

Wyoming Game and Fish Department

Pinedale Elk Herd Unit Test and Slaughter Pilot Project Report

Year Four: Muddy, Fall and Scab Creek Feedgrounds, 2009

INTRODUCTION

This report was compiled to document efforts, expenditures, and results of the fourth year (winter 2008-2009) of the five-year pilot test and slaughter project in the Pinedale elk herd unit. The Wyoming Game and Fish Department (WGFD) initiated the pilot project in response to a recommendation developed by the Governor's Brucellosis Coordination Team (BCT). The goal of this recommendation is to measure the potential reduction of brucellosis seroprevalence in elk and reduce the risk of brucellosis transmission from elk to cattle.

The WGFD operates three elk feedgrounds within the Pinedale elk herd unit; Fall Creek, Scab Creek, and Muddy Creek (Figure 1). The pilot project was initiated on the Muddy Creek feedground during winter 2005-2006. During winter 2007-2008, the project was expanded to include both Muddy Creek and Fall Creek feedgrounds. All three feedgrounds within the Pinedale elk herd will be included during the final two years of the pilot project.

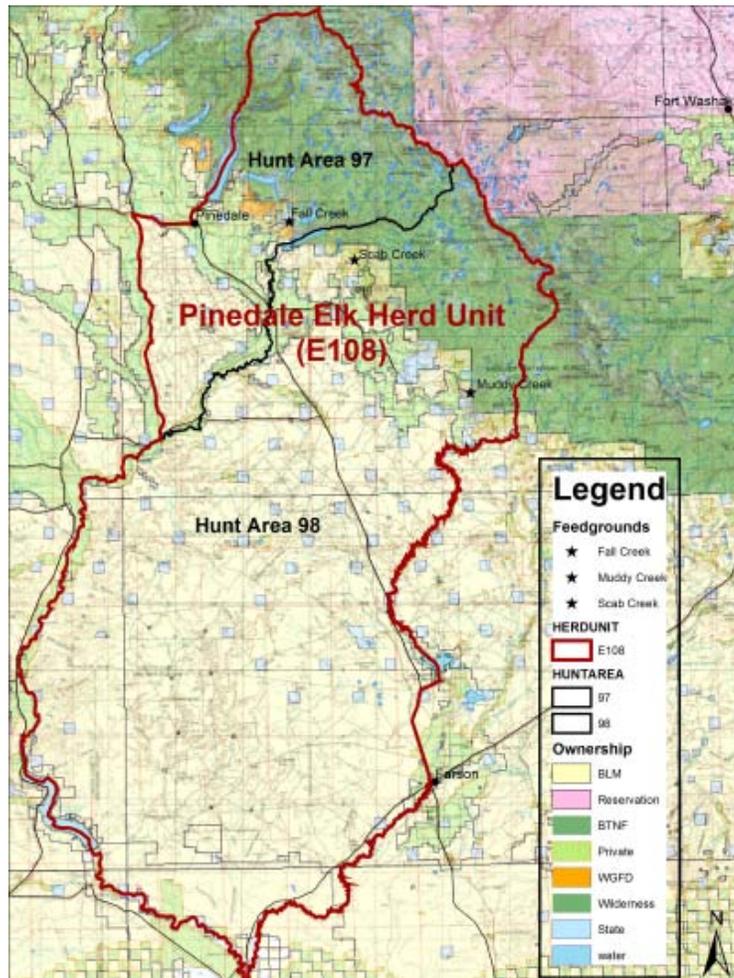


Figure 1. Hunt areas, elk feedgrounds, and land ownership of the Pinedale elk herd unit

METHODS

Portable elk traps

See 2006 report for a description and overview of the traps.

Snow and Ice Removal

Snow removal is a necessary component of elk trapping efforts. Significant snow accumulation in the main corral effectively reduces the height of the walls allowing elk to escape, and snow accumulation in all areas of the trap reduces traction and increases risk of injury to elk and trapping personnel. Additionally, roads into the feedgrounds must remain passable to ensure personnel can access the trap and allow for removal of selected elk via stock trailer.

A contract for snow removal was established, after a bid-process, with the Muddy Creek elk feeder to keep the road open and remove snow from accessible portions of the trap. Sublette County Road and Bridge conducted snow removal from approximately 10.2 miles of the road into the Fall Creek feedground and 6.4 miles into the Scab Creek feedground. WGFD personnel removed snow and ice from elk traps after each significant snowfall.

Trap Acclimatization

Muddy Creek

The elk feeder began baiting the trap with hay approximately 5 days prior to the first trapping attempt in 2009. Feeding was also conducted earlier in the day than normal to acclimatize elk to a routine similar to when a trapping would be attempted. Bull excluders (17" wide x 68" tall metal guards placed over gate openings to deter branch-antlered bulls) were placed into position before the initial trapping. However, bull excluders were removed during trapping attempts due to reluctance of cows to enter through the excluders and the absence of the large bull group.

Fall Creek

The majority of elk that wintered on Fall Creek feedground arrived from the Half Moon Wildlife Habitat Management area during the second week of January. The elk feeder began regularly baiting the trap about a week prior to the initial trapping attempt. Limited baiting occurred earlier when the feeder acclimatized the draft horse team to the trap corrals. Bull excluders were not positioned to encourage more elk to enter the trap.

Scab Creek

Elk feeding began on this feedground around 1 January. The elk feeders began regularly baiting the trap about 10 days prior to the initial trapping attempt. Limited baiting occurred earlier when the feeder acclimatized the draft horse team to the trap corrals. Bull excluders were positioned to discourage bulls from entering the trap.

TRAPPING

Orientation

A meeting was held the afternoon of January 24th to review the trapping plan with the statewide WGFD trapping crew. Trap trigger teams would simultaneously travel to Muddy, Fall and Scab Creek feedgrounds in an attempt to increase chances for a successful catch. Additionally, an advanced team would stage at each site to ensure efficient removal of branch antlered bulls and sorting of elk into three groups.

Muddy Creek

Successful captures occurred at Muddy Creek feedground on 28 January and 11 February 2009. Seven trap attempts were conducted. A total of 263 elk were processed through the trap. Serologic tests revealed 8 cows were positive for *Brucella* exposure (Table 1).

Fall Creek

Successful captures occurred at Fall Creek feedground on 27 January and 12 February 2009. Seven trap attempts were conducted. A total of 250 elk were processed through the trap. Serologic tests revealed 11 cows were positive for *Brucella* exposure (Table 2).

Scab Creek

Successful captures occurred at Scab Creek feedground on 29 January and 11 February 2009. Eight trap attempts were conducted. A total of 303 elk were processed through the trap. Serologic tests revealed 31 cows were positive for *Brucella* exposure (Table 3).

Table 1. Numbers of female and male elk, same year recaptures, newly captured elk for the year, total elk bled, and number of elk testing seropositive for exposure to brucellosis captured during winter 2008-2009 on the Muddy Creek Feedground.

| Trap Date | Females | | | | Males | | | | Recaps** | New Elk | Total Bled | # Sero + |
|--------------|------------|-----------|-----------|------------|----------|-----------|-----------|------------|-----------|------------|------------|----------|
| | Adults | Yrlng | Juv | Total | Adults* | Yrlng | Juv | Total | | | | |
| 01/28/09 | 51 | 9 | 42 | 102 | 2 | 11 | 37 | 50 | 0 | 152 | 60 | 3 |
| 02/10/09 | 68 | 4 | 52 | 124 | 2 | 40 | 14 | 56 | 69 | 111 | 54 | 5 |
| TOTAL | 119 | 13 | 94 | 226 | 4 | 51 | 51 | 106 | 69 | 263 | 114 | 8 |

*Adult males were chemically immobilized, reversed and released

**unclassified animals immediately released recaptured from prior trapping event during same year

Table 2. Numbers of female and male elk, same year recaptures, newly captured elk for the year, total elk bled, and number of elk testing seropositive for exposure to brucellosis captured during winter 2008-2009 on the Fall Creek Feedground.

| Trap Date | Females | | | | Males | | | | Recaps** | New Elk | Total Bled | # Sero + |
|--------------|------------|-----------|-----------|------------|----------|----------|-----------|-----------|-----------|------------|------------|-----------|
| | Adults | Yrlng | Juv | Total | Adults* | Yrlng | Juv | Total | | | | |
| 01/27/09 | 110 | 12 | 35 | 157 | 5 | 9 | 21 | 35 | 0 | 192 | 122 | 6 |
| 02/12/09 | 49 | 1 | 15 | 65 | 1 | 0 | 17 | 18 | 25 | 58 | 36 | 5 |
| TOTAL | 159 | 13 | 50 | 222 | 6 | 9 | 38 | 53 | 25 | 250 | 158 | 11 |

*Adult males were chemically immobilized, reversed and released

**unclassified animals immediately released recaptured from prior trapping event during same year

Table 3. Numbers of female and male elk, same year recaptures, newly captured elk for the year, total elk bled, and number of elk testing seropositive for exposure to brucellosis captured during winter 2008-2009 on the Scab Creek Feedground.

| Trap Date | Females | | | | Males | | | | Recaps** | New Elk | Total Bled | # Sero + |
|--------------|------------|-----------|-----------|------------|----------|-----------|-----------|-----------|-----------|------------|------------|-----------|
| | Adults | Yrlng | Juv | Total | Adults* | Yrlng | Juv | Total | | | | |
| 01/29/09 | 44 | 5 | 27 | 76 | 3 | 7 | 18 | 28 | 0 | 104 | 49 | 7 |
| 02/11/09 | 91 | 15 | 63 | 169 | 4 | 10 | 46 | 60 | 30 | 199 | 100 | 24 |
| TOTAL | 135 | 20 | 90 | 245 | 7 | 17 | 64 | 88 | 30 | 303 | 149 | 31 |

*Adult males were chemically immobilized, reversed and released

**unclassified animals immediately released recaptured from prior trapping event during same year

MEAT DONATION

A total of 50 brucellosis seropositive elk were shipped to a USDA approved slaughter facility in Idaho. One elk was condemned by a USDA inspector. Approximately 10,345 lbs of elk was processed and the meat donated to food banks throughout Wyoming.

EXPENDITURES

Large amounts of time, effort and money were again expended on the test and slaughter project during year four. Expenditures associated with the test and slaughter project were tracked by WGFD Fiscal using a unique project code. Approximately \$281,871 was spent on the project during fiscal year 2009. A total of \$1,106,449 has been spent on the test and slaughter project to date.

CULTURE RESULTS

During slaughter, tissues most likely to harbor *Brucella abortus* were collected for culture and analysis. Twenty-one of the 50 brucellosis seropositive elk were found to be culture positive on preliminary cultures. *B. abortus* was recovered from 63% of the 8 seropositive elk cultured from Muddy Creek, likely indicating recent exposure/infection. Contrastingly, about one-third of elk cultured from Scab Creek were preliminarily found to harbor the bacteria, a result more similar to past WGFD sampling of elk from other feedgrounds. These results are preliminary and based only on cultures of several tissues. Caution should be exercised when interpreting these results, as these are preliminary findings. *B. abortus* culture is very complex; final interpretations must wait until bacteriologic identifications are complete.

Table 4. Preliminary culture results from seropositive elk removed from Pinedale elk herd unit feedgrounds during test and slaughter, 2009

| | Elk Cultured | Positive Elk | % Positive |
|--------------|--------------|--------------|------------|
| Muddy Cr. | 8 | 5 | 63 |
| Fall Cr. | 11 | 5 | 45 |
| Scab Cr. | 31 | 11 | 35 |
| Total | 50 | 21 | 42 |

PRELIMINARY RESULTS

BCT members determined that capturing a large proportion of the total female elk within the feedground population is imperative to achieve the objective of the test and slaughter project, which is to achieve a statistically significant reduction in seroprevalence at a 95% confidence level. Combining all years of the project on Muddy Creek feedground, only 48% of yearling and adult females attending the feedground have been captured and tested. Brucellosis seroprevalence has decreased from 37% to 7% at Muddy Creek. However, 7 elk had seroconverted when recaptured in 2007 and 2008, indicating exposure events likely occurred during winter/spring of 2006 and 2007 (Table 5). A detailed examination of the results of the pilot test and slaughter project will be conducted after the cessation of the 5-year project in 2010.

Table 5. Total numbers of yearling and adult females and % of total females and recaptures counted, bled, seropositive, killed, recaptured, and seroconverted of elk captured during winter 2007-2008 on the Muddy Creek Feedground.

| MUDDY CREEK FEMALE RECAPTURE SUMMARY | | | | | | | | | | | | | | | | |
|--------------------------------------|-----------------------------|------------|-------|-----------------|--------------|-------|--------------|--------|-------|-----------------|------------|-------|-----------------|---------------|-------|----------------|
| Year | Total Females on Feedground | Total Bled | | | Seropositive | | | Killed | | | Recaptured | | | Seroconverted | | |
| | | Adults | YrIng | % Total Females | Adults | YrIng | % Total Bled | Adults | YrIng | % Total Females | Adults | YrIng | % Total Females | Adults | YrIng | % Total Recaps |
| 2006 | 263 | 148 | 10 | 60% | 56 | 2 | 37% | 56 | 2 | 22% | NA | NA | NA | NA | NA | NA |
| 2007 | 228 | 54 | 25 | 35% | 11 | 2 | 16% | 11 | 2 | 6% | 24 | 16 | 18% | 3 | 1* | 10% |
| 2008 | 249 | 130 | 24 | 62% | 19 | 1 | 13% | 20 | 1 | 8% | 41 | 5 | 19% | 4 | 0 | 9% |
| 2009 | 301 | 101 | 13 | 38% | 8 | 0 | 7% | 8 | 0 | 3% | 74 | 1 | 25% | 0 | 0 | 0% |

*bled as juvenile in 2006

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