



Investigating mortality in farmed bison, with an emphasis on MCF

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Who, what, when, where?

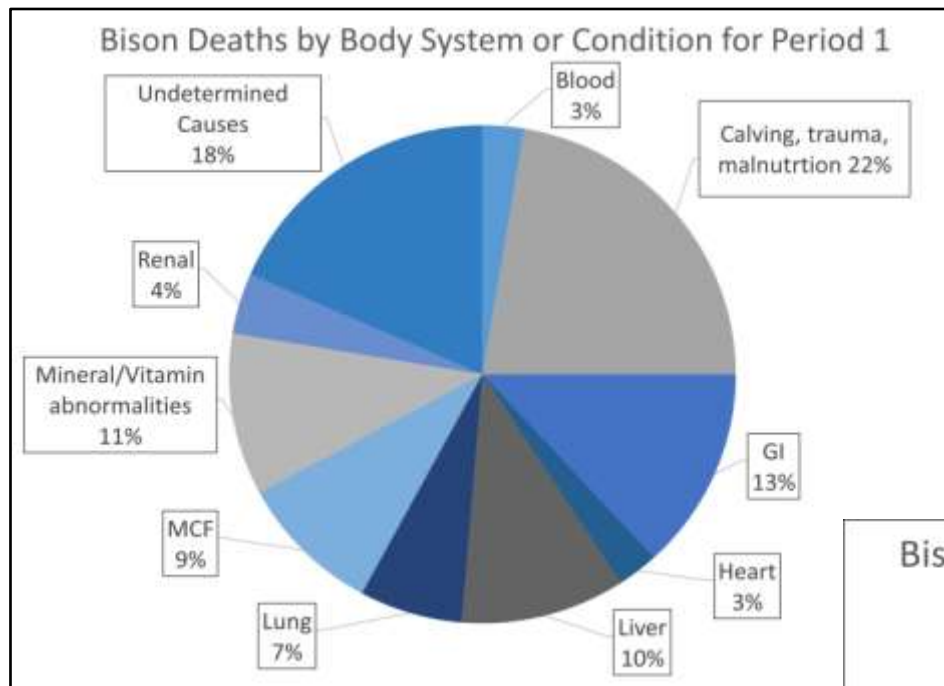
WHO? Any animal that died or was euthanized for illness on farm was eligible for submission for necropsy.

WHEN and WHERE? Period 1 - December 1, 2012 and May 31, 2014 in Saskatchewan. Period 2 - July 2015 and December 2016 in Saskatchewan, Manitoba, Alberta and British Columbia.

WHAT? Processing of samples by the laboratory followed a standard protocol, with specific tests for MCF, mineral/vitamin panels, and mycoplasma. The case definition of a MCF death was any bison submitted for necropsy with a positive PCR test and histopathological evidence supporting a diagnosis of MCF, with or without specific clinical symptoms in the history (i.e. “found dead” was acceptable).



What do bison die from?

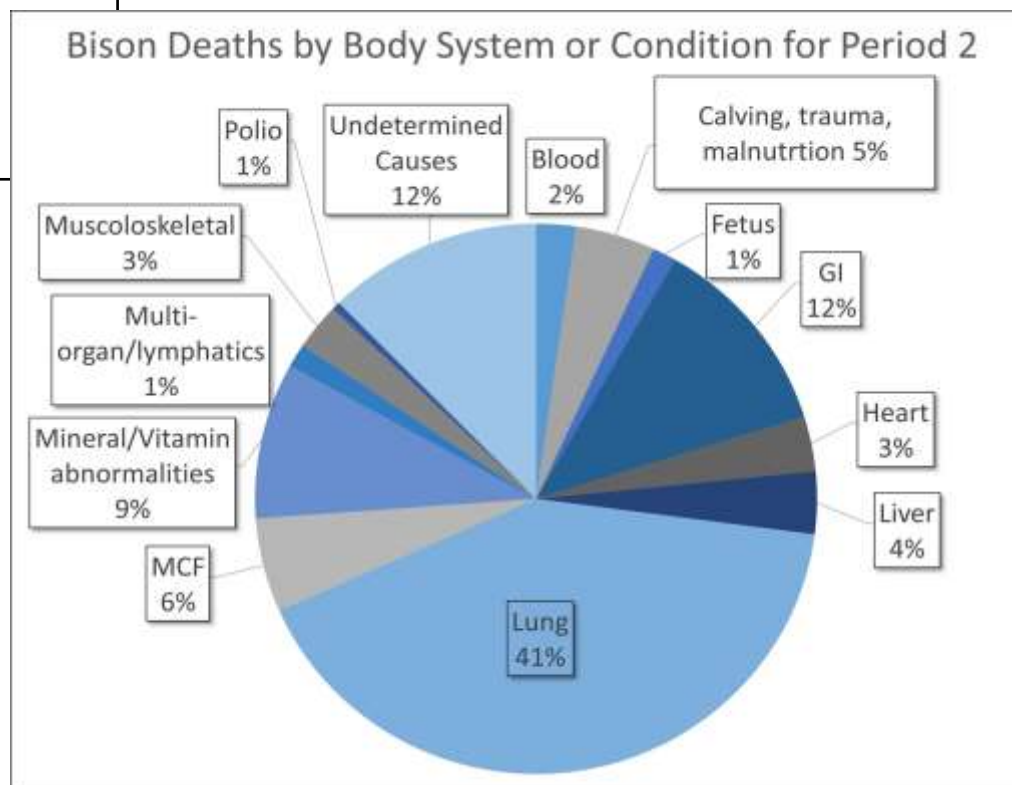


Specific pathogens identified (Period 1):

- *Actinobacillus lignieresii*
- *Archanobacterium pyogenes*
- *Mannheimia haemolytica*
- Clostridia
- Coccidia
- Ostertagia
- MCF (OHV-2)

Specific pathogens identified (Period 2):

- *Bacillus anthracis*
- *Trueperella* (*Archanobacterium*) *pyogenes*
- *Coccidia/Eimeria*
- *Clostridium perfringens, chauvoei*
- *Ostertagia*
- *Mycoplasma bovis*
- MCF (OHV-2)
- *Mannheimia haemolytica*



Malignant Catarrhal Fever



Farms with MCF deaths	Pre-2012 start	Dec 2012 – May 2014	July 2015 – Dec 2016	Total Herds
Sheep with 1 km	2	2	4**	6 (Period 1), 9 (Period 2)
Sheep within 1 – 5.6 km	0	0	0	9, 19
Sheep > 5.6 km	0	0	0	11, 18
Total herds	26	26	42 (46)	60 (63)



Average MCF Incidence Rate (within 1 km sheep)
= 1.5 MCF deaths per 1000 bison/year



Biggest issues??

- Mycoplasma bovis
- Mineral/vitamin issues
- Calving, nutrition and trauma
- MCF**

