virulent persistence in the environment. It meets the criteria of classification as an endemic disease of wild sheep ranges and wild sheep populations. It affects both wild sheep and goats and often will break out spontaneously in larger concentrations of animals. Dr. Kimberlee Beckmen, an agency veterinarian with Alaska Department of Fish and Game, coauthored a recently released research paper (*attached*) that documents the high prevalence of CE as a zoonotic infection freely transmitted between members of the bovidae family. (including sheep and goats both domestic and wild). As a zoonotic disease it can infect humans and they can in turn transmit the disease.

Camelpox virus is the pathogen implicated in CE infections in camels in Africa and Asia and it rarely infects llamas. <https://veteriankey.com/camelids-are-not-ruminants/> (This is a reference for documented disease in llamas contrasted with diseases common to ruminants. You could find this a handy reference for future disease considerations.) Dr. Fowler's documentation is corroborated by the clinical observations of llama researchers:

Gregg P. Adams DVM, MS, PhD, Diplomate ACT Professor, Veterinary Biomedical Sciences, Western College of Veterinary Medicine, University of Saskatchewan

⁴*“Contagious ecthyma, chlamydiosis and MAP in camelids are rare - far less than in humans.”*

Dr. Larue Johnson-DVM, Professor Emeritus Colorado State University Veterinary Medicine Teaching Hospital

³*“Contagious ecthyma (CE) is a very well established viral disease in sheep and goats. It has very rarely been reported in llamas.”*

It would be reasonable, given the rarity of the infection in llamas and spatial separation from the camelpox virus, that the isolated cases noted were atypical infections by the parapox virus that were a terminus for the virus. Llamas would not be considered either a carrier or transmitter of the virus.

It is an observed phenomenon that spontaneous outbreaks can be triggered in wild sheep if they have a concentrated mineral source such as salt/mineral blocks that facilitate transmission. “Salting” (baiting) is a technique employed by some guides to bring sheep to their clients, rather than moving clients to widely dispersed sheep. An Alaskan game processing guide also recommends hunters wear rubber gloves when processing sheep and goat kills of any species to prevent contracting Orf, the human manifestation of CE (parapox virus).

B.C. provincial wildlife veterinarian, Helen Schwantje noted at THS Summit II, page 21: *“We used mineral salt blocks to draw BHS away from a highway, but the bighorns got a high amount of orf (contagious ecthyma); therefore, I feel that concentrating animals can lead to disease-transmission issues.”*

Bill Jex added: *“In BC, I believe that concentrating wild sheep is dangerous, from a disease perspective. BC has outfitters that are putting out their own (mineral) blocks, with the thought that it will produce better rams.”*

Given their comments and available information, it’s puzzling why they had it included in the CCH RA and have promoted llamas as carriers of the virus to the citizens of B.C.

Let me know if you have questions and contact me when you have time to discuss this disease. Thank you for your time and consideration.

Stan

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