## Comments on Dead Cattle in Meeker, CO 02-08-2023

Over many decades it was my job to conduct necropsies on hundreds of dead livestock, pets, working dogs, and hounds that died from a multitude of causes. From 1975-1990 I was the District Supervisor for USDA/Animal Damage Control (ADC – name later changed to Wildlife Services WS) covering roughly the western half of Montana. During that time, I was responsible for the supervision and guidance of a half dozen ADC specialist, often referred to as government trappers.

I became the Wolf Management Specialist (1990-2000) and my region of responsibility expanded considerably to covering mainly the states of Montana, Idaho and Wyoming. My principal job was conducting investigations into dead livestock that were specifically suspected of being attacked, killed and consumed by wolves. The answers sometimes could be complex.

I am not a veterinarian but spent eight years in university training to receive a BS and MS in wildlife biology from Iowa State University. I have been exposed to the various sciences and worked closely with veterinarians in different capacities in my life. I grew up in a rural environment working with livestock producers as a laborer and was taught animal husbandry. In that situation I saw more than my share of livestock suffering and death from disease, accidents, predation and a multitude of other unfortunate outcomes caused by many factors.

I have examined the photos of approximately 35 dead cattle that were taken during the investigation of mysterious cattle deaths near Meeker, Colorado. Photos can only show a limited amount of detail compared to actually being on site to look for other factors that might contribute to the loss of apparently healthy-looking cattle.

I will outline my observations regarding the hundreds of photos from this incident and relate them to the known conditions reported in that area near Meeker. First of all, the presence of wolves is not difficult to determine, if wolves exist. I sense from the many trail cameras positioned in the area and news reports and other communications expressed that wolves were NOT identified at the time. If wolves were the cause of death of the cattle, cameras and human searches could easily locate or recognize that wolves were in close proximity.

I use a step-by-step analysis of each livestock death situation – my approach! I look at the location and position of the dead stock – what I see in the evidence at Meeker is inconsistent with wolf attacks. The cattle have died randomly over a large area in what appears to be sudden death. My experience with wolves is that they chase vulnerable livestock (those that are helplessly incapacitated, infirm or exhibit the willingness to run from a wolf) down, while slashing at the flanks and hindquarters, inflicting traumatic wounds and severely mutilating flesh and muscle, debilitating an animal until it can no longer hold itself up. Very often the sheep or cattle seek shelter by running into forest or being cornered in a fence line. When cattle collapse from wolf attacks, many times they die on their sternum, with legs folded under their bodies because the wounds disable their leg support muscles. They go to a sternal

position and wolves continue the attack until the animal dies of shock. I see nothing to indicate the cattle died that way.

My first impression is that the cattle appear fat and healthy and died where they were randomly standing. Fevered cattle often die gathered near a water source. When I see the randomness and position of livestock such as this, I would suggest a veterinarian be called immediately.

I consider myself an expert on predation-caused events. When I don't see evidence of predation, I report to the livestock producers and tell them that I can't connect death to coyotes, lions, bears, dogs or wolves. That is the time I strongly suggest a veterinarian be called to do a necropsy and run some tests.

In each and every color image of the dead cattle after the skin has been removed or rolled back the evidence of various stages of decomposition is clear. The freshest carcasses consistently exhibit hypostasis - the accumulation of fluid or blood in the lower parts of the body or organs under the influence of gravity, as occurs in cases of poor circulation or after death. The longer a carcass has been dead, and depending on environmental factors, the more pronounced and widespread the pinkish coloration becomes.

I did NOT see any evidence of predation by wolves. Hypostasis can vary on the carcasses depending on how the animal was positioned on the ground and sun intensity that can contribute to decomposition. From my experience hypostasis is more pronounced in proximity to larger blood vessels compared to areas turning pink from capillaries breaking down. An inexperienced person can see extensive darkening closer to the large blood vessels along the neck, for example, that might mimic a wound.

When wolves take down cattle the wounds are profound! Experience has shown that wolves primarily attack cattle along the flanks grasping the loose skin under the front legs, in front of the hindlegs and in the hindquarters when the cattle are running. The associated muscle damage under the skin is devastating – the muscles are crushed, mutilated and severely bloodshot resembling grape or strawberry jelly. It is my professional opinion that 99.9 percent of wolf attacks on cattle result in crippling bite wounds as described leaving NO DOUBT as to the cause. Anything less – I would NOT suspect predation by wolves.

Based on the evidence in these photos it my opinion that wolves had nothing to do with the death of Meeker cattle. I don't really see any evidence of dog bites either. Although they can be less damaging, dogs can inflict serious injuries to the legs of cattle or even the faces/nose.

A sidenote: Wolves chew up bones and hide. Wolves do not kill for "fun." They expend energy to eat. No signs of feeding by wolves. Evidence of scavenging in some cases with bone intact. Characteristic scavenging by smaller carnivores since bones were consumed. Evidence of eagle scavenging and presence from the whitewash defecation streaks on cattle hides. Not sure I got

to view all photos from this incident but I did not see any evidence of characteristic feeding patterns by wolves.

Normally, a wolf or wolves would consume considerable amounts of meat, bone and hide and wolves frequently revisit a kill site and dominate a carcass until largely eaten. Based on the camera traps placed near carcasses, no wolf visits at all. One more strong piece of evidence that wolves were not present in the area (or wasted a lot of energy chasing cattle around and not eating a bite before leaving the area entirely which is entirely uncharacteristic of wolves). Very rarely have I seen wolves kill livestock without consuming the prey they have killed.

I believe the cattle died fairly quickly where they were standing and the cause had nothing to do with predation of any sort. I noted in some of the accompanying communications that at least a couple of calves/yearlings in this event died from brisket disease. My question would be – If a couple of cattle died this way, it is reasonable to assume others did too.

Reading the literature on brisket disease, there are volumes of information available (I use a couple of random references here) – "High mountain disease (brisket disease) is right heart failure due to hypoxic pulmonary hypertension in cattle residing at high altitudes. [1–3] Hypoxia is the most potent stimulus for pulmonary hypertension, and the hypoxia of high altitude (>7,000 ft) is a well-known cause."

## https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3329076/

In the Angus Bulletin - Brisket Disease Research:

It's Not Just a High-altitude Disease

*Researchers are finding genetic component for pulmonary artery hypertension.* 

by Heather Smith Thomas

https://www.wlj.net/top\_headlines/brisket-disease-is-not-just-an-altitudeissue/article\_977b6238-1b38-11e9-bae5-9fa9bc4ae5a7.html

https://www.tsln.com/news/special-interest/the-cattle-journal/winter-cattle-journal/brisket-disease-research-continues/

**"Some cattle die very quickly of brisket disease, others linger for weeks**. According to one study, as early as 1963 brisket disease was reported in cattle grazing at high altitude, with a prevalence of 2-10 percent."

I note from topo maps that accompanied the images that the cattle, with few exceptions, <u>died</u> <u>at or above 9,200 feet.</u> Brisket disease is a well-known and recognized condition in cattle that graze at high elevations in Colorado.

In conclusion, I did NOT see any evidence of wolf predation in any of the images provided. I hope this is helpful.

Sincerely,

Carter Niemeyer US Fish and Wildlife Service (retired)