



# Wyoming Livestock Board

"To represent and serve Wyoming's livestock industry through protecting livestock health and verifying livestock ownership."



1934 Wyatt Drive, Cheyenne, Wyoming 82002-0051  
Phone: (307) 777-7515 ■ Fax: (307) 777-6561 ■ Web Site: <http://wlsb.state.wy.us>

Matthew H. Mead  
Governor

Jim Logan, DVM-State Veterinarian

Douglas L. Miyamoto  
Interim Director-Chief  
Executive Officer

June 16, 2014

Senator John Barrasso  
2120 Capitol Avenue  
Suite 2013  
Cheyenne, WY 82001

Ref: JRL-14-12

Dear Senator Barrasso,

I am writing to express support for the letter being circulated in the US House of Representatives and Senate addressed to Secretaries Vilsack and Jewell regarding domestic sheep grazing allotments on USFS and BLM rangelands. It is critical to the survival of the domestic sheep industry that sound science relating to the Big Horn Sheep (BHS)/domestic sheep disease issue is employed in federal land use decisions.

A review of the literature indicates there are 4 main bacteria that have been associated with pneumonia in bighorn sheep. These are the same bacteria implicated in pneumonia in domestic lamb and adult sheep and are as follows: *Mannheimia haemolytica*, *Bibersteinia trehalosi*, *Pasteurella multocida*, and *Mycoplasma ovipneumoniae*. Although found at different prevalences, each of these bacteria, including hemolytic forms of *Mannheimia haemolytica* and *Bibersteinia trehalosi*, have been identified in the nasal and pharyngeal cavities of healthy domestic sheep and healthy bighorn sheep.

There have been 9 publications describing the outcome of commingling bighorn sheep with domestic sheep under experimental conditions that include indoor pens as small as 4x7 meters and outdoor fenced enclosures, several hectares in size. In these commingling studies, 49 of 51 bighorns died of pneumonia. The typical time between commingling and death was 2 weeks to 3+ months. Overall, there is a much higher incidence of bighorn sheep death when bighorns are forced to commingle with domestic sheep under experimental conditions than when the two species have casual contact on the range.

There is a big difference between conditions on the range (on domestic sheep grazing allotments) and captive commingling study conditions in regards to proximity and duration of potential exposure between BHS and domestic sheep. Experimental contact studies are un-natural and do not adequately simulate actual range conditions, but they do create conditions much more conducive to disease transmission and causing stress to the BHS. Agriculture Research Services (ARS) scientists have shown that sufficient exposure of BHS to the disease agents to cause transmission requires more than just casual, temporal or spatial contact.

## Board Members

Joe Thomas  
Meeteetse  
President

Pat Cullen  
Wheatland  
Vice President

Liz Philp  
Shoshoni

Donna Baldwin Hunt  
Newcastle

Todd Heward  
Shirley Basin

Bob Lucas  
Jackson

Kellen Little  
Leiter

In the fall and winter of 2009-2010, there were at least 8 separate pneumonia outbreaks reported which involved 6 states (SD, MT, UT, WY, WA, and NV). Lung tissue samples collected from a subset of the animals (44 total) that died during these outbreaks were tested to help identify which bacteria were associated with pneumonic/diseased lung tissue. The four bacteria previously mentioned were identified. *Mycoplasma ovipneumoniae* was identified in 95.5% of the pneumonic lung samples. Although much more prevalent in herds that experience pneumonia outbreaks, *M. ovipneumoniae* has been identified in 3 of 32 known healthy herds of bighorn sheep that are reported to have no problems with pneumonia outbreaks.

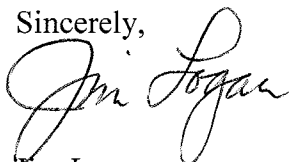
Only a fraction (approximately 20%) of the bighorn sheep populations that experienced a pneumonia outbreak in 2009-2010 had known domestic sheep or goat contacts and the event of a contact alone does not confirm that contact caused the disease outbreak. In addition to the numerous bighorn sheep that have been sacrificed in research settings, large amounts of resources (monetary and time) have gone toward studying the pneumonia phenomenon that afflicts bighorn sheep populations and toward the restoration and maintenance of wild bighorn herds, yet complete epidemiologic and risk assessments have not been performed under field/natural conditions. Complete risk analysis is vital for understanding the potential role that any and all observable and measurable factors may play in bighorn sheep disease. Factors that need to be considered include land use (GIS records of domestic and bighorn sheep locations), commensal bacteria carried by healthy domestic and bighorn sheep, human interactions with bighorn sheep herds (wildlife agency personnel, hunters, other government or private activities), all disease occurrences (identified pathogens, date, number affected, etc), documentation of environmental conditions in bighorn sheep territories (weather, feeding stations, natural disasters, non-human predator populations), nutrition including trace mineral availability, parasites, stress, etc. Developing a centralized database for documenting this information is needed for complete risk analysis.

Focusing only on the potential interaction with domestic sheep (and goats) does not give full scope as to why non-contact associated outbreaks and die-offs occur. This phenomenon needs further, in-depth study before the domestic sheep industry is decimated by land use decisions made in the absence of all the facts.

The domestic sheep industry acknowledges that *practical*, spatial separation of domestic sheep and BHS is an important factor in helping to prevent disease transmission. However, it is vital to the sheep industry and rural communities whose economy is linked to this sector of the livestock industry that public land use decisions are based on fact and not just fragmented information. It is also important to the sheep industry that viable populations of bighorn sheep are preserved on federal lands.

I will be happy to provide more information and documentation upon request. Thank you for your consideration of my concerns.

Sincerely,



Jim Logan  
Wyoming State Veterinarian

---

#### Board Members

---

Joe Thomas  
Meeteetse  
President

Pat Cullen  
Wheatland  
Vice President

Liz Philp  
Shoshoni

Donna Baldwin Hunt  
Newcastle

Todd Heward  
Shirley Basin

Bob Lucas  
Jackson

Kellen Little  
Leiter

Cc: Doug Miyamoto, Interim Director WLSB  
Peter Orwick, ASI Executive Director  
Amy Hendrickson, WWGA Executive Director

---

**Board Members**

---

Joe Thomas  
Meeteetse  
President

Pat Cullen  
Wheatland  
Vice President

Liz Philp  
Shoshoni

Donna Baldwin Hunt  
Newcastle

Todd Heward  
Shirley Basin

Bob Lucas  
Jackson

Kellen Little  
Leiter