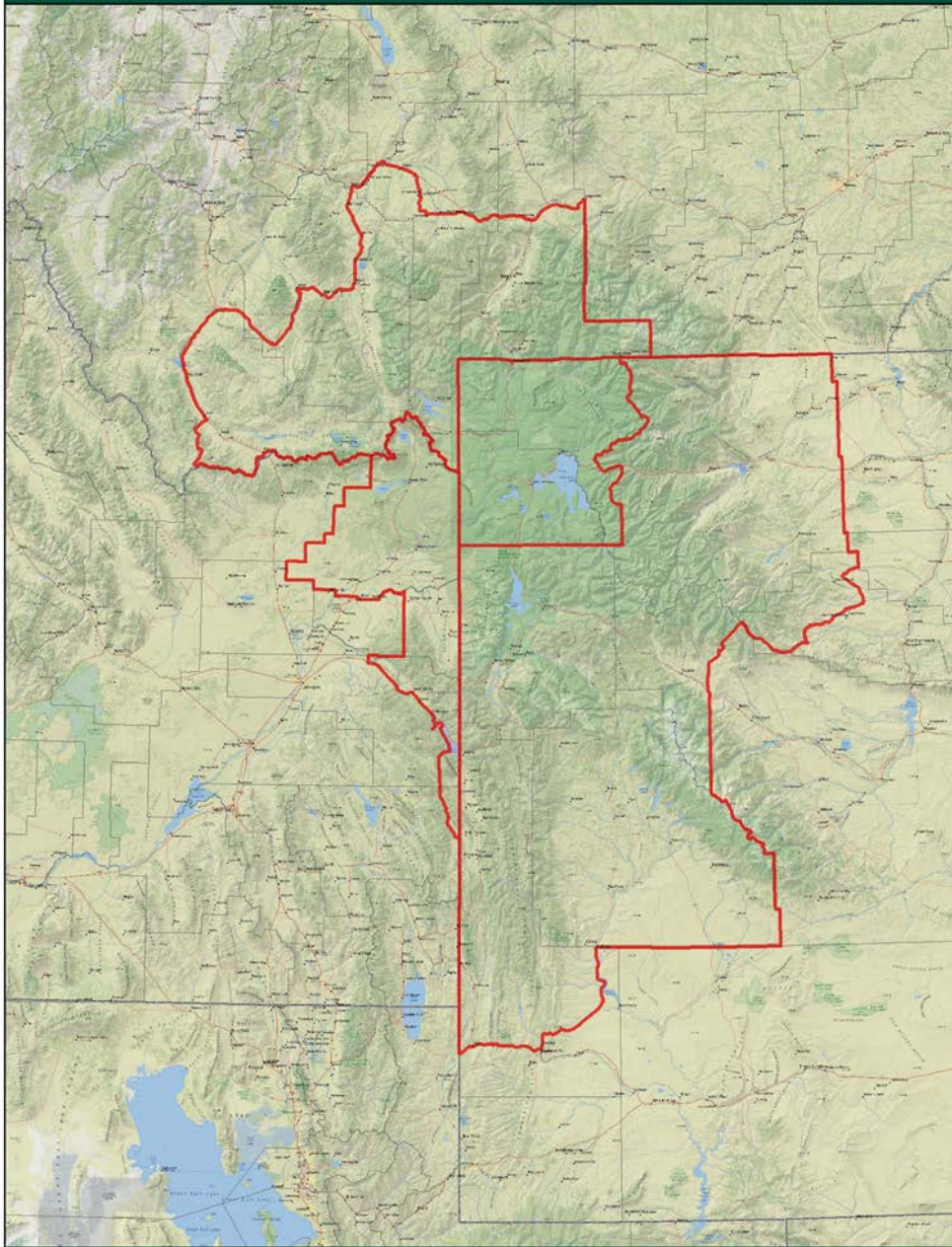




# Idaho, Wyoming and Montana Designated Surveillance Areas



# BRUCELLOSIS

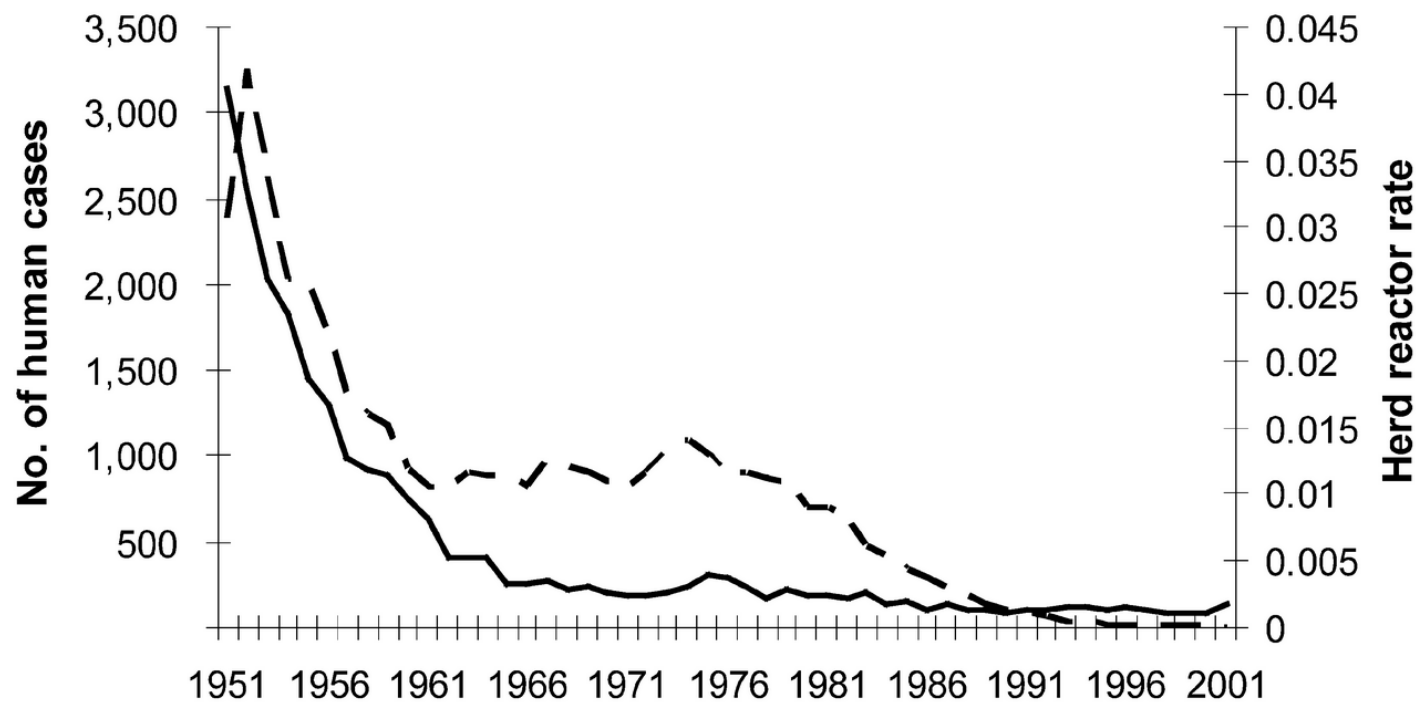
Tahnee Szymanski

Assistant State Veterinarian

Montana Department of Livestock



Presentation by Tahnee Szymanski for CMR CWG



Center for Food Security and Public Health, Iowa State University, 2008

## BRUCELLOSIS CASES (1951-2001)

# BRUCELLOSIS

- Cattle, Bison and Elk
  - Causative agent – *Brucella abortus*
  - Intracellular bacteria
  - Birthing and abortion tissues highly infectious
    - Up to 10,000,000,000 bacteria/ml
  - *Brucella* viable in fetal remains for 81 days
  - Infectious dose (aerosol): 10-100 organisms
- Humans
  - *Brucella spp.*
  - Undulant fever, Malta fever, Mediterranean fever

## CLINICAL SIGNS: CATTLE & BISON

- Mild to moderate disease
- Third trimester abortions
- Retained placenta
  - Once expelled will have a leathery appearance
- Endometritis
- Birth of dead or weak calves
  - Respiratory distress and lung infections
- Reduced herd reproductive capacity



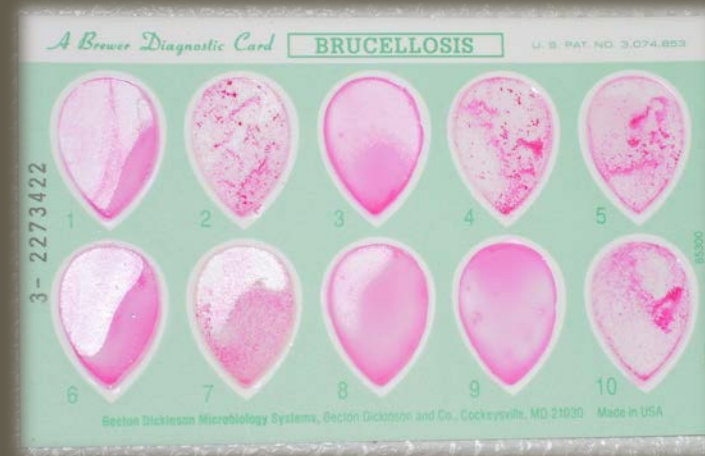


## TRANSMISSION

- Mucous membranes or broken skin contacting infected tissues
  - Blood, urine, vaginal discharges, aborted fetuses, placentas
- Ingestion
  - Raw milk & unpasteurized dairy products
  - Rarely through undercooked meat
- Injection
  - Vaccine

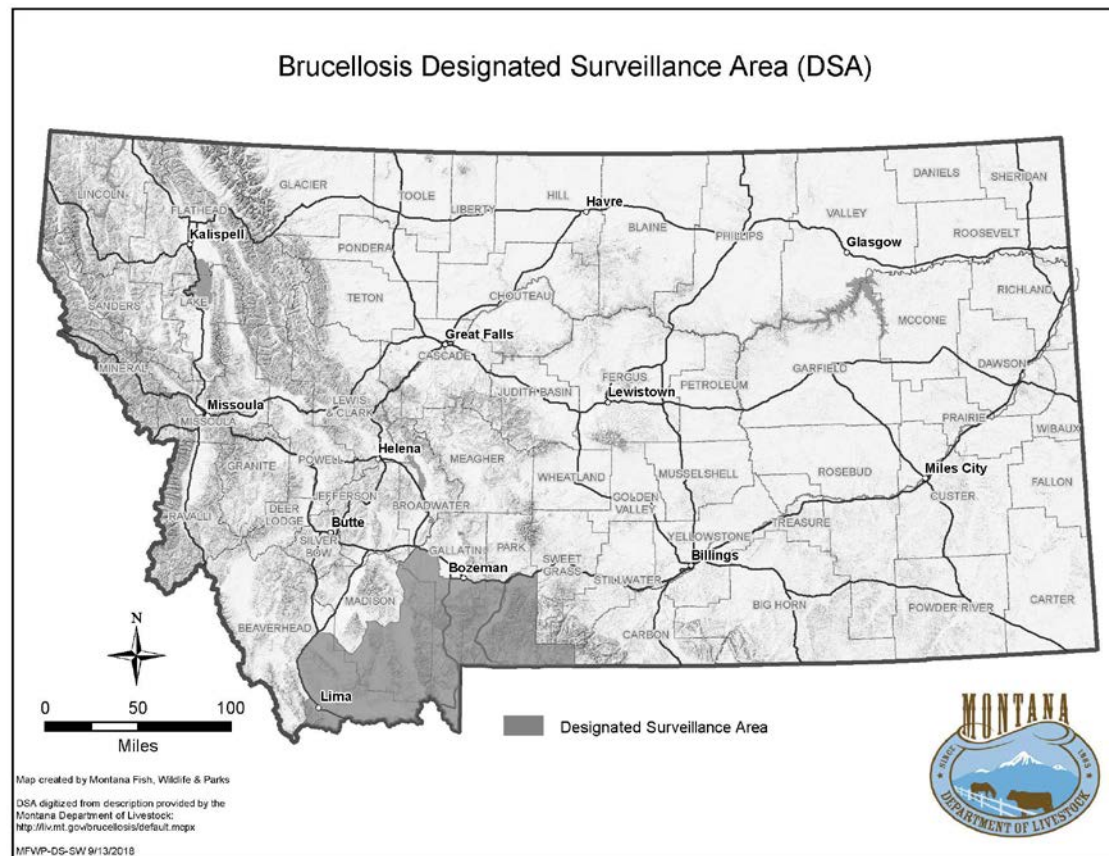
# DIAGNOSIS

- Serology
  - CARD, FPA, BAPA, CF
  - 99% sensitive and specific on cattle if run in series
- Culture
  - Confirmatory test



# MONTANA'S DESIGNATED SURVEILLANCE AREA

- 372 herds (seasonal and resident)
- 86,659 cattle and domestic bison
- 5% of the Montana cattle herd
- 85,787 DSA tests in 2019
- 10 Affected herds since 2010





# DSA/BRUCELLOSIS REGULATIONS

## Movement testing

- Bulls and females 12 months of age and older

## Change of ownership testing

- Bulls and females 12 months of age and older or any age if sold for breeding purposes

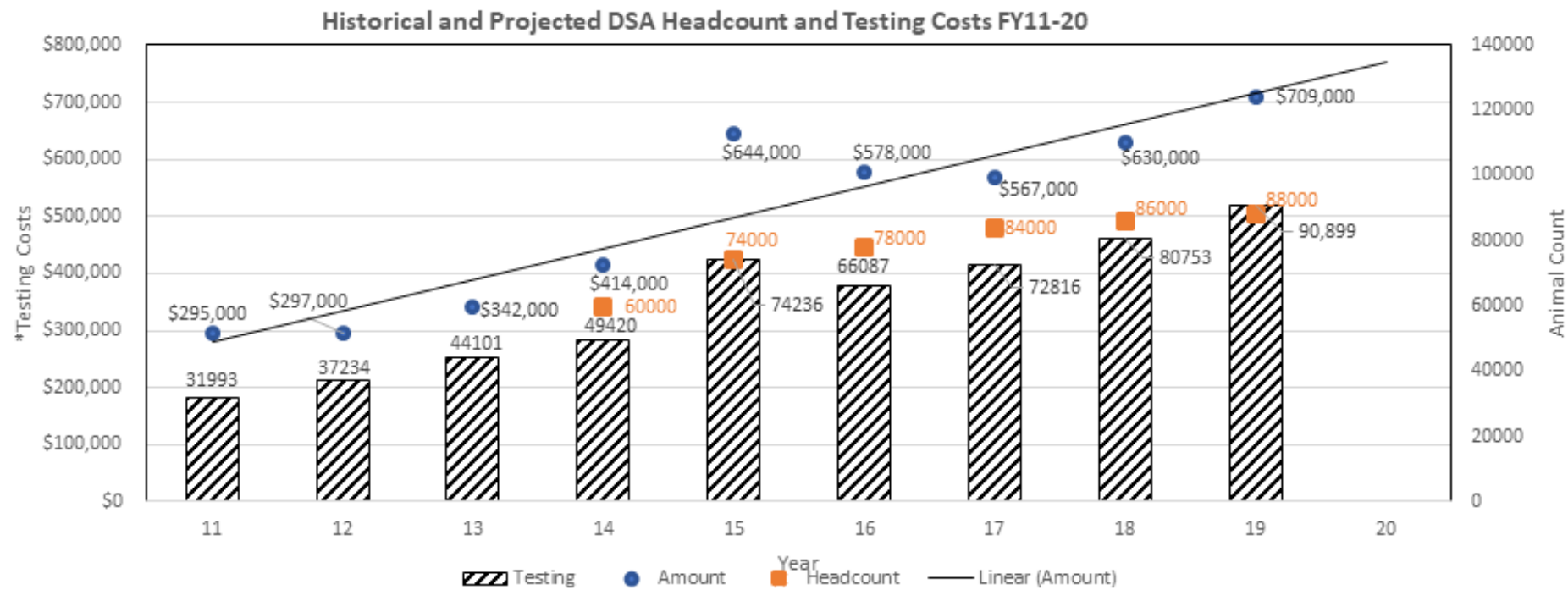
## Traceability-official I.D. required

- All bulls and females (includes feeder heifers <12 months of age)

## Vaccination

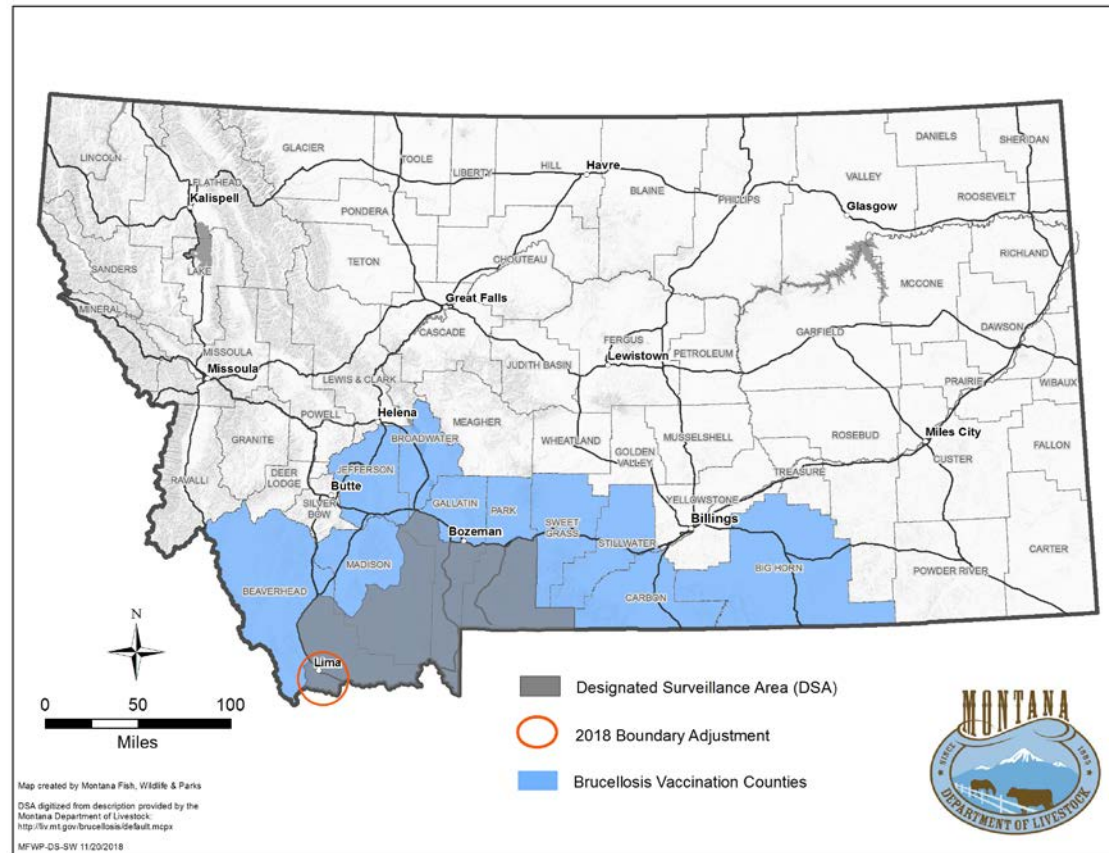
- All females 12 months of age and older
- Official Vaccination (OCV or AV) required in 10 counties





HISTORICAL AND PROJECTED HEADCOUNT AND TESTING COSTS

# 10 COUNTY VACCINATION REQUIREMENT





## WILDLIFE SURVEILLANCE

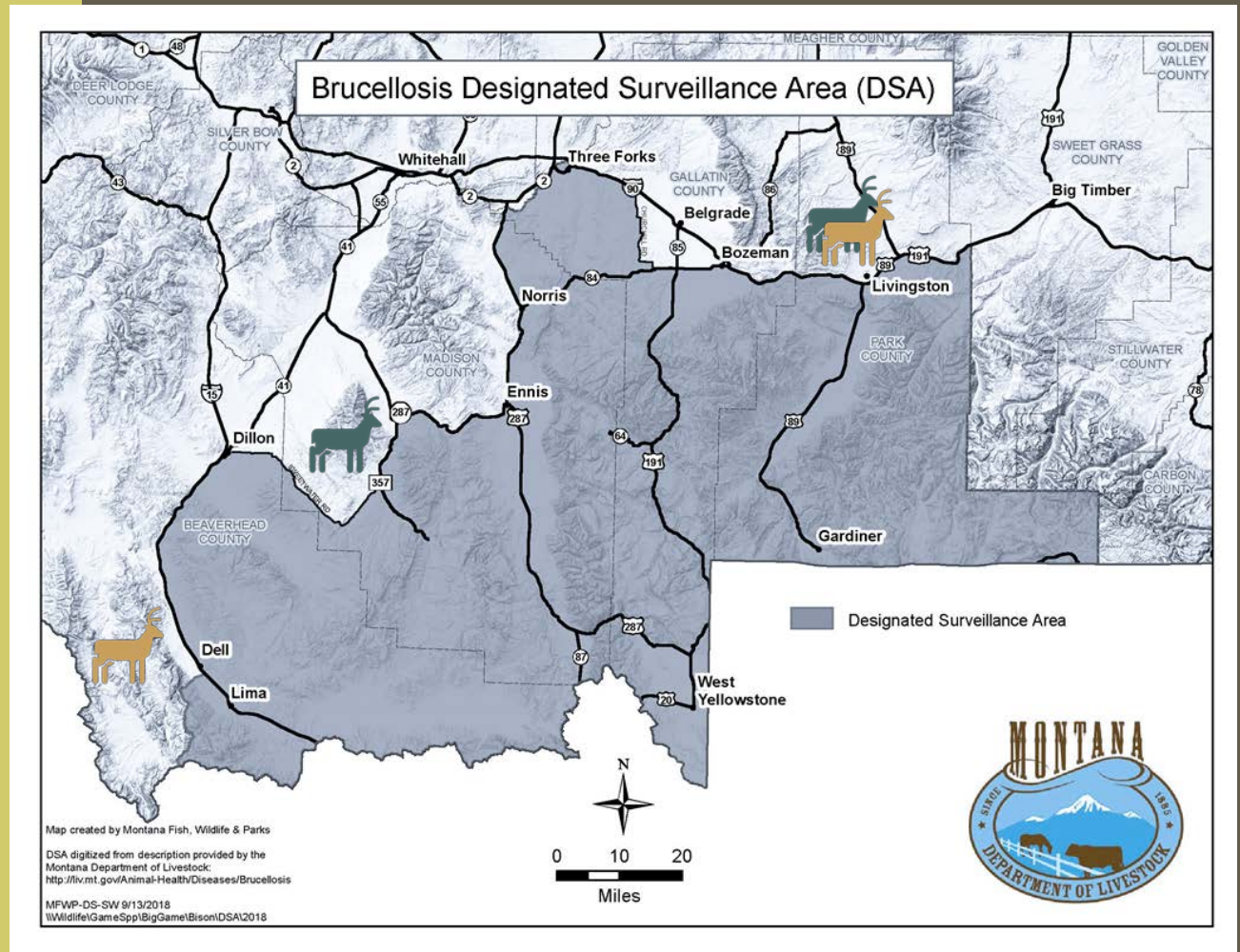
# 2019 ELK SURVEILLANCE

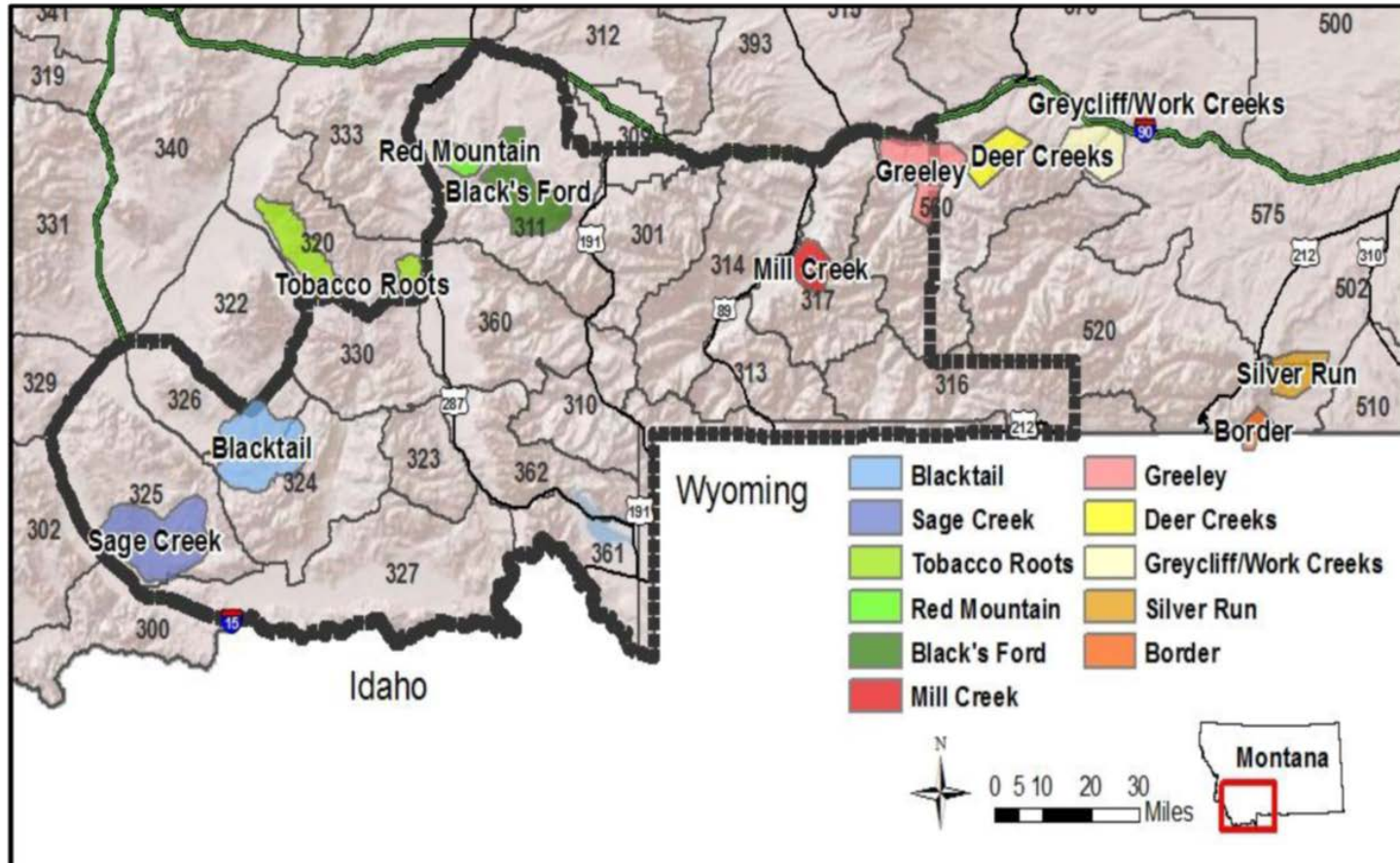
Tendoy Mountains\* (HD 302 and 328)

- 99 elk/30 GPS collars
- \*2018 – 100 elk/30 GPS collars, 1 seropositive animal

Bangtail Mountains

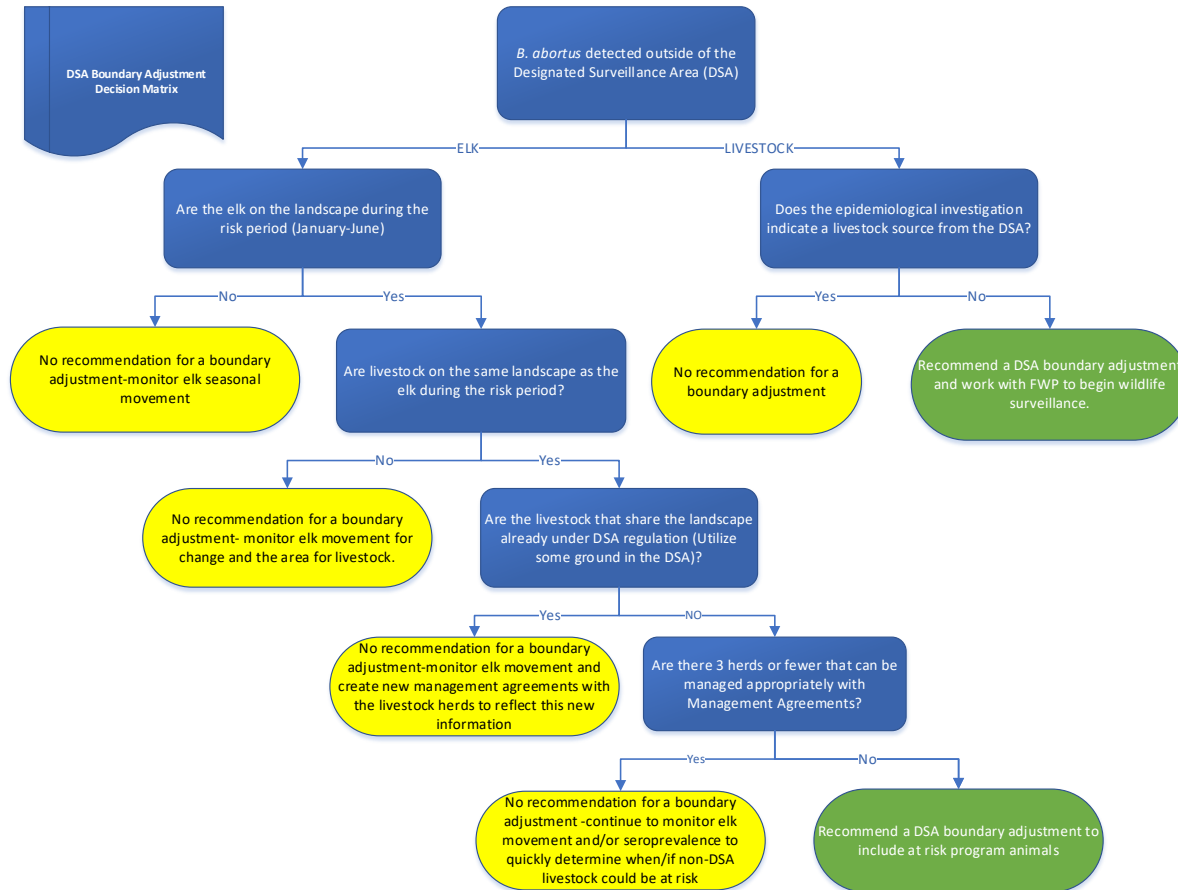
- 49 elk/15 GPS collars





ELK  
SURVEILLANCE  
DATA  
(2009-2017)

# BOUNDARY ADJUSTMENTS



# CONSEQUENCES FOR AFFECTED LIVESTOCK OPERATIONS

- Slaughter of infected animals
- Long term quarantine of herd
- Multiple testing
- Limiting on marketing of animals
- Restrictions on grazing
- Stigma
- Neighboring herds tested



THANK YOU!

Eric Liska, Brucellosis Program Veterinarian

Leslie Doely, Brucellosis Compliance



Presentation by Tahnee Szymanski for CMR CWG