

# **Characteristics of elk abortion and calving events using Vaginal Implant Transmitters**



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# Elk Feeding History

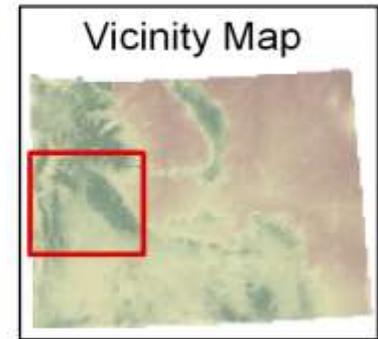
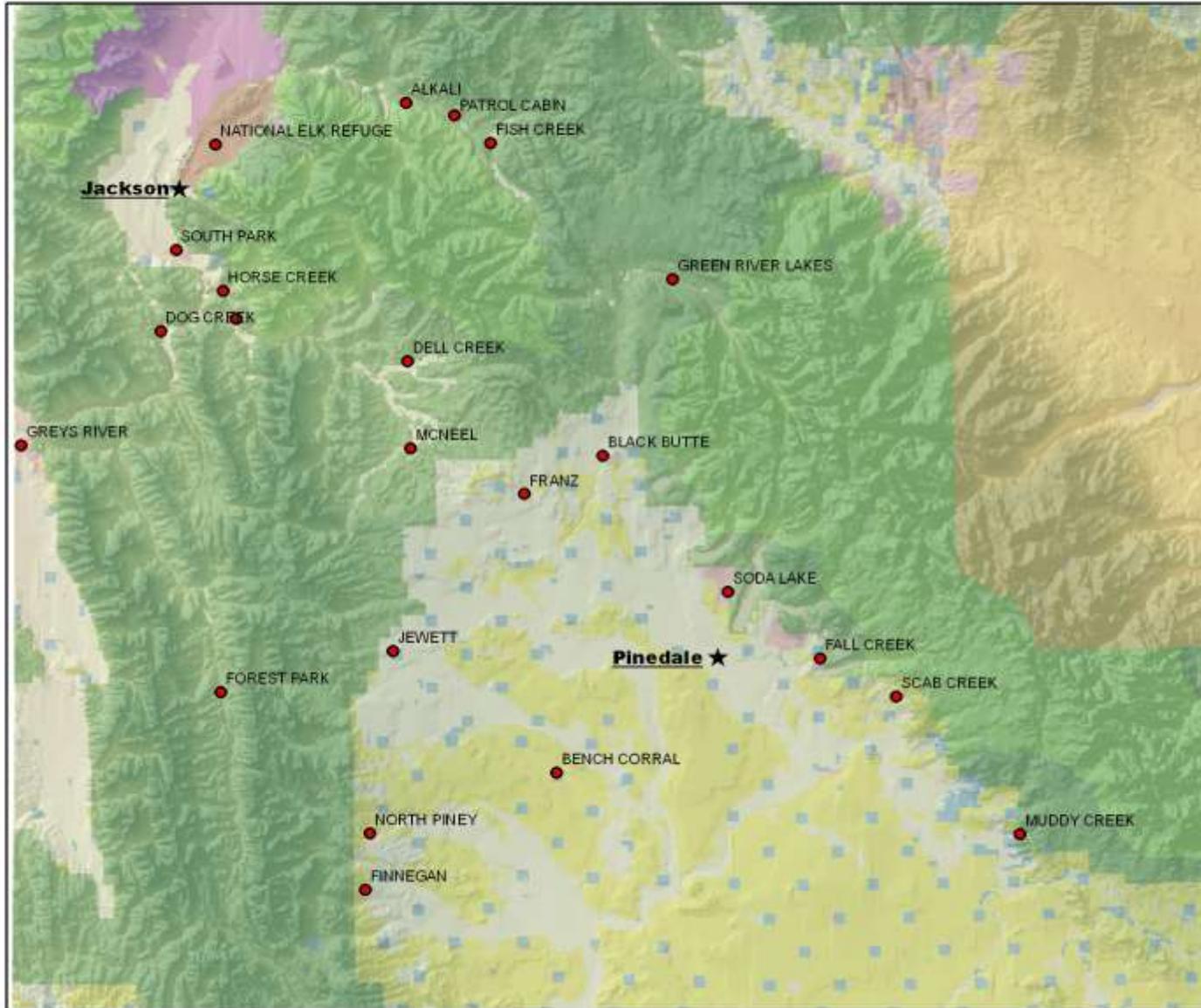
- **1908-** Severe winter in Jackson Hole
  - Hundreds of elk died of starvation
- **1912-** Legislation appropriated \$5k to feed elk on the National Elk Refuge (NER)
- **1929-** WGFD initiated three feedgrounds to prevent large scale die-offs

# Current Situation

- WGFED operates 22 winter elk feedgrounds
- USFWS operates the NER
- 20-24,000 elk attend feedgrounds annually
- >10,000 tons of hay fed every year
- \$2-4 million/year



# Wyoming Elk Feedgrounds



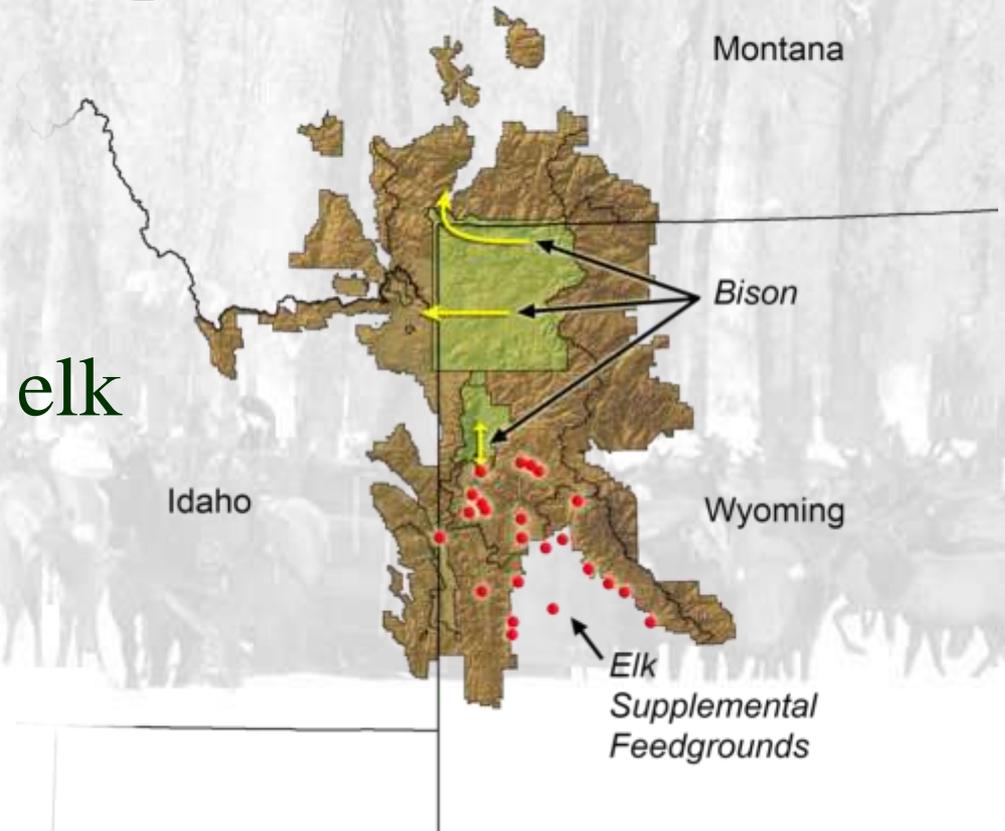
Wyoming Game and Fish Department  
April 2009



# Brucellosis in Wildlife

- **1917** Mohler diagnosed *Brucella* in YNP bison
- **1930** 3/9 Elk on NER positive for brucellosis

-Presently enzootic in elk and bison of the GYA





# WGFD Brucellosis Management

- Integrated approach to managing brucellosis in elk and bison in western Wyoming using:
  - Brucellosis Surveillance
  - Feedground Management
  - Habitat Enhancement
  - *Brucella* Strain 19 Elk Vaccination
  - Elk/Cattle Separation
  - Brucellosis Research

# Vaginal-Implant-Transmitter Studies

## Funding & Support

IOWA STATE UNIVERSITY  
*Becoming the best.*



UNIVERSITY  
OF WYOMING  
*New Thinking*

 **USGS**  
*science for a changing world*

Wyoming Wildlife/Livestock Disease Partnership

# Vaginal-Implant-Transmitter Studies

## Authors/Contributors:

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# GOALS

- Temporal/spatial characteristics of elk abortions
- Serologic indicators of potential for abortion
- Parturition site selection and habitat characteristics
- Efficacy of *Brucella* strain 19 in reducing abortions
- Develop management strategies to reduce risk of intra and inter-specific brucellosis Tx

# Methods

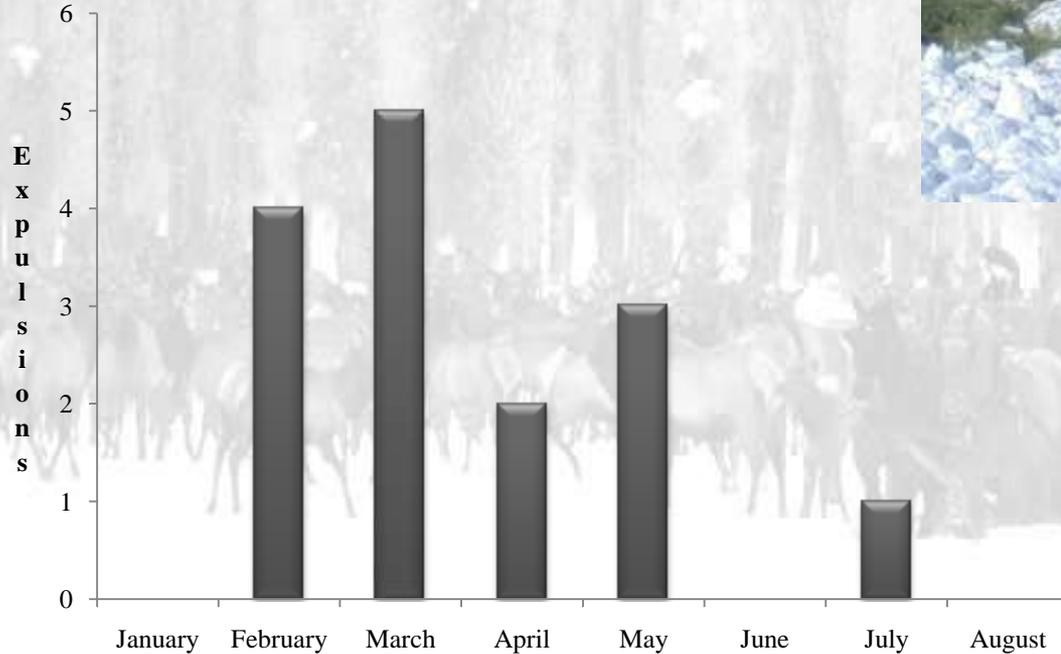


# Results

- 266 VIT's deployed 2006-2009 on 12 sites
  - 231 (87%) accounted for:
    - 206 parturitions
    - 15 reproductive failures
      - 9 in non-pregnant cows
      - 1 cow died while pregnant

# Reproductive Failures

- 12 abortions, 3 stillbirths
  - 11 sero +/ 4 culture +
- 17 Feb. to 6 July



### Bench Corral Feedground

Abortion on 2/17/06 @ 2112

Abortion 3/7- 3/15/07

### Dell Creek Feedground

Abortion in timber near  
feedground 3/15/08  
@ 1630; recovered 3/17/08

Abortion on feedline 3/9/08 @ 0230

### Greys River Feedground

Abortion in overnight loafing  
area 3/28/08 @ 0415;  
recovered 1030 same day.

### Soda Lake Feedground

Abortion 3/4/06 @ 1600

Abortion 2/28/07 @ 1555

## Reproductive failures:

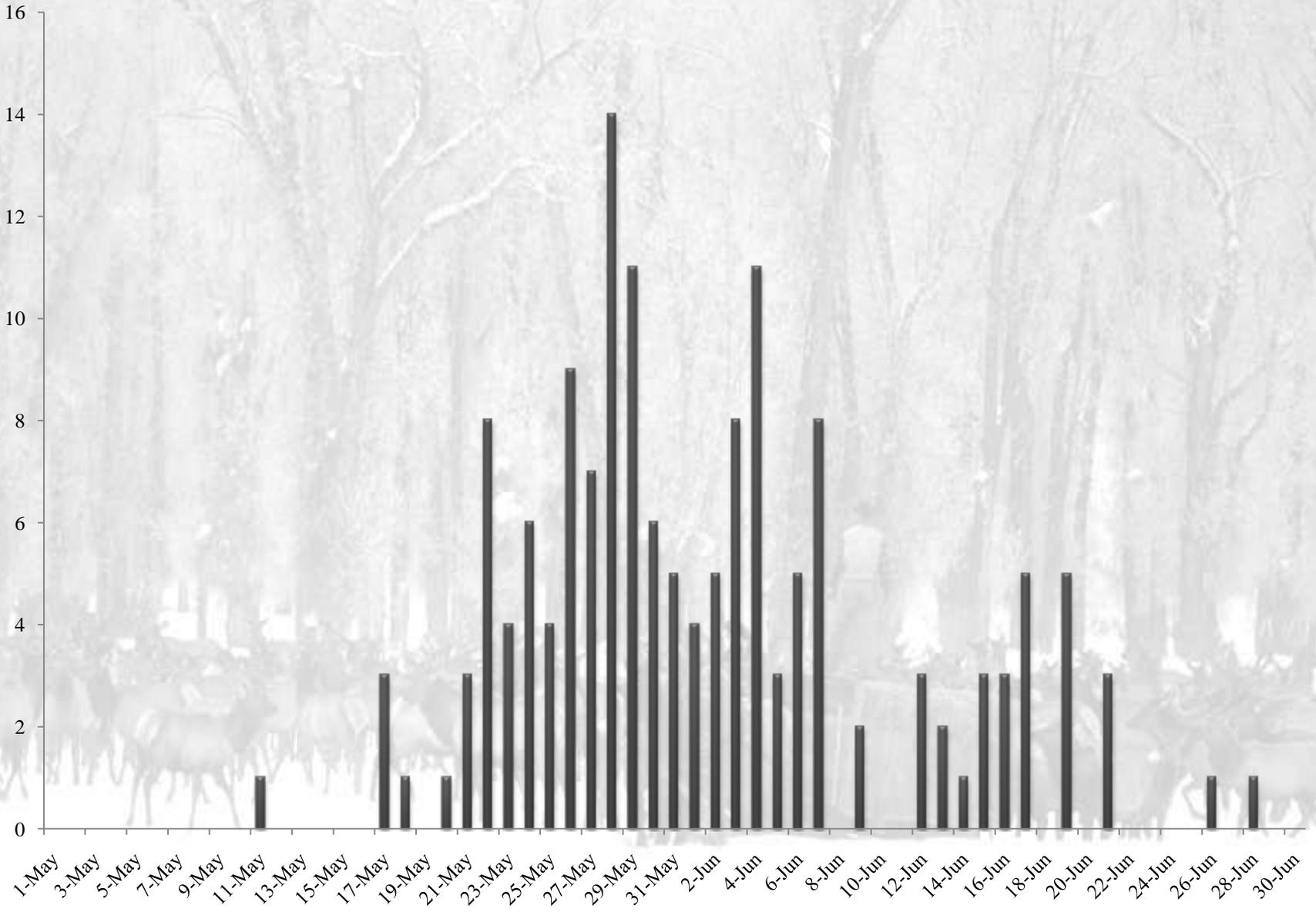
- 24% (11/45) sero+ cows 2006-'09
- 2% (4/176) sero- cows 2006-'09

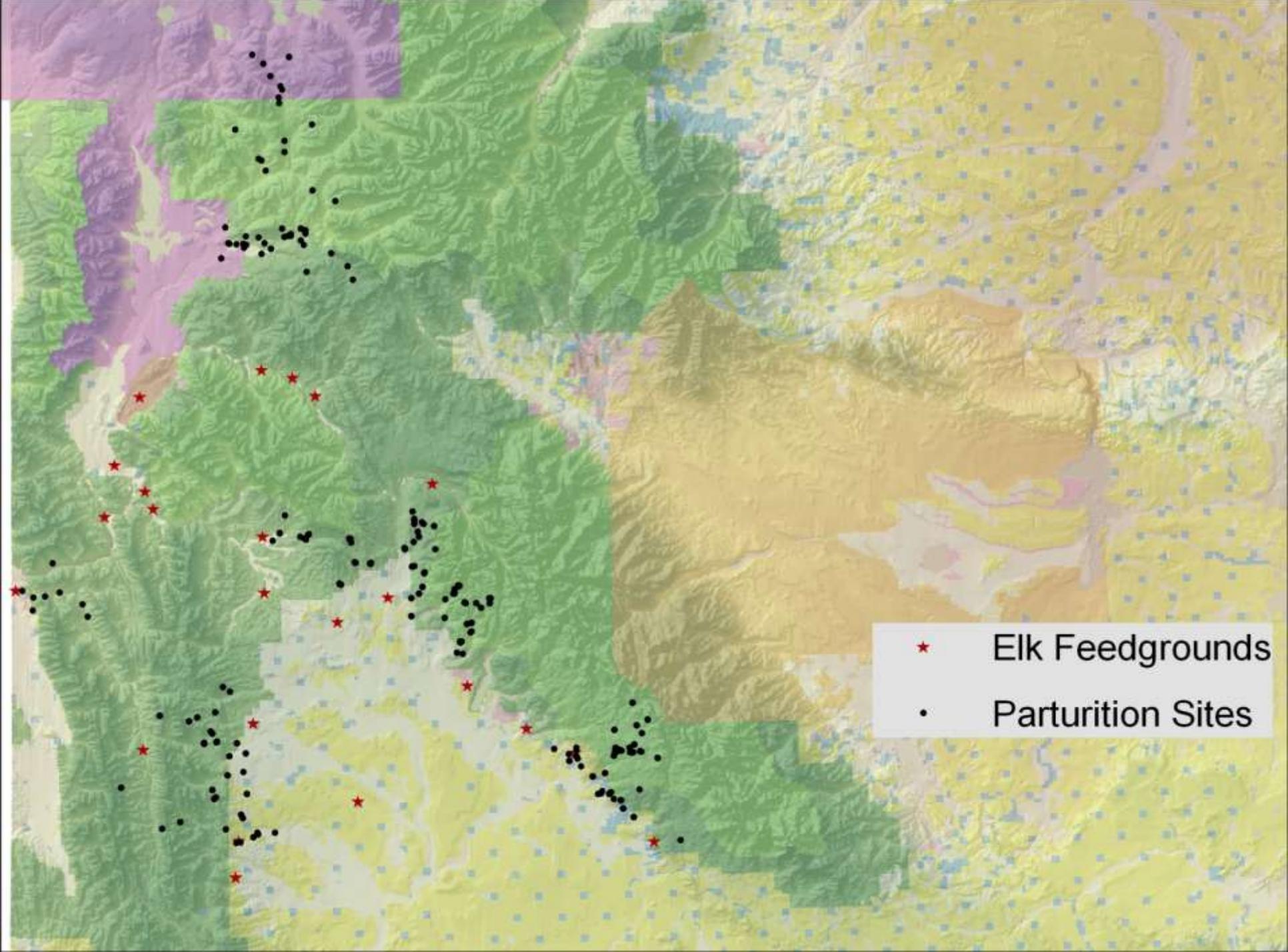


# Parturition



# Parturition Events







\*Cultured *Brucella* from  
stillborn calf 15 May

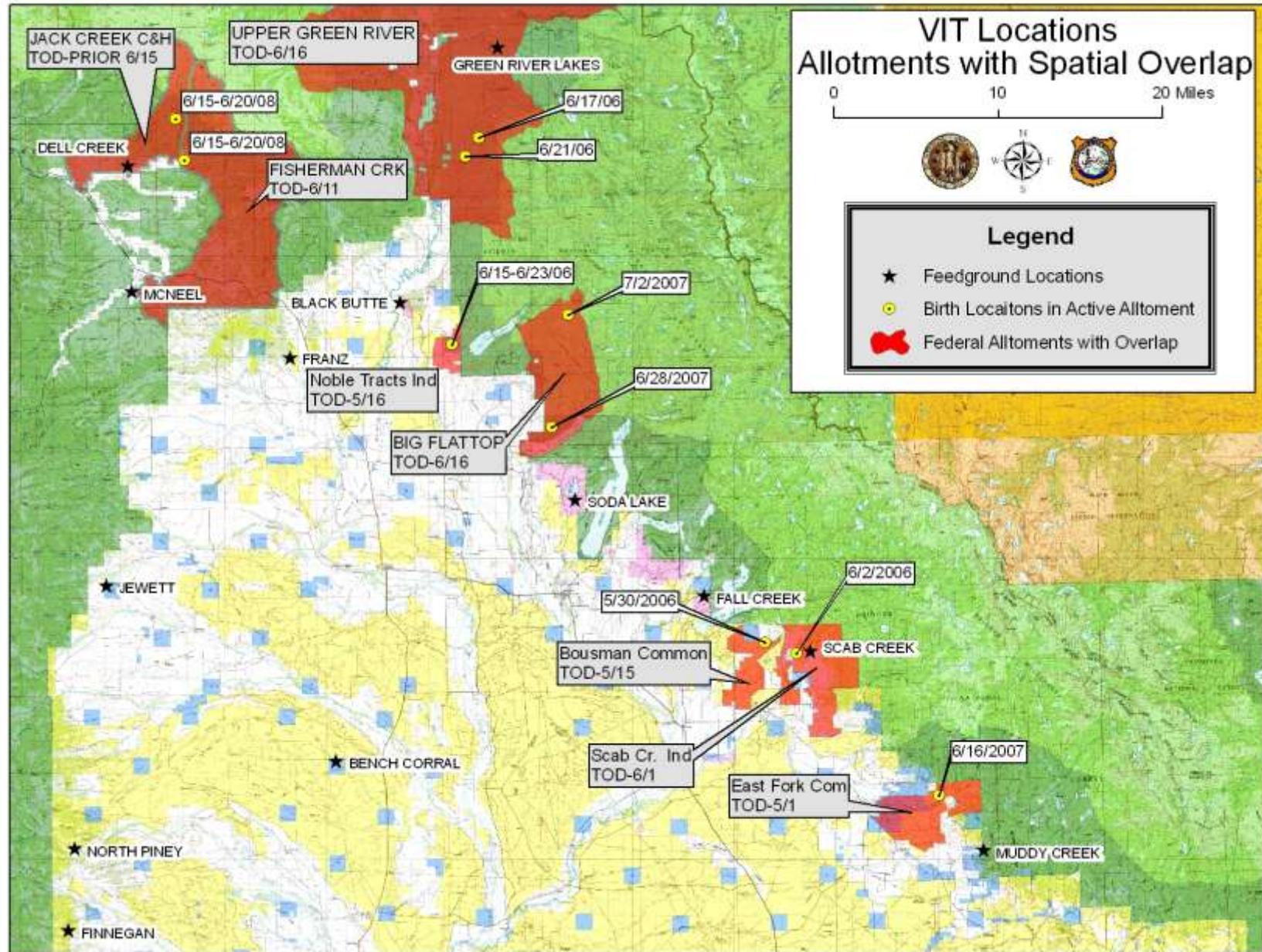
\*Cultured *Brucella* from  
VIT expelled 19 June



\*Stillborn calf 17 July 2009 in active cattle allotment  
- culture undetermined



# Future VIT Research



**Questions?**

