

Disease Free in the North

Protecting Alaska's Dall sheep, Rocky Mountain goats, and Muskoxen from the transmission of harmful pathogens from domestic sheep and goats

What is at Risk:

More than 25% of all wild sheep in North America live in the State of Alaska. Dall sheep are an iconic species highly valued by countless sportsmen, photographers, and nature lovers. In addition to almost 45,000 Dall sheep there are approximately 27,000 Rocky Mountain Goats and 4,000 muskoxen that could also be impacted by this problem.



The hunting and viewing of wild sheep, goat, and muskox contribute tens of millions annually to the State's economy.

Weather patterns and predators have influenced Dall sheep, Rocky Mountain goats, and muskox populations through the millennia but now there is a silent more deadly threat on the scene.

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What is the Issue:

The problem is a bacterium named *Mycoplasma Ovipneumoniae* or *M.ovi* for short. This pathogen carried by some domestic sheep and goats causes pneumonia in the wild population and can dramatically affect herd survivability.

Pneumonia in North American wild sheep caused by *M.ovi* is well documented including transmission to Dall sheep, Rocky Mountain goats and muskoxen. The pneumonia facilitated by *M.ovi* often results in death across all age groups of wild sheep, and is typically followed by years of depressed lamb survival virtually destroying the population.



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Respiratory bacteria carried and expelled by domestic sheep and goats do not significantly impact domestic animals because of thousands of years of exposure and adaptation. However, when introduced to wild sheep, these respiratory bacteria pose a highly significant threat to their survival. This is a similar response to the millions of native peoples in North America that lost their lives when exposed to introduced-diseases like smallpox for which they had no natural immunity.



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Although the threat is real, there is no evidence that Alaska's Dall sheep or Rocky Mountain goats have been infected yet. Unfortunately the M.ovi pathogen can be transmitted by as few as one nose-to nose contact between an infected domestic and one of their wild cousins.

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What Could Happen

If *M. ovi* is passed from a domestic sheep or goat it would be spread by the wild sheep or goats themselves. First within their herd, and then from one herd to another, most often carried by males traveling in search of a mate. The bacterium could spread long distances between Alaska's contiguous sheep ranges because young males often travel surprising distances. Unchecked, this would result in a devastating die-off of Alaska's Dall sheep and Rocky Mountain goats. To stop the spread of disease we might be forced to exterminate the remaining animals. To restock just one mountain range, like the Chugach, could easily take tens of millions of dollars and more than a lifetime to complete.



Once transmitted the bacterium could spread long distances between Alaska's contiguous ranges....this would result in a devastating die-off of Alaska's Dall sheep and Rocky Mountain goats.

The true risk of transmission cannot be determined without knowing the number of domestics (currently estimated to be 2000 or less with 150 to 200 producers and owners state-wide). Additionally we would need to know the prevalence of *M.ovi* in domestic animals. And most importantly the location and proximity of these domestic animals to wild sheep ranges.

To restock just one mountain range like the Chugach with sheep could easily take tens of millions of dollars and more than a lifetime to complete.

A Traditional Occupation and Pastime

The raising, selling, and trading of domestic sheep and goats is a traditional occupation and pastime done by fellow Alaskans with no intended malice. This problem was not caused in any way by the domestic breeders and growers. It is important that we minimize the impact to these people while we implement a science-based solution to the problem.



It is important that we minimize the impact to domestic producers while we implement a science-based solution to protect wild sheep, goats and muskoxen.

advantage to domestic sheep that are *M.ovi*-free.

M.ovi is referred to as an “old world pathogen,” because it came with the livestock from Europe and other places. This respiratory bacteria carried and expelled by domestic sheep and goats do not significantly impact domestic animals because of thousands of years of adaptation. Recent studies have shown however that *M.ovi*-free domestic lambs gain weight significantly faster than infected lambs indicating there may be a significant health

What is the Solution

Alaskans have the opportunity for a proactive approach to avoid risking potential loss of these incredible wildlife resources. The goal is to protect wild sheep while minimizing the impact on a traditional agricultural business or hobby.

There are limited management options to prevent a significant die-off of wild sheep caused by respiratory disease. There are no magic bullets – to date there are no effective vaccines or treatments for *M.ovi* in either domestic or wild sheep.



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The solution that best fits the unique set of circumstances in Alaska is to go “Disease Free in the North” which really means having *M. ovi*-free domestic herds in Alaska.

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Alaska Unique Factors:

- No evidence of *M.ovi* in any of the wild sheep, goats or muskoxen as yet
- Alaska has essentially a pristine environment with generally intact wild populations
- Probably less than 2000 domestic sheep and goats in Alaska with 150 to 200 producers
- Most of the herds are small, contained behind fences, with no commercial grazing permits
- The prevalence of *M.ovi* in the herds is not yet known but suspected to be relatively low – maybe 10% - there could be as few as 200 or less infected domestics
- Healthier domestic herds and flocks - recent research shows advantages for *M.ovi* free domestics
- No magic bullets - no vaccines or antibiotics exist or are anticipated to cure infected animals

What will be required?

- ✓ Universal testing of domestic sheep and goats
- ✓ Replacement or quarantine of infected animals
- ✓ Changing rules on the import of domestic sheep and goats to require *M.ovi* free
- ✓ Monitoring program established by the State Vet
- ✓ Compensation to producers to off-set expenses for testing and replacement (AK WSF)
- ✓ Estimated to cost as much as a half-million dollars to complete (AK WSF)

In an effort to reduce the impact on domestic producers the Alaska Wild Sheep Foundation has agreed to pay for the necessary testing of all domestic sheep and goats and to compensate for replacement of infected animals and associated incidental costs.

What we gain:

- Minimized or eliminated risk to wild sheep, goats and muskox from *M.ovi*
- Healthier domestic flocks and herds
- Commerce in domestic animals free to continue and expand without restrictions (for *M.ovi*)



- Use of pack goats could be permitted – no movement restrictions based on *M.ovi*
- Domestic producers compensated for their expenses
- No requirement to euthanize or capture wild sheep that come in contact with domestic sheep
- Significantly lower cost (half-million) to prevent then to fix a problem later (tens of millions).

What Can You Do to Help?

Support required regulations. Regardless of informal agreements, legislation and implementing regulations will be required to fully protect wild sheep. The proposed regulations will require the full support of sportsmen and women throughout Alaska.



For more information and to donate to the cause go to
www.akwildsheep.org