

# Sheep in Montana – Domestic and Wild The State of Things and What We Know About Disease

A Symposium – February 9-10, 2017 – Helena, Montana

Sponsored by the Montana Wool Growers Association, Montana Wild Sheep Foundation,  
and Montana Fish, Wildlife and Parks



# Sheep in Montana – Domestic and Wild

## The State of Things and What We Know About Disease

A Symposium – February 9-10, 2017 Radisson Colonial Inn, Helena, Montana

Sponsored by the Montana Wool Growers Association, Montana Wild Sheep Foundation,  
and Montana Fish, Wildlife and Parks

### Thursday, February 9, 2017

1:00	Welcome, Purpose and Ground Rules	John Vore
1:10	The State of the Sheep Industry in Montana	Dave McEwan
1:40	The State of Bighorn Sheep in Montana	John Vore/Kurt Alt
2:10	Disease Research in Domestic Sheep	Drs. Don Knowles/Maggie Highland/Bret Taylor
2:40	Bighorn/Domestic Sheep Disease Research at WSU	Dr. Tom Besser
3:10	Break	
3:30	The British Columbia Experience – Domestic	Lori Vickers
4:00	The British Columbia Experience – Wild	Dr. Helen Schwantje
4:30	Bighorn Sheep Disease Research in Nevada	Dr. Peregrine Wolff
5:00	Adjourn	

### Friday, February 10, 2017

8:00	Day 2 - Bringing It Home to Montana	John Vore
8:10	MSU, Immunology & Infectious Diseases	Drs. Mark Jutila/Raina Plowright/Jovanka Voyich
9:10	Sheep Nutritional Considerations	Dr. Whit Stewart
9:40	Asst. Dean of College of Agriculture, MSU	Dr. Barry Jacobson
10:10	Break	
10:30	The Montana State-wide Bighorn Sheep Initiative	Dr. Robert Garrott
11:00	Montana's Bighorn Health Monitoring	Drs. Jennifer Ramsey/Emily AlMBERG
11:30	Moving Forward - A Working Group	Dave McEwan/John Vore/Kurt Alt
12:00	Adjourn	

**Montana Wool Growers Association and Montana Wild Sheep Foundation**  
**Cooperative Agreement**  
**April 8, 2016 Choteau, Montana**

We, the Montana Wool Growers Association (MWGA) and the Montana Wild Sheep Foundation (MTWSF) are representatives of Montana's sheep industries, both domestic and bighorn. On March 24th, 2016 we met in Choteau to discuss our mutual interests in enhancing Montana's bighorn sheep population, while protecting Montana's existing agriculture operations. We do not see these goals as mutually exclusive. As our two organizations came to the table to find realistic and practical solutions to issues facing both the domestic and wild sheep industries in Montana, it became apparent that our common ground was far greater than our differing opinions.

Both organizations firmly believe in sound conservation practices, defined as prudent use of our natural resources, with a strong desire to see Montana's bighorn health and herd sizes increase while maintaining Montana's ranking in the top 10 domestic sheep producing states in the U.S. We jointly believe there is room on the Montana landscape for both domestic and bighorn sheep, just not in a manner that allows for comingling.

Both the MWGA and MTWSF are troubled by the growing trend of environmental groups using lawsuits as the means to push wildlife management agendas that neither promote multiple use of public lands nor allow Montana sportsmen to have a say in the management of wildlife species they fund through purchase of hunting licenses. We are also troubled by growing divisions in Montana's Legislature that result in attempts to pit our two organizations against each other, and that result in win-lose scenarios that fracture both Montanan's cherished private property rights and cherished public trust resources. This is not a productive exercise for either Montana's bighorn sheep or domestic sheep interests. What is productive is for organizations like ours, to sit down, roll up our sleeves, and work to find and implement on the ground solutions to our mutual problems.

MWGA and MTWSF will strive to accomplish our mutual goals of a healthy and value-added domestic sheep industry and healthy, growing and robust bighorn sheep populations, for the benefit of sportsmen, sheep producers, wildlife viewers, and general citizens, through science-based management, research, and on-the-ground application of current knowledge. For this to be accomplished, MWGA and MTWSF understand the important role collaborative efforts between private landowners, the domestic sheep industry, and Montana's sportsmen play in protecting and enhancing Montana's bighorn sheep population and domestic sheep industry. Cooperation, not litigation, is the key to meeting Montana FWP's Conservation Strategy of establishing 5 new bighorn herds in Montana, each decade. Such cooperation comes in the form of: on-the-ground management actions such as maintaining spatial and physical separation between domestic sheep and bighorn sheep; ensuring that existing agriculture operations are not evicted from public lands as a result of bighorn sheep conservation efforts; applying results from predator/prey research; and implementing effective predator control efforts where required. In addition, we mutually believe in and advocate for well-designed bighorn sheep transplants and augmentation programs, mitigating loss of bighorn habitat to quickly escalating human development in areas proximate to or within bighorn herds, and delivering adequate funding, at both the state and federal levels, for bighorn and domestic sheep disease surveillance, collaborative research, and animal/range science knowledge.

With these aforementioned efforts in mind, moving forward, we intend to utilize the best available science in order to make the most informed management decisions. We will mutually promote both wild and domestic sheep, as both sides strive to find ways to profitably produce domestic sheep safely-separated from bighorn sheep, allowing Montana's wild sheep populations to expand their distribution.

Jointly, our two groups support continued funding of research in regard to disease transmission between domestic and bighorn populations, and also concur that, at present, while the science on bighorn pneumonia is being developed, the best method to prevent disease transmission is effective separation in time and space. While both group's missions would be made far easier if the federal court wasn't used as a surrogate to overturn sound state wildlife management policies, this collaborative approach is the only reasonable solution on the Montana landscape until such time as there can be federal litigation reform.

For this to succeed, we ask additional support from: Montana Governor Bullock's office, Montana Departments of Fish, Wildlife, and Parks, Livestock and Agriculture; and Montana State University Agriculture and Wildlife researchers, Washington State University Rocky Crate Foundation, and Idaho State University Agriculture/Wildlife research units; Montana Tribes; U.S. Department of Agriculture and Interior (Forest Service, BLM, ARS, USSES, etc.); agriculture interests and industry groups, conservation organizations, sportsmen groups, the Montana Legislature, and interested citizens. The next step in this process will be launching an all-inclusive interaction working group to develop long-term solutions and strategies for both domestic and bighorn sheep in Montana. MWGA and MTWSF will jointly lead this effort as the primary stakeholders; however, this interaction working group will be open to all agencies, individuals, and groups that are interested.

Although we each favor different specific aspects of Montana's natural resources, we should all agree on the overall goals of wise management and conservation of our natural resources and enhancing the Montana way of life for future generations of Montanans. With people at the table, willing to do the hard work to find solutions, our mutual goals of maintaining and expanding healthy, huntable bighorn sheep populations and maintaining healthy domestic sheep production in Montana can be achieved without lawsuits, litigation and win-lose legislation.

Brian Solan  
President  
MT Wild Sheep Foundation  
Helena, MT

Dave McEwen  
President  
MT Wool Growers Association  
Galata, MT

2016-04-08

## Meet the Presenters



**Dr. Emily Almberg** – Wildlife Disease Ecologist, Montana Fish, Wildlife & Parks

Emily studies the dynamics and ecology of infectious disease in wildlife populations. Her current work focuses on pneumonia in wild sheep, chronic wasting disease in cervids, and brucellosis in elk where she uses statistical, simulation, and field approaches to inform surveillance and management approaches.



**Kurt Alt** – Montana Wild Sheep Foundation

Kurt is the staff biologist for the Wild Sheep Foundation and works on behalf of both the National and the Montana Chapter. His 35 years with MTFWP included game range manager, wildlife biologist and Wildlife Manager. He has extensive experience in wildlife management and wildlife/agriculture conflict resolution in Montana and in countries spanning 5 continents. He earned his BS and MS in Fish and Wildlife Management from MSU. Kurt was born in Glasgow, MT, learned to swim in the Little Missouri River and grew up in Butte. His wife is a teacher currently stationed in Germany with the US military.



**Dr. Thomas Besser** – Professor, Washington State University, The Rocky Crate D.V.M. and Wild Sheep Foundation Chair in Wild Sheep Disease Research

Tom's principal research focuses on the epidemiology of zoonotic bacterial agents in their domestic animal reservoirs. He has recently been working on the etiology of bighorn sheep pneumonia and begun working on a very different problem associated with cross-species transmission of pathogenic bacteria: epizootic pneumonia of bighorn sheep.



**Mike Cox** – Staff Wildlife Biologist Nevada Department of Wildlife

In addition to state-wide agency responsibilities, Mike is the chairman of the Western Association of Fish and Wildlife Agencies' Wild Sheep Working Group. This group identifies priority topics and management challenges to wild sheep in the western U.S. and Canada; collaboratively develops solutions to those challenges; and fosters strong relationships between wild sheep agencies and wild sheep advocates. It has developed recommendations for management of domestic sheep and goats in wild sheep habitat.



**Dr. Robert Garrott** – Professor, Dept. of Ecology, Montana State University

Bob's research focus is understanding the abiotic and biotic ecological processes that influence mammalian populations and communities. I work in both terrestrial and marine ecosystems and contribute to basic science as well as applied wildlife management and conservation through collaborations with state and federal natural resource agencies.



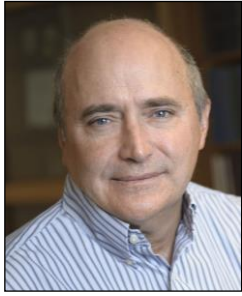
**Dr. Maggie Highland** – Animal Disease Research Scientist, USDA-ARS, Washington State University.

With a DVM from UW-Madison in 2006, general anatomic pathology training at UC-Davis and specialized training in zoo and wildlife pathology at the Milwaukee County Zoo and UW-Madison, Maggie is currently a diplomate of the American College of Veterinary Pathology. She completed a USDA Pathways PhD training program in the Dept. of Veterinary Microbiology and Pathology at Washington State University in 2016. She now has a full-time research position with the USDA-ARS-ADRU. Maggie's PhD and current research focus is small ruminant infectious diseases and immunology with special focus on bighorn sheep and domestic sheep interface issues and comparative immunology of these two species.



**Dr. Barry Jacobsen** – Associate Director of the College of Agriculture Montana State University and Montana Ag Experiment Station.

MSU provides education, research, and extension/outreach programs to meet the changing needs of Montana. The College of Ag and the Ag Experiment Station generate and disseminate knowledge and technological solutions to increase the competitiveness of communities capturing value from Montana's agricultural and natural resources, preserve environmental quality, and improve the quality of life for all our citizens.



**Dr. Mark Jutila** – Dept. Head, Microbiology and Immunology, Montana State University.

Mark's research focuses on inflammatory disease and developmental immunology. His laboratory studies the molecular events that control leukocyte entry into sites of acute and chronic inflammation. Analyses of gamma/delta T cells are also pursued in the context of host immune responses and developmental immunology.



**Dr. Donald Knowles** - Professor & Research Leader, Veterinary Microbiology & Pathology, Animal Disease Research Unit, USDA-Pacific West Area.

The Animal Disease Research Unit provides solutions to infectious disease problems that have significant economic impact on the bovine, equine and small ruminant industries of the United States. ADRU's disease program is focused on novel methods to prevent disease transmission. Our mission also includes solving problems associated with scrapie, CWD, malignant catarrhal fever virus, bovine babesiosis and ovine progressive pneumonia virus.



**Dave McEwan** – President of the Montana Wool Growers Association

Dave has several years of experience in the sheep industry and has now served in every office of the MWGA. Dave and Lenora are 1st generation ranchers in the Sweet Grass Hills where they raise cows and sheep. Their children, Forrest and Johna, actively participate in running the ranch. Dave takes pride in the MWGA and looks forward to promoting Montana's sheep and wool products and advocating for its producer's rights.



**Dr. Raina Plowright** – Assistant Professor, Department of Microbiology and Immunology, Montana State University

Research in the Plowright Lab focuses on the dynamics of infectious diseases. We integrate field, lab and modeling approaches to study the dynamics of zoonotic pathogen spillover, the dynamics of diseases in wildlife reservoirs, and the effects of diseases on wildlife health. Our work has implications for public health, veterinary health and wildlife conservation.



**Dr. Jennifer Ramsey** – Wildlife Veterinarian, Montana Fish, Wildlife & Parks

Jennifer is the wildlife veterinarian for the Montana Department of Fish, Wildlife & Parks and leads the agency's wildlife health program, which seeks to provide useful insight to wildlife managers regarding factors that impact the health of Montana's wildlife populations.



**Dr. Helen Schwantje** – Wildlife Veterinarian, BC Ministry of Forests, Lands and Natural Resource Operations.

Helen graduated from the Western College of Veterinary Medicine in 1981, followed by practice in BC in mixed animals, zoo animal practice, and completed a Masters of Science in Veterinary Pathology in 1987 specializing in wildlife diseases working on the evaluation of health status of bighorn sheep herds in the East Kootenay region of BC before becoming BC's wildlife vet in 1992. In her other life, she purchased a 100+ year old farm in 1986 where she has a live-off-the-land hobby raising domestic sheep and other edibles. Fortunately, her husband is a great cook.



**Dr. Whit Stewart** – Assistant Professor of Sheep and Wool Production Extension Sheep Specialist Montana State University

The extension program addresses the needs of Montana producers by providing programs, knowledge, and assistance to sheep ranchers in Montana and the Rocky Mountain region. A cooperative project between Montana Wool Growers and MSU is dedicated to non-traditional adjustment strategies that will increase the competitiveness of Montana's lamb and wool in the world market.



**Dr. Bret Taylor** – Animal Scientist, Agricultural Research Service

The mission of the USDA, ARS, Range Sheep Production Efficiency Research Unit, U.S. Sheep Experiment Station is to develop integrated methods for increasing production efficiency of sheep and to simultaneously improve the sustainability of rangeland ecosystems.





**Lori Vickers** - Regional Agrologist, British Columbia Ministry of Agriculture

Lori is a University of British Columbia alum with a BSc in Agrology and MSc in Animal Science. Now based in BC Peace, she works with the many faces of BC agriculture, including the sheep industry and the BC Sheep Federation. She is currently involved with the BC wild-domestic sheep separation program and supporting research looking at the prevalence of *Mycoplasma ovipneumoniae* in domestic sheep flocks in areas of high risk of contact with wild sheep populations. She also has a particular interest in livestock nutrition, production, management and supporting BC agriculture producers. In her spare time, she enjoys hiking and horseback riding.



**John Vore** – Game Management Bureau Chief, Montana Fish, Wildlife & Parks

A 35-year veteran with FWP, in addition to his present job John has also been a research biologist studying elk and an area management biologist. Managing and working with bighorn sheep has been a part of his life for over 20 years. He is passionate about wildlife and an avid outdoorsman. John and his wife, Teri, live in Helena, and their adult daughter, Callie, is in Missoula.



**Dr. Jovanka Voyich** – Assistant Professor, Department of Microbiology and Immunology, Montana State University

For our U. S. Dept of Agriculture projects, we investigate incidence and characteristics of *S. aureus* in Montana's dairy herds and study the antimicrobial potential of a chemokine found in bovine milk. We have started to determine the zoonotic potential of *S. aureus* and are focusing on the incidence and transmission potential of *S. aureus* in Montana's equine populations.



**Dr. Peregrine Wolff** – Wildlife Veterinarian, Nevada Department of Wildlife.

Peri has cared for animals from tarantulas to elephants and is currently the wildlife veterinarian for the Nevada Department of Wildlife. A NY State College of Veterinary Medicine (Cornell) alum she has worked for government agencies, large corporations and owned her own practice specializing in small ruminants and exotics. Passionate about sharing her knowledge and advancing the field of conservation and wildlife medicine and welfare she has taught students and colleagues around the globe and volunteered her leadership skills and experience for numerous organizations and committees. She is a past board member of the Association of Small Ruminant Practitioners and currently serves as the President of the American Association of Wildlife Veterinarians and as co-chair for the US Animal Health Association committee on Wildlife Disease. As NDOW's veterinarian, Peregrine is involved in wildlife health and conservation programs across the state.