

LEO Wild Sheep Working Group 2017



**Bob Gerlach
Alaska State Veterinarian**



Bighorn Sheep Pneumonia:
drastic illness & mortality of herds in lower
48 states.

Where does it come from?
What can be done
about it?



Pneumonia in Bighorn Sheep

- Caused by several pathogens:
 - bacteria and viruses
 - One primary bacteria is suspected as a major problem: *Mycoplasma ovipneumonia*
- Many factors contribute to cause illness
 - Pathogens
 - Nutrition
 - Parasites
 - Competition for resources
 - Herd size/crowding

So situation is not completely understood

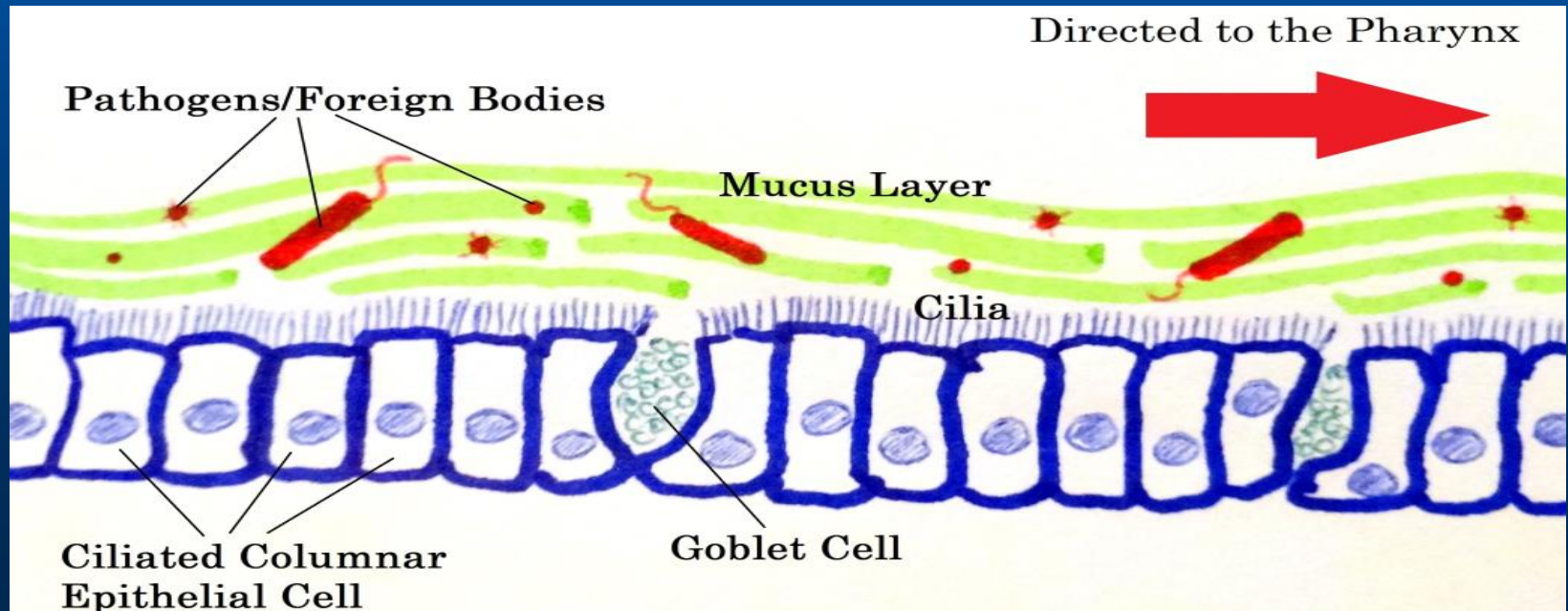
Mycoplasma Ovipneumonia (Movi)

Grows the upper airway sheep and goats (*carriers*)

Illness only sheep and goat species (Caprinae)

Affects lung defenses in wild sheep making them prone to severe bacterial pneumonia

Movi can't live outside of the respiratory system



Movi typically causes relatively mild disease in domestic sheep

- 'Coughing syndrome' in young lambs
- Reduced growth rate and weight gains
- Severe pneumonia has been reported, especially in young goats

USDA Sheep study:

- 60 -80 % of large farms had Movi detected
- < 4% of small goat farms (+)
- Movi negative herds fewer reports of pneumonia



Wild Sheep Working Group

- Organized by the AK Farm Bureau and the Wild Sheep Foundation.
 - ADF&G, OSV, DNR-Ag, Farm Organizations
- Discuss strategies for prevention of wildlife livestock interaction and spread of diseases.
- Determine the prevalence of *M. ovi* in domestic sheep and goats in Alaska

Strategy

- Collect background information and data in Alaska
- Outreach Education
- Strong proactive management strategies to protect animal health

Strategy

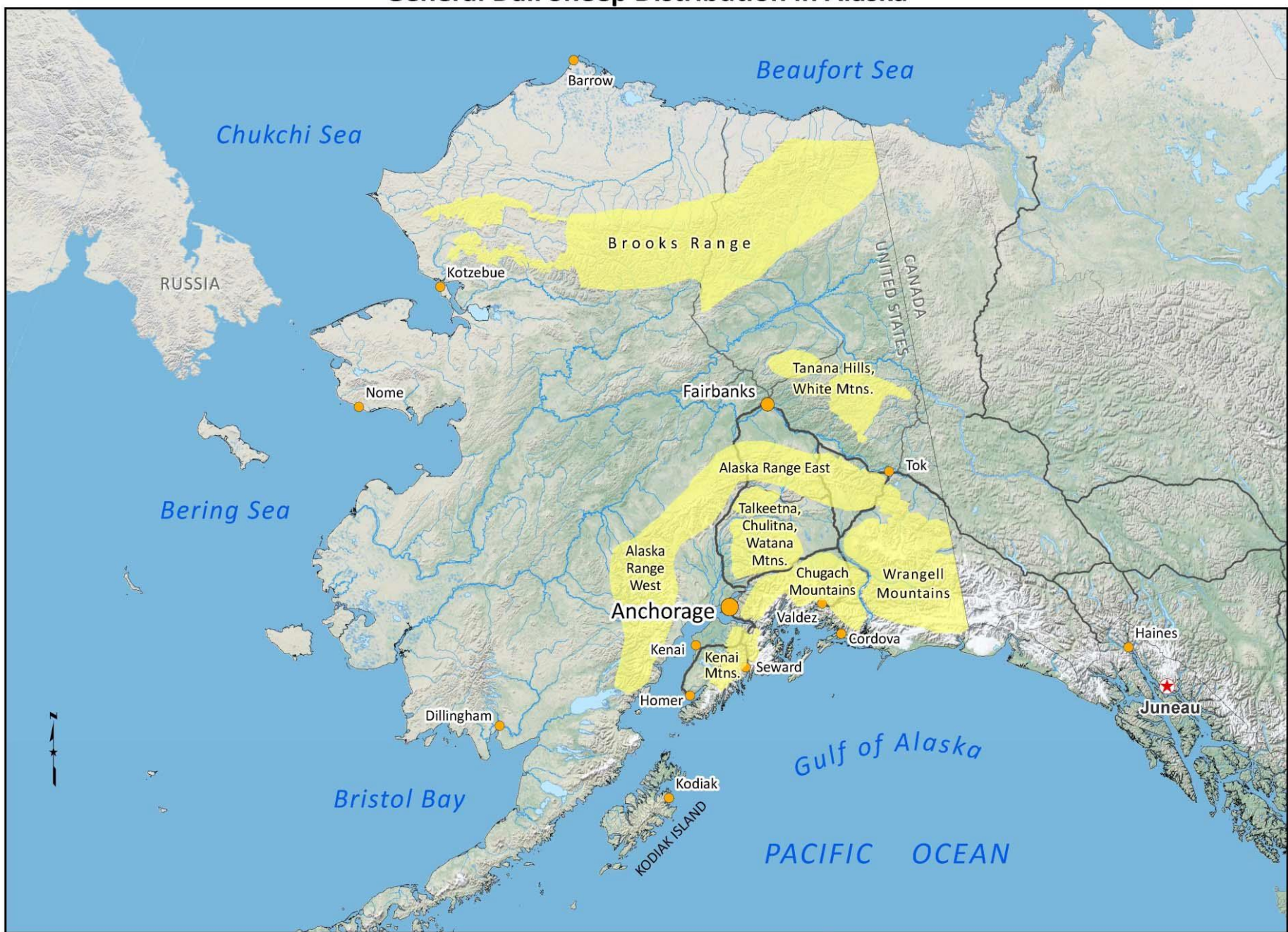
- Need to know the location, size, and health status of domestic sheep and goats as well as wild sheep herds:
 - managing or disease prevention is impossible
- Separation should be maintained.
- Research on understanding how pneumonia related pathogens can spread & affect wild sheep.

Alaska Situation

- Regulations already exist for livestock species, which require containment and separation (fencing)
- Controlling exposure by separation is the only current effective measure to reduce the risk of pneumonia outbreaks in wildlife
 - Problem can be effective separation

Fences





Alaska

- 25% of wild sheep in N. America live in Alaska.
- No cases Movi in wild sheep in Alaska:
 - Limited testing
- Range maps probably not in sufficient detail for risk analysis.
- No current studies to determine foray distances for wild sheep, goats, and muskoxen to determine risk of contact.

USDA 2012 Farm Census

	Aleutian-Kodiak Islands	Southcentral	Kenai Peninsula	Interior/Fairbanks	Southeast	
# Farms		Anchorage-MatSu-Valdez-Cordova		Delta - Yukon to Canada		Total farms
Sheep	2	25	7	14	2	50
Goat	1	27	10	15	3	56
Total	3	52	17	29	5	106
# Animals						Total animals
Sheep	42	326	147	216	42	773
Goat	6	343	52	177	18	595
<i>Total</i>	48	669	199	393	60	1,368

Alaska: Unique Situation

- May not be comparable to situations in western U. S. or Canada.
- Smaller number of farms and livestock:
 - 13 animals/farm
- Fewer sheep and goat importations/year (<10 shipments and <40 animals).
- No free grazing, animals must be contained/fenced.

Study Outline

- Use USDA statistics: develop a sampling plan for farms
- Expand and collect wildlife samples
- Sample collection:
 - Veterinarians to collect samples
 - Client/patient confidentiality
 - Follow established protocols
 - Nasal, conjunctival swabs and serum
 - Samples submitted:
 - USDA Animal Disease Research Lab
 - Washington State Animal Diagnostic Lab

Study Protocol

- Voluntary participation
- A Survey will be completed by farmer
 - Determine farm management practices and risk of contact with wildlife.
- All animals tested on the farm:
 - Repeated sampling at 4 and 8 weeks
 - Duplicate samples collected
- Data will be returned to the Veterinarian and the State Veterinarian

Next Steps

- Dependent on the study results
 - Protect animal resources (domestic, wildlife)
- Evaluate the need for mitigation actions
 - “Disease free status”
 - Regulations:
 - importation, disease testing
- Continued collaboration:
 - Wild Sheep Foundation
 - ADF&G
 - Farm Bureau & Farmers
 - Office of the State Veterinarian



Questions?

