

# 2006 JOB COMPLETION REPORT

SPECIES : **EIk**  
 HERD UNIT : **PINEDALE**  
 HERD UNIT # : **108**  
 HUNT AREAS : **97, 98**

PERIOD COVERED : **06/01/2006 - 05/31/2007**  
 WYOMING PROJECT NO. : **W-27-R**  
 PREPARED BY : **Dean Clause**

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
<b>1. PREHUNT SEX AND AGE RATIO COUNT (per 100 females)</b>					
Juveniles	0	0	0	0	0
Males	0	0	0	0	0
Yearling Males	0	0	0	0	0
Mature Males	0	0	0	0	0
Total Sample Size	0	0	0	0	0
Adequate Sample Size	0	0	0	0	0

<b>2. HARVEST</b>					
Adult Males	237	175	222	210	219
Yearling Males	28	23	60	33	45
Total Males	265	198	282	243	264
Females	203	231	230	102	202
Juveniles	39	70	79	17	30
Totals	507	499	591	362	496

	#	%	#	%	#	%	#	%	#	%
<b>3. AGE STRUCTURE OF FIELD CHECKED ANIMALS</b>										
Juvenile Female	0		4	8	1	2	3	6	2	5
Yearling Female	1	2	0		2	4	4	7	1	2
Adult Female	14	33	18	34	13	26	8	15	10	23
Juvenile Male	0		3	6	0		5	9	0	
Yearling Male	3	7	2	4	7	14	3	6	3	7
Adult Male	24	57	26	49	27	54	31	57	28	64
Total Sample Size	42		53		50		54		44	

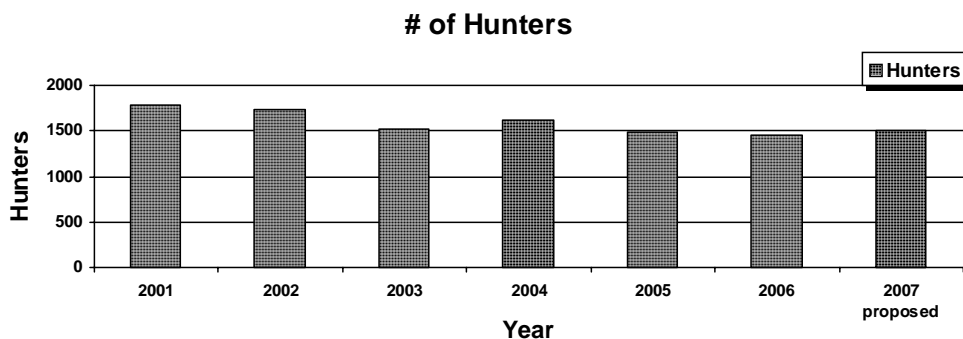
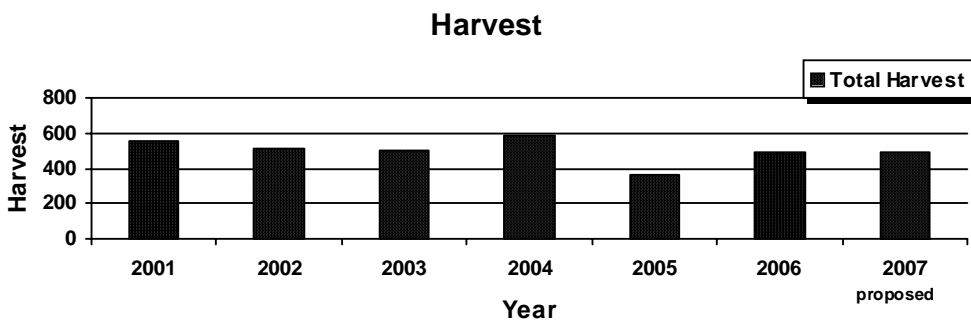
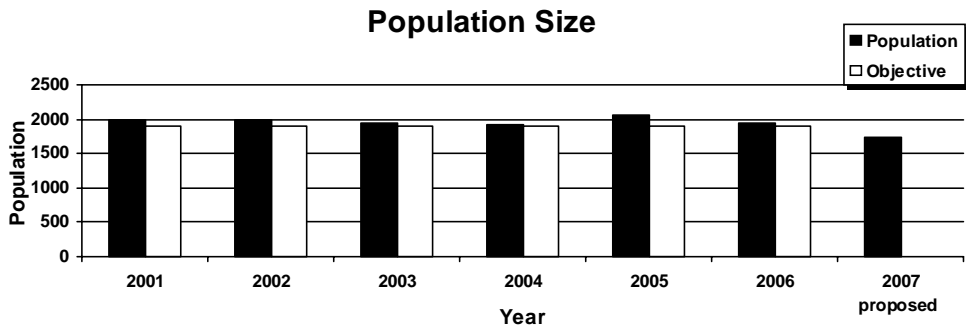
<b>4. POSTHUNT SEX AND AGE RATIO COUNT (per 100 females)</b>					
Juveniles	24	27	35	28	28
Males	26	25	27	28	28
Yearling Males	9	8	9	9	11
Mature Males	17	17	18	19	17
Total Sample Size	1,405	1,818	1,720	1,858	1,758
Adequate Sample Size	426	437	0	0	462

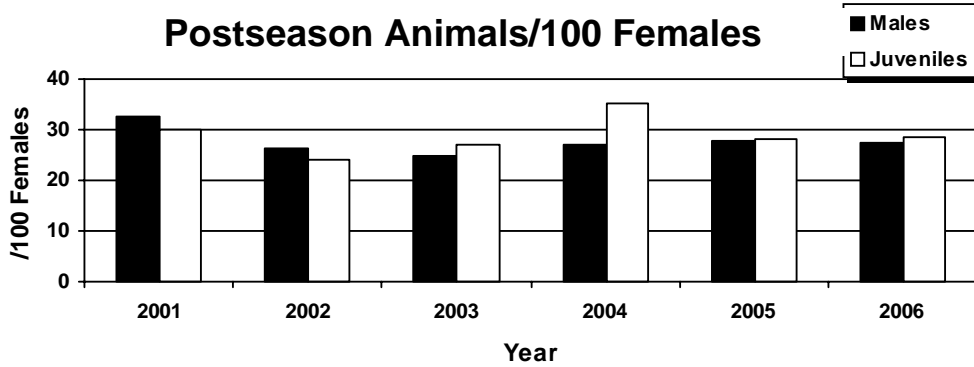
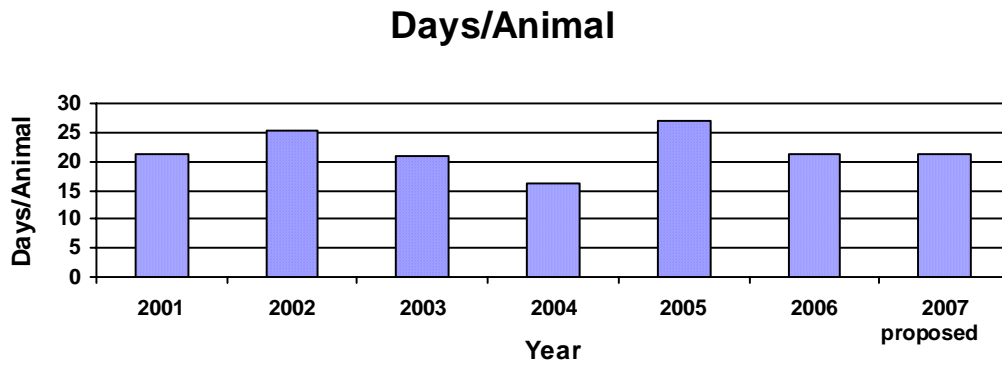
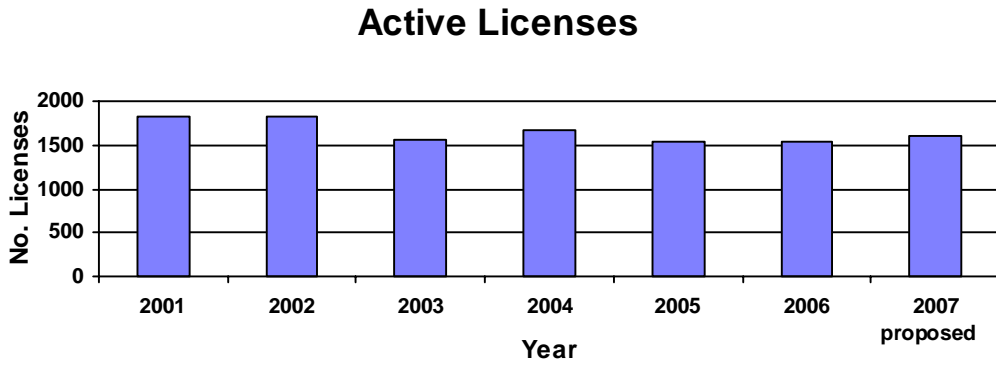
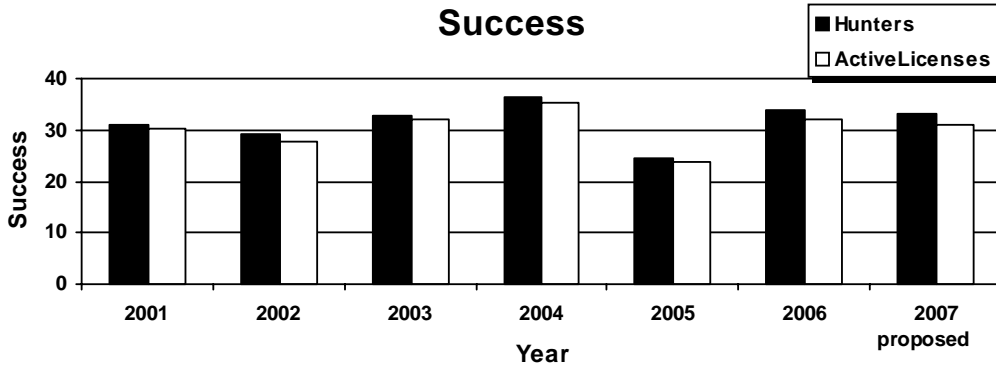
	2/03	2/14	2/10	2/06	2/07
<b>5. POPULATION TRENDS</b>					
Trend Count Dates:	2/03	2/14	2/10	2/06	2/07
Trend Count:	1,698	1,818	1,720	1,858	1,758
Herd Model Pop Est:	2,000	1,951	1,911	2,064	1,953
Line Trans Pop Est:	0	0	0	0	0

SPECIES : Elk  
 HERD UNIT : PINEDALE  
 YEAR : 2006

MODEL DATE :

	Averages 2001 - 2005	2006	Proposed 2007	Objective
Population (Est.)	1,985	1,953	1,736	1,900
Harvest	503	496	496	
Hunters	1,632	1,458	1,500	
Hunter Success	30.8%	34.0%	33.1%	
Active Licenses	1,684	1,538	1600	
Active Licenses Success	29.9%	32.2%	31.0%	
Recreation Days	10,906	10,459	10,500	
Days/Animal	21.7	21.1	21.2	





**JCR**  **Season Setting** **Evaluation Form** (2004)  
(check one)

Year: **2006** Species: **Elk** Herd Unit: **Pinedale** Herd unit #: **108** Biologist: **Clause**

Management strategy:  Recreational  Special

	5-year average	Current year	Proposed
Population:	1,985	1,953	1,736
Harvest:	503	496	496
Hunters:	1,632	1,458	1,500
% Success:	31%	34%	33%
Rec. Days:	10,906	10,459	10,500
Days/animal:	21.68	21.09	21.17

Population objective 1,900

Percent population is above (+) or below (-) objective: -3%

Number of years population has been + or - objective in recent trend: 6

Population estimates tracking with trend counts or line transect results? No

Population trend (incr., stable, decr.): Decreasing

Most recent classification ratio (j/100f/m): 28/100/28

(This classification is: at or above adequate  or well below adequate )

Ratio trends (incr., stable, decr.): m/100f: Stable

J/100f: Stable

Most recent 5-year average classification ratio (j/100f/m): 28/100/28

(Generally, these classifications have been: at  or above adequate  or well below adequate )

Proposed harvest rates (percent of pre-season estimate of each sex/age group):

	JCR Year	Proposed
Females ≥ 1 year old:	14.00%	14.00%
Males ≥ 1 year old:	49.00%	49.00%
Juveniles (< 1 year old):	9.00%	14.00%
Total:	21.00%	22.00%

Projected change in post-season population: (+ or -)5.00% (+ or -) 11.00%

Moose: Average age of male harvest: 0

Rationale provided for season proposals or management data that appear unusual?

A functional population simulation model for this herd unit does not exist, therefore harvest rates and population estimates cannot be calculated with any confidence. The data provided were generated by calculating population estimates by hand modeling.

# SEX AND AGE COUNT REPORT

SPECIES : **EIK**

HERD UNIT : **PINEDALE**

YEAR : **2006**

PREPARED BY : **Dean Clause**

**POSTHUNT CLASSIFICATION      DATES : 2/07**

Hunt Area	----- MALES -----			Females	Juveniles	Total
	Yearlings	Adults	Total			
<b>97</b>	35	67	102	369	138	609
<b>98</b>	86	122	208	758	183	1,149
<b>Total Sample</b>	121	189	310	1,127	321	1,758
<b>Adequate Sample</b>			83	301	86	469
<b>Precision      @    90    C.L.</b>						

**Juveniles / 100 Females : 28 ± 1**  
**Total Males / 100 Females : 28 ± 1**  
**Adult Males / 100 Females : 17**  
**Yearlings / 100 Females : 11**

**2006 Season Recommendations - Pinedale Elk, E108**

<b><u>Hunt Area</u></b>	<b><u>Type</u></b>	<b><u>Opens</u></b>	<b><u>Closes</u></b>	<b><u>Limitations</u></b>
97	1	Oct. 1	Oct. 31	General license; any elk
		Sept. 20	Oct. 31	Limited quota; 300 licenses any elk
		Nov. 1	Nov. 6	Unused Area 97 Type 1 licenses valid only for antlerless elk
	2 6	Sept. 20	Nov. 6	Limited quota; 50 licenses antlerless elk
		Sept. 20	Nov. 6	Limited quota; 75 licenses cow or calf
98	1	Oct. 1	Oct. 31	General licenses; any elk
		Sept. 20	Oct. 31	Limited quota; 350 licenses any elk
		Nov. 1	Nov. 15	Unused Area 98 Type 1 licenses valid only for antlerless elk
	2 6	Sept. 20	Nov. 15	Limited quota; 100 licenses antlerless elk
		Sept. 20	Nov. 15	Limited quota; 150 licenses cow or calf
		Nov. 16	Dec. 31	Unused Area 98 Type 1, Type 2, and Type 6 licenses valid for antlerless in that portion of Area 98 between the Scab Creek and the East Fork River drainage, excluding Irish Canyon Creek and Muddy Creek.

**Special Archery Seasons**

97, 98	Sept. 1	Sept. 19	Refer to Section 3.
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# HARVEST REPORT

SPECIES **Elk**

HERD UNIT : **PINEDALE**

YEAR : **2006**

PERIOD COVERED : **9/1/06 - 12/31/06**

Prepared By : **Dean Clause**

Hunt Area	License Type	L.Q. Licenses	No. Hunters	Ylg. Males	Adult Males	Females	Juveniles	Total	Percent Success	Days/Animal Taken
	<b>Resident</b>	0	357	14	19	30	11	74	20.7	35.5
<b>97</b>	<b>Non-Resident</b>	0	204	0	69	23	2	94	46.1	13.4
	<b>Total</b>	0	561	(598)*	14	88	13	168	29.9 ( 28.1 )*	23.1
	<b>Resident</b>	0	769	31	106	114	6	257	33.4	22.4
<b>98</b>	<b>Non-Resident</b>	0	143	0	25	35	11	71	49.7	11.4
	<b>Total</b>	0	912	(963)*	31	131	17	328	36.0 ( 34.1 )*	20.1
	<b>Resident</b>	0	1,111	45	125	144	17	331	29.8	25.3
<b>Total</b>	<b>Non-Resident</b>	0	347	0	94	58	13	165	47.6	12.5
	<b>Total</b>	0	1,458	(1538)*	45	219	30	496	34.0 ( 32.2 )*	21.1

\* Active Licenses

# 2006 AGE STRUCTURE OF FIELD CHECKED ANIMALS

SPECIES : Elk  
 HERD UNIT : PINEDALE

PREPARED BY : Dean Clause

Hunt Area	Sex	Young	1+	2+	3+	4+	5+	6+	7+	Older	Unaged Adults *	Total
<b>97</b>	<b>Male</b>	0	3	0	0	0	0	0	0	0	11	14
	<b>Female</b>	0	0	0	0	0	0	0	0	0	1	1
<b>98</b>	<b>Male</b>	0	0	0	0	0	0	0	0	0	17	17
	<b>Female</b>	2	1	0	0	0	0	0	0	0	9	12
<b>Totals :</b>	<b>Male</b>	0	3	0	0	0	0	0	0	0	28	31
	<b>Female</b>	2	1	0	0	0	0	0	0	0	10	13

\* Unaged animals older than yearlings

**Total Aged :** 44

# TREND COUNT REPORT

YEAR : 2006

SPECIES : Elk

HERD UNIT : PINEDALE

METHOD : Helicopter

DATE : 2/07

CONDITIONS : Very Light Snow Conditions

OBSERVERS : Clause, Nesvik

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Hunt Area	Count Block	Flight H : M	Number Counted	Photo	Comments
97	0	0 : 0	80		Native Winter Range
97	0	0 : 0	529		Fall Creek Feedground
98	0	0 : 0	16		Native Winter Range
98	0	0 : 0	383		Muddy Creek Feedground
98	0	0 : 0	750		Scab Creek Feedground
<b>Totals</b>		0 : 0	1,758		

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SPECIES: Elk  
DAU NAME: Pinedale (E108)  
HUNT AREAS: 97 & 98  
TITLE: 2006 Management Evaluation

## **BACKGROUND**

The Pinedale Herd Unit boundary encompasses approximately 2,474 square miles of which only 522 square miles are considered occupied elk habitat. Only a small portion of this herd unit, located on the south end, is located in Sweetwater County, while the majority lies in Sublette County. The main plant community associations in this herd unit are willow, sagebrush, aspen, conifer, and alpine communities from low to high elevations (6,500 to 12,500 feet). The majority of elk in this herd unit can be found on public land managed by the U.S. Forest Service. Well over half of these Forest Service managed lands are designated as Wilderness (Bridger Wilderness) where access is limited to foot or horseback travel. The remaining Forest Service lands outside wilderness have moderate vehicle and trail access. Hunting opportunities for self-guided non-residents is limited in this herd unit because non-residents are required by law to have a licensed guide or outfitter while hunting in designated wilderness areas. Most of the private lands in this herd unit are concentrated at lower elevations associated with riparian and floodplain habitat of the Big Sandy, East Fork, Boulder Creek, and Pole Creek drainages. Three elk feedgrounds (Fall Creek, Scab Creek, and Muddy Creek) are located within this herd unit to winter animals that otherwise would not be able survive the harsh winter conditions. Feedgrounds also reduce depredation to stored hay and reduce risk of disease transmission to livestock (primarily brucellosis). Roughly 32 square miles of crucial native winter range have been identified in this herd unit. Hunt Area 97 (Pinedale) and Area 98 (Boulder) make up the Pinedale Herd Unit, also referred to as the Pinedale Data Analysis Unit (DAU). This Herd Unit is managed to maintain a posthunt elk population of 1,900 +/- 10%.

## **MANAGEMENT EVALUATION**

### **Population Estimate**

Past attempts to create a functional computer population model for this herd unit have not been successful. Even using hand calculations, it is difficult to mimic observed trend count and classification information. Computer models have produced estimates that were a poor representation of actual herd dynamics. Hence, hand calculations using reported harvest, and sex/age classification data obtained from post season surveys are used to estimate population size.

When hand-modeling this herd using a population estimate of 2,064 elk for postseason 2005, the resulting postseason 2006 estimate of 1,852 elk. Trend count data accounts for 95% of this estimate. Assuming a 90% observability of the 2006 trend count results in a postseason population estimate of 1,953 elk. Given the large proportion of animals that typically winter on state operated feedgrounds during normal winters, it seems plausible to "miss" very few animals during routine counts. Hand calculation estimates for bull:100 cow ratios track poorly with 2006 observations (23:100 model / 28:100 observed). Calf:100 cow ratios also track poorly as hand calculations projected a 25:100 ratio while the observed calf ratio was 28:100. This herd unit continues to be difficult to model even for one year at a time.

### **Trend Count and Herd Composition Survey**

The 2006 trend count of 1,758 was lower than the population objective of 1,900 for this herd unit, and lower than 1,858 documented in 2005 (Table 1). Snow pack levels were well below normal during this

past winter (2006-07), which contributed to poor counting conditions. Due to the relatively low number of elk documented on native range, managers believe that a high proportion (90%+) of animals are documented annually regardless of winter conditions. With the exception of Halfmoon Mountain and surrounding areas, very few elk have been documented on native winter ranges in the herd unit. In 2006, feedgrounds accounted for 95% of the total trend count. Compared to 2005, counts have decreased at Scab Creek and Muddy Creek Feedgrounds, while counts slightly increased at the Fall Creek Feedground (Table 1). The past five-year (2002-2006) trend count average of 1,770 elk reflects a population that is near (within 7%) the population objective of 1900 elk. The previous five-year (1997-2001) trend count average of 2,077 elk also is within 9% of the population objective, although the late 1990's trend counts were well above the objective.

Table 1. Herd Composition Counts in the Pinedale Elk Herd Unit, 1997-2006.

<u>Location</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Fall Creek F.G	611	806	533	690	696	182	547	438	506	524
Scab Creek F.G	585	588	631	627	585	651	710	825	810	750
Muddy Creek F.G.	594	566	676	580	620	550	486	396	431	383
N.W.R.	430	159	297	86	25	315	75	61	111	96
<b>Herd Unit Total</b>	<b>2220</b>	<b>2119</b>	<b>2137</b>	<b>1983</b>	<b>1926</b>	<b>1698</b>	<b>1818</b>	<b>1720</b>	<b>1858</b>	<b>1758</b>

Herd composition counts in 2006 documented identical bull:cow:calf ratios of 28:100:28 to those in 2005 (Table 2). The past 5-year average (2001-2005) for this herd unit shows a total bull: 100 cow ratio of 28:100 and a calf: 100 cow ratio of 28:100. As indicated in the past ten year (1997-2006) herd composition data set (Table 2), adult and yearling bull ratios have declined during the most recent five-year interval. This decline in the overall bull ratios appears to directly correlate with the decline in calf production (average of 32:100 during 1997-2001) for reasons unknown.

Table 2. Herd composition count summary for the Pinedale Herd Unit, 1997-2006.

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Ad. Bulls:100 Cows	16	21	20	20	20	17	17	18	19	17
YrIng Bulls:100 Cows	12	10	13	12	13	9	8	9	9	11
Total Bulls:100 Cows	28	31	33	32	33	25	25	27	28	28
Calves:100 Cows	27	38	27	35	30	24	27	35	28	28

### **Weather Data**

See Appendix A, Climatic Division 3 – Green and Bear Drainage Basin for weather data applicable to this Pinedale Herd Unit. In general, the overall amount of precipitation was below normal during 2006. Late winter and early spring snow conditions were average, followed by an extremely dry and warm summer. The fall weather fluctuated between cool/wet and warm conditions resulting in very low snow accumulations by early November. Elk stayed at higher elevations through most of the hunting season resulting in difficult harvest opportunities.

### **HARVEST STATISTICS**

#### **Harvest**

The 2006 total harvest of 496 fell slightly short of the 5-year average harvest of 503 for this herd unit but increased significantly from the reported harvest of 362 during 2005 (Table 3). The poor harvest during 2005 was attributed to tough hunting conditions (hot and dry weather) throughout the season and low hunter participation, possibly attributed to increased fuel prices. The 2006 antlerless harvest increased by 113 animals over 2005, which reflects average harvest levels. The reported number of hunter recreation days during 2006 was 10,459, compared to 9,725 in 2005 and the five-year average of 10,906 days.

During the 2006 hunting season it took an average of 21 days to kill an elk with 32% of the hunters successfully harvesting elk. During the previous five years, hunter effort and success has averaged 22 days/animal harvested and 30% success.

Table 3. Harvest Trends in the Pinedale Herd Unit, 1997-2006.

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Adult Males	208	299	182	255	217	237	175	228	210	219
Yearling Males	46	35	40	61	41	30	23	63	33	45
Total Males	254	334	222	316	258	267	198	291	243	264
Females	253	323	121	347	260	215	231	232	102	202
Juveniles	37	38	47	127	44	35	70	83	17	30
<b>Total Harvest</b>	<b>544</b>	<b>695</b>	<b>390</b>	<b>790</b>	<b>562</b>	<b>517</b>	<b>499</b>	<b>606</b>	<b>362</b>	<b>496</b>

### Field Harvest Checks

Typically, a relatively small portion (about 10%) of the total harvest is checked in the field by department personnel from the two hunt areas (97 & 98) in this herd unit. A total of 44 elk (31 bulls, 11 cows, and 2 calves) were checked by field personnel during the 2006 hunting season, which is lower than the 54 elk checked in 2005. During the past 5 years (2002-2006) an average of 49 field checked elk have been documented for this herd unit. The proportion of field checked animals compared to the reported harvest in 2006 was 9%, and has ranged from 8% to 15% during the past five years. Field checks have traditionally been difficult to obtain from these hunt areas. Much of the area is backcountry and encountering hunters at the various trailheads is unpredictable. Check stations have been tried at several locations, but have met with little success. With declining trends in population estimates, increased data collection may be necessary in future years.

### Ear Tag Returns

In an effort to increase understanding of elk movements in and out of the Pinedale Data Analysis Unit (DAU), a trapping and tagging program has been periodically conducted starting in 1990. Animals were trapped and tagged at Muddy Feedground during 1990, 1991, 1996, and 1997. Elk were also trapped and tagged at Fall Creek Feedground during the 1994 and 1995 winters. An evaluation of all tag returns (n=131) from elk tagged within this DAU (1990-2003) show that only 8% (n=10) of the tagged elk were killed outside this herd unit (DAU), see 2003 Job Completion Report for specific information.

Winter trapping efforts took place at Muddy Feedground during 2004-2007. No trapping efforts have been conducted at Scab Creek or Fall Creek Feedgrounds during the past three years, although some elk have been ear tagged at Scab Creek during 2006 and 2007 associated with a brucellosis/abortion study. A total of 36 ear tags were reported from harvested animals or elk that died for other reasons during 2004-2006. Of these 36 returned ear tags, only two (6%) came from outside the Pinedale DAU. These two ear tagged animals came from the Wind River Indian Reservation (Willow Creek and Bob Creek) located directly east of this DAU on the east side of the Wind River Mountains. Overall, the tag return data indicates there have been very little interchange with surrounding elk herd units. This tagging data also indicates that the majority of elk killed were within the area they were trapped and tagged.

An evaluation of all tag returns (n=167) from elk tagged within this DAU from 1990 through 2006 show that only 7% (n=12) of the tagged elk were killed outside this herd unit (DAU).

Table 4. Tag returns from the Pinedale Herd Unit, 2004-2006.

TAGGING DATE	LOCATION	AGE	SEX	TAGS	TAG1	TAG2	Kill Date, Location (HA)
02/11/94	FALL CREEK	ADULT	F	G	5140	5141	10/04/94, Burnt Lake (97)
01/19/95	FALL CREEK	JUV	M	G	5270	5271	9/04, Willow Cr. Near Crow Heart (WRIR)
01/30/06	MUDDY CREEK	J	M	MC	0086	0087	10/28/06, Lovatt Creek (98)
02/16/06	MUDDY CREEK	A	F	MC	0976	0977	11/2/06, Aspen Butte (98)

01/30/06	MUDDY CREEK	A	F	MC	0102	0103	2-18-06, Muddy FG (98)
01/08/06	MUDDY CREEK	J	M	MC	0153	0154	10/13/06, HA 98
01/30/06	MUDDY CREEK	Y	F	MC	0497	0498	11-13-06, Scab Cr. FG (98)
02/16/06	MUDDY CREEK	A	F	MC	0758	0759	10/6/06, Muddy Ridge (98)
02/16/06	MUDDY CREEK	A	F	MC	0789	0790	2-18-06, Muddy FG (98)
01/28/04	MUDDY CREEK	YRLG	F	A	4303	4302	10-31-04, Boulder Lake Trailhead (98)
01/28/04	MUDDY CREEK	ADULT	F	A	4310	4311	2/6/04, Muddy FG (98)
01/28/04	MUDDY CREEK	ADULT	F	A	4312	4313	10-15-04, Irish Canyon (98)
01/28/04	MUDDY CREEK	ADULT	F	A	4316	4317	11-9-04, N.of Muddy FG. (98)
01/28/04	MUDDY CREEK	JUV	M	A	4328	4329	10-24-06, Jim Cr. (98)
01/28/04	MUDDY CREEK	YRLG	F	A	4332	4333	2-6-04, Muddy FG (98)
01/28/04	MUDDY CREEK	JUV	M	A	4338	4339	9/23/06 East Fork (98)
02/17/05	MUDDY CREEK	YRLG	M	A	4338	4339	9/23/06, East Fork (98)
01/28/04	MUDDY CREEK	JUV	F	A	4354	4355	11-12-04, HA 98
01/28/04	MUDDY CREEK	ADULT	F	A	4363	4364	10-4-04, East Fork (98)
01/28/04	MUDDY CREEK	ADULT	F	A	4365	4366	2/6/04, Muddy FG (98)
01/28/04	MUDDY CREEK	JUV	F	A	4369	4370	10/31/05, Max Creek (97)
01/28/04	MUDDY CREEK	JUV	F	A	4371	4372	11/6/05, Bear Basin (98)
01/28/04	MUDDY CREEK	JUV	F	A	4381	4382	11-04-04, Muddy Ridge (98)
02/17/05	MUDDY CREEK	ADULT	F	A	5128	5129	11/8/05, Silver Ck (98)
02/17/05	MUDDY CREEK	ADULT	F	A	5144	5145	10/19/05, Bousman Property (98)
02/17/05	MUDDY CREEK	JUV	M	A	5146	5147	2006, Bob Creek (WRIR)
02/17/05	MUDDY CREEK	JUV	F	A	5174	5175	9-21-05, NE of Cottonwood Lk. (HA 98)
02/17/05	MUDDY CREEK	JUV	M	A	5218	5219	9/22/05, Beaver lake (98)
02/22/05	MUDDY CREEK	JUV	F	A	5234	5235	10-8-05, Pocket Cr. (98)
02/22/05	MUDDY CREEK	JUV	F	A	5242	5243	10/16/05, Star Lake (98)
02/22/05	MUDDY CREEK	JUV	F	A	5242	5243	10/16/05, Star Lake (98)
02/22/05	MUDDY CREEK	JUV	F	A	5244	5245	10-22-05, East Fork (98)
02/22/05	MUDDY CREEK	JUV	M	A	5270	5271	9-20-06, Wolf Lake Area (98)
02/22/05	MUDDY CREEK	ADULT	F	A	5290	5291	10-19-05, Bousman property (98)
01/29/96	MUDDY CREEK	ADULT	F	G	5636	5637	9/20/99, Diamond Lake (98)
02/27/06	SCAB CREEK	A	F	F	0905	0906	10/26/06, Scab Creek Drainage (98)

### **Chimney Butte Hunter Management Area**

The Chimney Butte Hunter Management Area (CBHMA) was implemented in 2001-02 following a request from landowners and has continued every year since. The CBHMA is located in Hunt Area 98 between the Silver Creek/Scab Creek and East Fork Drainages. During the past six seasons the CBHMA permitted 100 antlerless elk permits valid from mid-November through January (December since 2004). Only hunters with an unused area 98 type 1,2, or 6 license could receive a CBHMA permit and participate in this late hunt. This late hunt was set up to keep elk out of private ranches to reducing elk damage and risk for brucellosis transmission through co-mingling. Landowners allow some type of access (foot, horse, or vehicle) to permitted hunters to help target problem elk that cause damage to stored crops. During the first few years of this CBHMA hunt, approximately 200 head of elk were usually present within the management area and hunter participation was good. During the past three years, the number of elk within the CBHMA has declined resulting in much lower hunter participation and harvest.

Overall, the CBHMA has been effective in harvesting elk causing chronic hay damage, but more importantly, has deterred elk away from these problem areas. The CBHMA hunt has been relatively easy to monitor and enforce, with very few violations detected.

### **HABITAT EVALUATION**

See the 2006 Annual Report Strategic Habitat Plan Accomplishments, Pinedale Region section (pages 66-82) located at the Pinedale Game & Fish Regional Office for detailed summaries of habitat work within this unit.

## **MANAGEMENT SUMMARY**

Utilizing hand calculations to determine postseason population estimates indicate this herd unit had been slightly declining for the past 4 years. Currently this herd unit is slightly above the desired population objective of 1,900 when modeling a 90% observability of the 2006 trend count. Recent counts indicate bull:cow:calf ratios are adequate and being maintained.

An experimental Test and Slaughter (T&S) program was initiated at the Muddy Creek Feedground during 2005/06 winter to cull yearling and adult females that were seropositive to brucellosis in an effort to control/eradicate the disease in elk. A total of 71 adult females were removed during the 2005/06 (n=58) and 2006/07 (n=13) winters. To date, no modifications in licenses quotas have been needed to compensate for the T&S activities, primarily due to the unusually low female harvest during 2005. It is anticipated that with the expansion of this T&S program to include the additional feedgrounds (Fall and Scab Creek) in this herd unit, strategies to reduce female harvest will be necessary in future years.

### **2007 Proposed Seasons and Projected Harvest**

The same hunting season in 2006 is proposed for 2007, which is also very similar to the 2004 and 2005 seasons. The 2006 season slightly reduced elk numbers in this herd unit, which is currently estimated to be within 10% of the objective (n=1,900). The proposed seasons for 2007 should result in the harvest of approximately 252 bulls, 197 cows, and 47 calves for a total harvest of 496 elk. The resulting postseason 2007 population is estimated to be approximately 1,736 elk.

## **MANAGEMENT RECOMMENDATIONS**

1. Continue to perform helicopter surveys to classify elk on native winter ranges within this herd unit.
2. Explore ideas to increase antlerless harvest in that area around the Scab Creek Feedground. Meet with landowners in the area to gain hunter access.
3. Monitor the effect of the Chimney Butte HMA hunt to deal with chronic damage problems.
4. While no depredation hunts or kill permits were utilized in 2006, these management tools should be considered if the situation is deemed appropriate.
5. Evaluate the effectiveness of the shorten season in Hunt Area 97, first implemented in 2004, to increase winter elk attendance at the Fall Creek Feedground by reducing pressure that could result in some HA97 elk moving to Scab Creek Feedground.

## **BRUCELLOSIS-FEEDGROUND-MANAGEMENT PROGRAM**

### **SURVEILLANCE/RESEARCH**

#### **Muddy Creek Feedground**

This was the second year 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 Muddy Creek feedground was chosen as the first site within this herd unit to implement the effort. Snow accumulation during winter 2006-07 was relatively low, and native forage remained available on south-facing slopes above the feedground nearly all winter. This likely negatively influenced trapping success, as elk were less dependent upon supplemental feed. One successful trapping effort occurred on 29 January. A total of 174 elk were captured in 2007, including 79 test eligible (yearling and adult) females, which were bled and tested to reveal 16% (13/79) had been exposed to *Brucella* (Tables 5 & 6). All seropositive animals were killed: 13 were hauled to a USDA-approved slaughter facility in Rigby, ID where they were processed and the meat (~3,009 lbs) was donated to and picked up by Rocky Mountain Food Bank for distribution to food banks throughout Wyoming. One trap related mortality occurred.

Table 5. 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 2006-2007 on the Muddy Creek Feedground.

Trap Date	Females				Males				Recaps	New Elk	Total Bled	# Sero +
	Adults	Yrlng	Juv	Total	Adults*	Yrlng	Juv	Total				
01/29/07	54	25	22	101	1	35	37	73	0	174	79	13**

\*does not include 2 adult males chemically immobilized, reversed and released

\*\*Includes 11 Adults and 2 Yrlngs; 3 Adults and 1 Yrlng were sero- when tested in 2006

Table 6. Ear tag data for elk trapped at Muddy Creek feedground, winter 2006-07.

AGE	AGE_CLASS	SEX	TAGS	TAG1	TAG2	COLLAR
A	6-9	F	GMC	5628	0608	Red D279
A	2-5	F	A	5192	5191	Red D278
A	2-5	F	A	5276	5277	Red D276
A	6-9	F	MC	0707	0708	Red D274
A	2-5	F	MC	0685	0686	Red D272
A	2-5	F	MC	0570	0571	Red D271
A	6-9	F	MC	0714	0715	Red D339
A	>10	F	MC	5253	5254	Red D337
A	6-9	F	MC	0631	0632	Red D102
A	6-9	F	AMC	5121	0625	Red D333
A	6-9	F	A	5185	5186	Red D332
A	2-5	F	MC	0835	0836	Red D331
A	6-9	F	MC	0760	0761	Red D330
A	2-5	F	A	5302	5301	Red D345
A	6-9	F	MC	0845	0846	Red D343
A	>10	F	MC	0793	0794	Red D349
A	2-5	F	MC	0528	0529	Red D348
A	6-9	F	MC	0543	0544	Red D346
A	2-5	F	MC	0564	0565	Red D370
A	2-5	F	MC	0798	0799	Red D372
A	2-5	F	MC	0945	0946	Red D373
A	2-5	F	MC	0928	0929	Red D376
A	6-9	F	MC	0877	0876	Red D387
A	2-5	F	A	5280	5281	Red D120
A	2-5	F	A	5181	5182	Red D150
A	2-5	F	MC	0251	0252	Red D151
A	2-5	F	MC	0276	0277	Red D003
A	2-5	F	MC	0872	0873	Red D152
A	2-5	F	MC	0278	0279	Red D004
A	2-5	F	MC	0660	0661	Red D153
A	2-5	F	A	4377	4378	Red D005
A	6-9	F	MC	0007	0008	Red D048
A	6-9	F	MC	0029	0030	Red D047
A	6-9	F	MC	0505	0537	Red D127
A	2-5	F	A	4346	4347	Red D006
A	2-5	F	MC	0829	0830	Red D126

A	2-5	F	MC	0012	0013	Red D045
A	6-9	F	MC	0065	0066	Red D044
A	2-5	F	A	5148	5149	Red D124
A	6-9	F	MC	0540	0541	Red D123
A	2-5	F	MC	0287	0288	Red D042
A	2-5	F	MC	0090	0091	Red D121
A	2-5	F	MC	0041	0043	Red D122
A	2-5	F	MC	0573	0572	Red D270
A	6-9	F	MC	0211	0212	Red D338
A	6-9	F	MC	0719	0720	Red D336
A	2-5	F	MC	0689	0690	Red D341
A	2-5	F	MC	0827	0828	Red D342
A	6-9	F	MC	0795	0796	Red D347
A	6-9	F	MC	0943	0944	Red D375
A	6-9	F	MC	0938	0939	Red D389
A	6-9	F	MC	0526	0527	Red D002
A	2-5	F	MC	0531	0532	Red D129
A	2-5	F	MC	0018	0019	Red D040
Y		F	MC	0170	0171	Red D277
Y		F	MC	0215	0216	Red D273
Y		F	MC	0729	0566	Red D334
Y		F	MC	0738	0736	Red D344
Y		F	MC	0633	0634	Red D371
Y		F	MC	0501	0942	Red D374
Y		F	MC	0697	0698	Red D378
Y		F	MC	0162	0163	Red D388
Y		F	MC	0001	0002	Red D049
Y		F	MC	0219	0220	Red D128
Y		F	MC	0237	0238	Red D130
Y		F	MC	0134	0135	Red D131
Y		F	MC	0011	906	Red D046
Y		F	MC	0128	0253	Red D154
Y		F	MC	0227	0228	Red D007
Y		F	MC	0737	0739	Red D125
Y		F	MC	0155	0156	Red D008
Y		F	MC	0283	0284	Red D009
Y		F	MC	0512	0513	Red D156
Y		F	MC	0259	0260	Red D157
Y		F	MC	0456	0457	Red D043
Y		F	MC	0122	0123	Red D135
Y		F	MC	0530	0055	Red D041
Y		F	MC	0592	0591	Red D275
Y		F	MC	0213	0214	Red D155
Y		M	MC	0230	0229	
Y		M	MC	0062	0766	
Y		M	MC	0117	0116	
Y		M	MC	0131	0130	
Y		M	MC	0611	0612	
Y		M	MC	0551	0552	
Y		M	MC	0207	0770	
Y		M	MC	0826	0680	

Y		M	MC	0786	0785	
Y		M	MC	0126	0127	
Y		M	MC	0874	0875	
Y		M	MC	0645	0646	
Y		M	MC	0771	0772	
Y		M	MC	0204	0203	
Y		M	MC	0919	0918	
Y		M	MC	0819		
Y		M	MC	0231	0232	
Y		M	MC	0721	0722	
Y		M	MC	0723	0724	
Y		M	MC	0583	0584	
Y		M	MC	0097	0096	
Y		M	MC	0635	0636	
Y		M	MC	0518		
Y		M	MC	0533	0534	
Y		M	MC	0202		
Y		M	MC	0637	0638	
Y		M	MC	0641	0642	
Y		M	MC	0917	0915	
Y		M	MC	0092	0093	
Y		M	MC	0285	0286	
Y		M	MC	0593	0594	
Y		M	MC	0016	0017	
Y		M	MC	0813		
Y		M	MC	0643	0644	
Y		M	MC	0150		
J		F	MC	0674	0675	
J		F	MC	0554	0553	
J		F	MC	0575	0574	
J		F	MC	0681	0682	
J		F	MC	0617	0618	
J		F	MC	0555	0556	
J		F	MC	0621	0622	
J		F	MC	0568	0569	
J		F	MC	0557	0558	
J		F	MC	0839	0840	
J		F	MC	0562	0561	
J		F	MC	0841	0842	
J		F	MC	0843	0844	
J		F	MC	0847	0848	
J		F	MC	0626	0797	
J		F	MC	0940	0941	
J		F	MC	0003	0004	
J		F	MC	0239	0240	
J		F	MC	0241	0242	
J		F	MC	0257	0258	
J		F	MC	0114	0115	
J		F	MC	0247	0248	
J		M	MC	0672	0673	
J		M	MC	0768	0769	

J		M	MC	0609	0610	
J		M	MC	0705	0706	
J		M	MC	0613	0614	
J		M	MC	0773	0774	
J		M	MC	0709	0712	
J		M	MC	0683	0684	
J		M	MC	0711	0713	
J		M	MC	0687	0688	
J		M	MC	0716	0717	
J		M	MC	0619	0620	
J		M	MC	0623	0624	
J		M	MC	0725	0775	
J		M	MC	0833	0834	
J		M	MC	0559	0567	
J		M	MC	0837	0838	
J		M	MC	0691	0692	
J		M	MC	0791	0792	
J		M	MC	0693	0694	
J		M	MC	0849	0850	
J		M	MC	0947	0948	
J		M	MC	0949	0950	
J		M	MC	0695	0696	
J		M	MC	0235	0236	
J		M	MC	0005	0006	
J		M	MC	0535	0536	
J		M	MC	0281	0282	
J		M	MC	0538	0539	
J		M	MC	0243	0244	
J		M	MC	0255	0256	
J		M	MC	0245	0246	
J		M	MC	0249	0250	
J		M	MC	0290	0291	
J		M	MC	0120	0121	
J		M	MC	0046	0047	
J		M	MC	0261	0262	

Eight of the 13 brucellosis seropositive elk were found to be culture positive on preliminary cultures. Of the 8, 5 had strong reactions (titers) on the 6 standard brucellosis serological assays. As a general rule, the higher the titer, the more likely the animal will be culture positive. During slaughter, lymph nodes most likely to harbor *B. abortus* were collected for culture and analysis. The results below (Table 7) are preliminary and are based only on cultures of fetal fluid (or uterine tissue) and internal iliac lymph nodes. A graduate student at the University of Wyoming is conducting an investigation of the relationship between serology and culture status from elk killed during the test and slaughter pilot project. The student is planning a thorough culture of the remaining elk tissues during summer/fall 2007, and may identify additional positives. The student is still in the process of completing cultures on the animals slaughtered in 2006. Thorough cultures of the tissues collected at slaughter have yielded an additional seven positive animals for a total of 25 culture positive elk from the 2006 test and slaughter project (56 total seropositive animals cultured). Caution should be exercised when interpreting these results, as these are preliminary findings. *Brucella* culture is very complex; final interpretations must wait until bacteriologic identifications are complete.

Table 7. Preliminary culture results from Muddy Creek feedground seropositive elk.

Trap Date	Total Elk Cultured	Total Fetuses Cultured	Positive Elk	Positive Fetuses
1/29/2007	13	8	8	0

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. Only 60% and 35% of total yearling and adult females counted on Muddy Creek feedground were captured and tested in 2006 and 2007, respectively, and seroprevalence decreased from 37% to 16% (Table 8). However, 10% of females recaptured in 2007 (also captured/tested in 2006) seroconverted (Table 8.), indicating an exposure event likely occurred during winter/spring of 2006. Additionally, 3 of the 4 elk recaptured in 2007 were culture positive, potentially indicating recent exposure. 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 8. 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 2006-2007 on the Muddy Creek Feedground.

MUDDY CREEK FEMALE RECAPTURE SUMMARY																
Year	# Females on Feedground	Total Bled			Seropositive			Killed			Recaptured			Seroconverted		
		Adults	Yrlng	% total females	Adults	Yrlng	% total females	Adults	Yrlng	% total females	Adults	Yrlng	% total females	Adults	Yrlng	% total recaps
2006	263	147	10	60%	56	2	37%	56	2	37%	NA	NA	NA	NA	NA	NA
2007	228	54	25	35%	11	2	16%	11	2	16%	24	16	18%	3	1*	10%

\*bled as juvenile in 2006

### Scab Creek Feedground

Thirty-eight elk were chemically immobilized on this feedground during winter 2006-07 (Table 9) in year two of a current research project on three elk feedgrounds investigating *Brucella*-induced abortion ecology, brucellosis transmission risk variables, and parturition site characteristics of feedground elk using vaginal implant transmitters (VIT's). Elk were darted with 1.0ml Carfentanil and 0.5ml Xylazine from the feed sled during 9 capture days. Thirty-two VITs were implanted. Pregnancy rate was 87%. Twenty-one percent (8/38) of elk captured tested positive for exposure to *Brucella* as determined by the four standard (card, SPT, Riv., CF) and cELISA tests. Results were biased due to nonrandom selection of two seronegative recaptured animals from last year. Removing those animals from the analyses brings seroprevalence to 22% (8/36). This is similar to last year's estimates of 20% (3/15), however, the standard sample size for 85% confidence that the estimated seroprevalence lies within +/- 15% of the true seroprevalence was not achieved, thus inferences last year are limited. A two-year summary of all test-eligible females resulted in a seroprevalence of 22% (11/51).

Table 9. Ear tag data for elk darted at Scab Creek feedground, winter 2006-07.

AGE	AGE_CLASS	SEX	TAGS	TAG1	TAG2	COLLAR
A	2-5	F	F	0962	0973	Gray D4
A	2-5	F	F	0997	0998	Gray D9
A	2-5	F	F	0990	0991	Gray C9
A	2-5	F	F	0913	0914	Gray E6

A	2-5	F	F	0925	0975	Gray F9
A		F	F	0970	7989	Gray D7
A	6-9	F	F	0933	0934	Gray A0
A		F	F	0959	0964	Gray F8
A		F	F	0980	0981	Gray C4
A	2-5	F	F	0917	0918	Gray E8
A	2-5	F	F	0965	0979	Gray B1
A	2-5	F	F	0982	0983	Gray D6
A	2-5	F	F	0915	0916	Gray E7
A	2-5	F	F	0978	0971	Gray B2
A	2-5	F	F	0929	0930	Gray A2
A		F	F	0830	0831	Gray B7
A	6-9	F	F	0907	0908	Gray E3
A		F	F	0832	0833	Gray B8
A		F	F	0969	0963	Gray D8
A		F	F	0836	0837	Gray J0
A		F	F	0951	0952	GPS
A	2-5	F	F	0953	0954	Gray A5
A		F	F	0926	0955	GPS
A	6-9	F	F	0957	0958	Gray B4
A	2-5	F	F	0935	0936	Gray D0
A	6-9	F	F	0826	0827	Gray B5
A	2-5	F	F	0828	0829	Gray B6
A	>10	F	F	0840	0841	Gray J2
A	2-5	F	MC	0172	0173	Gray A6
A	6-9	F	F	0921	0922	Gray F2
A		F	F	0801	0804	Gray F0
A	2-5	F	F	0976	0977	Gray F4
A	2-5	F	F	0803	0806	Gray F4
A	6-9	F	F	0834	0835	Gray B9
A	6-9	F	F	0838	0839	Gray J1
A	6-9	F	F	0995	0996	Gray B3
A	>10	F	F	0931	0932	Gray A1
A	2-5	F	F	0802	0808	Gray F3

VITs will continue to be monitored regularly, with increased intensity during the anticipated parturition period of late May/early June. Expelled transmitters will be cultured at the WGFD Veterinarian Diagnostics Lab in Laramie to determine presence/absence of *Brucella*. Habitat evaluations will be conducted at each site of expelled transmitters in attempt to quantify environmental characteristics selected for by calving elk.

In 2006, none of the locations classified as viable birth sites occurring within WGFD-delineated parturition areas (Fig. 1). Locations of parturition sites occurred in habitats ranging from sagebrush steppe to small isolated stands of conifer in sub-alpine/alpine transitions, while most occurred on landscape scale-dominated aspen/conifer stands. Preliminary analyses from 2006 suggest that overhead and horizontal vegetation cover and local shrub nutritional content influence birth site selection. VITs deployed in 2007 will continue to be monitored by ground (every 2-3 days) or fixed-wing telemetry (every 5-10 days), with increased intensity during the anticipated parturition period of mid-May/late-June.

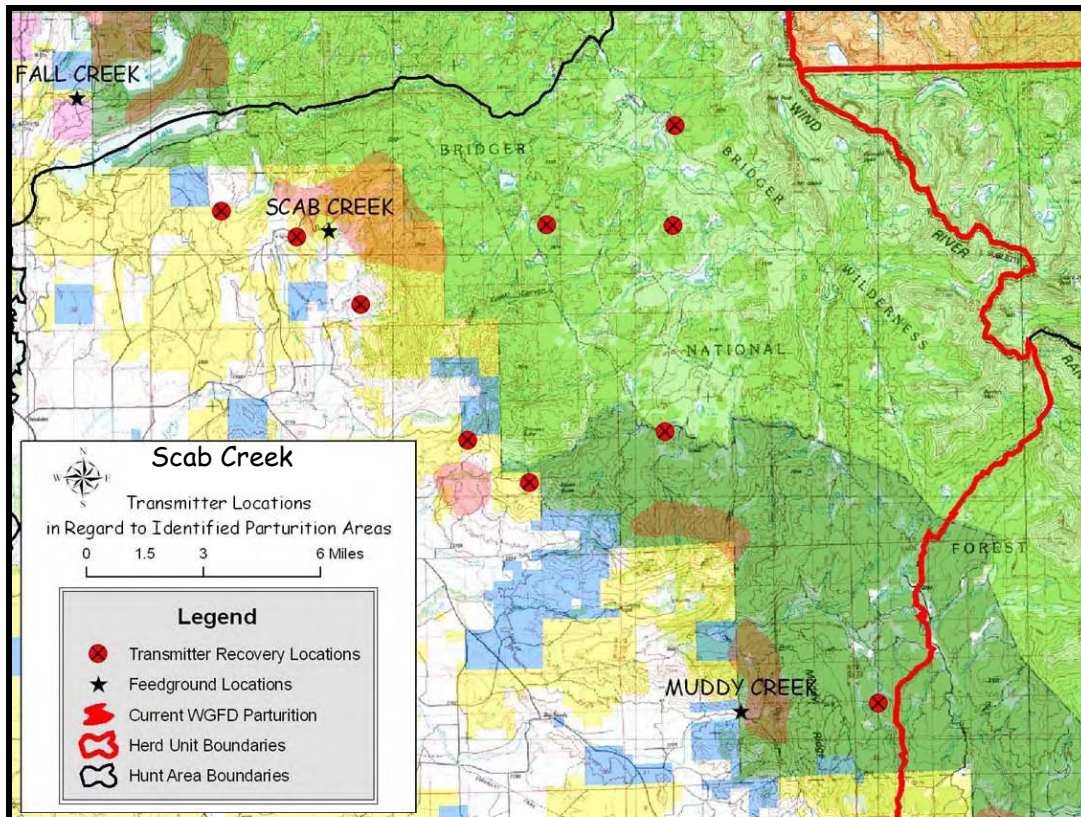


Figure 1. Parturition locations for animals wintering on the Scab Creek feedground, 2005-06.

## STRAIN 19 VACCINATION

### **Fall Creek Feedground**

Due to the initiation of the pilot test and slaughter project on Fall Creek feedground expected to begin during winter 2007-08, elk were not vaccinated in effort to reduce potential for 'false positives', or vaccine reactions, in subsequent test and slaughter trapping efforts. Since 1994, doses administered totals 2,078 for juveniles and 822 for adult females.

### **Muddy Creek Feedground**

Due to the initiation of the 5-year pilot test and slaughter project on Muddy Creek feedground during winter 2005-06, elk were not vaccinated in effort to reduce potential for 'false positives', or vaccine reactions, in subsequent test and slaughter trapping efforts. Through the 2005 feeding season, a total of 1,161 juveniles and 822 adults had been vaccinated.

### **Scab Creek Feedground**

Administering strain 19 to juvenile at this feedground began 29 February and ended 15 March. A total of 12 of 108 (11%) juveniles classified were vaccinated, indicating potential boosters of some yearlings. Mild winter conditions at this feedground and late arrival of ordered vaccine led to poor coverage. Since 1995, a total of 1,761 juveniles and 1,123 adult females have been inoculated.

## FEEDGROUND MANAGEMENT SUMMARY

Table 10. Summary data from Fall Creek Feedground, 1975-76 to 2006-07.

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TON/ELK
1975-76	660	490	140	0	40	0.74
1976-77	605	253	98	0	28	0.42
1977-78	720	449	140	9	44	0.62
1978-79	580	318	158	6	36	0.55
1979-80	517	322	152	2	42	0.62
1980-81	460	207	132	2	35	0.45
1981-82	465	315	156	4	55	0.68
1982-83	563	352	161	3	53	0.63
1983-84	570	372	153	4	56	0.65
1984-85	470	205	139	4	44	0.44
1985-86	527	349	163	10	58	0.66
1986-87	500	265	141	1	51	0.53
1987-88	675	299	122	1	41	0.44
1988-89	680	364	153	7	48	0.54
1989-90	710	277	132	4	49	0.39
1990-91	735	346	142	2	50	0.47
1991-92	700	360	132	11	55	0.51
1992-93	914	419	145	6	52	0.46
1993-94	742	327	128	2	53	0.44
1994-95	813	325	100	2	43	0.4
1995-96	754	368	120	3	62	0.49
1996-97	936	559	154	4	81	0.6
1997-98	635	261	129	4	60	0.41
1998-99	806	230	107	3	35	0.28
1999-00	533	280	123	1	53	0.53
2000-01	691	282	120	2	49	0.41
2001-02	696	337	124	3	76	0.48
2002-03	482(182)	147	121	0	46	0.3
2003-04	618	300	119	2	62	0.49
2004-05	438	119	86	0	40	0.27
2005-06	506	319	119	2	80	0.63
2006-07	529	169	90	0	47	0.32
30 Year Ave	523	227	104	1	57	0.50

Table 11. Summary data from Muddy Creek Feedground, 1975-76 to 2006-07

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TON/ELK
1975-76	803	622	153	1	42	0.77
1976-77	770	285	102	2	24	0.37
1977-78	470	305	141	1	47	0.65
1978-79	580	378	159	4	43	0.65
1979-80	473	309	151	5	46	0.65

1980-81	480	231	143	3	39	0.48
1981-82	486	415	171	0	70	0.85
1982-83	610	335	165	6	48	0.55
1983-84	620	402	175	0	55	0.65
1984-85	430	260	156	3	56	0.6
1985-86	483	321	160	7	61	0.66
1986-87	431	230	155	0	52	0.53
1987-88	560	288	117	1	47	0.51
1988-89	564	366	162	2	67	0.65
1989-90	537	247	148	4	59	0.46
1990-91	648	449	168	2	82	0.69
1991-92	590	363	150	3	63	0.62
1992-93	780	490	171	2	72	0.63
1993-94	730	265	145	0	47	0.36
1994-95	750	375	154	11	58	0.5
1995-96	786	322	120	2	48	0.41
1996-97	523	390	161	7	101	0.75
1997-98	594	313	147	0	67	0.53
1998-99	566	359	153	1	76	0.63
1999-00	676	290	119	4	50	0.43
2000-01	580	334	126	3	57	0.58
2001-02	635	327	132	3	73	0.51
2002-03	550	279	135	5	72	0.51
2003-04	486	270	129	2	73	0.56
2004-05	396	158	117	5	53	0.4
2005-06	431	203	125	4	63	0.47
2006-07	383	145	138	2	57	0.38
30 Year Ave	575	323	145	3	58	0.56

Table 12. Summary data from Scab Creek Feedground, 1975-76 to 2006-07

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TONS/ELK
1975-76	377	202	143	0	38	0.54
1976-77	200	71	98	0	28	0.36
1977-78	315	197	137	0	51	0.63
1978-79	198	136	157	0	56	0.69
1979-80	215	109	153	2	35	0.51
1980-81	150	76	135	0	52	0.51
1981-82	340	196	176	0	57	0.58
1982-83	416	271	174	2	61	0.65
1983-84	485	246	180	1	51	0.51
1984-85	510	252	160	1	47	0.49
1985-86	615	361	171	1	56	0.59
1986-87	587	286	156	1	49	0.49
1987-88	673	364	163	0	54	0.54
1988-89	670	364	153	3	54	0.54
1989-90	529	290	172	5	73	0.55

1990-91	555	335	176	5	74	0.60
1991-92	504	288	154	5	63	0.57
1992-93	550	392	180	3	87	0.71
1993-94	578	347	166	4	71	0.60
1994-95	515	274	174	4	72	0.53
1995-96	503	356	147	0	82	0.71
1996-97	631	503	171	4	108	0.80
1997-98	601	384	164	2	95	0.64
1998-99	586	316	151	2	69	0.54
1999-00	631	299	117	1	56	0.47
2000-01	627	351	142	1	68	0.56
2001-02	620	363	134	9	93	0.59
2002-03	651	385	135	2	85	0.59
2003-04	710	416	142	4	80	0.59
2004-05	838	449	136	3	69	0.54
2005-06	810	472	131	9	73	0.58
2006/07	750	409	98	0	72	0.55
30 Year Ave	529	305	151	2	65	0.57

**2007 Season Recommendations - Pinedale Elk, E108**

<b><u>Hunt Area</u></b>	<b><u>Type</u></b>	<b><u>Opens</u></b>	<b><u>Closes</u></b>	<b><u>Limitations</u></b>
97	1	Oct. 1	Oct. 31	General license; any elk
		Sept. 20	Oct. 31	Limited quota; 300 licenses any elk
		Nov. 1	Nov. 6	Unused Area 97 Type 1 licenses valid only for antlerless elk
	2 6	Sept. 20	Nov. 6	Limited quota; 50 licenses antlerless elk
		Sept. 20	Nov. 6	Limited quota; 75 licenses cow or calf
98	1	Oct. 1	Oct. 31	General licenses; any elk
		Sept. 20	Oct. 31	Limited quota; 350 licenses any elk
		Nov. 1	Nov. 15	Unused Area 98 Type 1 licenses valid only for antlerless elk
	2 6	Sept. 20	Nov. 15	Limited quota; 100 licenses antlerless elk
		Sept. 20	Nov. 15	Limited quota; 150 licenses cow or calf
		Nov. 16	Dec. 31	Unused Area 98 Type 1, Type 2, and Type 6 licenses valid for antlerless elk in that portion of Area 98 between the Scab Creek and the East Fork River drainage, excluding Irish Canyon Creek and Muddy Creek.

**Special Archery Seasons**

97, 98	Sept. 1	Sept. 19	Refer to Section 3.
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Pinedale Elk – Hand Model

Postseason 2005 Estimate = 2064 (90% Observability of 2005 trend count)

Postseason 2005 Observed Ratios (male:female:juvenile) = 28:100:28

	<b>Male</b>	<b>Female</b>	<b>Juvenile</b>	<b>Total</b>
Posthunt 2005	372 (18%)	1320 (64%)	372 (18%)	2064
Posthunt Mortality	-1%	-2%	-5%	
	<u>368</u>	<u>(-60 T&amp;S) 1234</u>	<u>353</u>	1960

**End of 2005 Biological Year**

Yearling Recruitment/ Reproduction	176	176	346 (1234 x 0.28)	
Prehunt 2006	544	1458	346	2348
Harvest 2006	-264	-202	-30	-496
Posthunt 2006	280	1256	316	1852
Modeled Ratios	23:100	-----	25:100	
Observed Ratios	28:100	-----	28:100	1758

Postseason 2006 Estimate = 1953 (90% Observability)

Postseason 2006 Observed Ratios (male:female:juvenile) = 28:100:28

Posthunt 2006	352 (18%)	1249 (64%)	352 (18%)	1953
Posthunt Mortality	-1%	-2%	-5%	
	<u>348</u>	<u>(-13 T&amp;S) 1211</u>	<u>334</u>	1893

**End of 2006 Biological Year**

	<b>Male</b>	<b>Female</b>	<b>Juvenile</b>	<b>Total</b>
Yearling	167	167		
Recruitment/ Reproduction			339 (1211 x 0.28)	
Prehunt 2007	515	1378	339	2232
Projected Harvest 2007	-252	-197	-47	-496
Posthunt 2007	263	1181	292	1736

Projected  
Postseason 2007 Ratios (male:female:juvenile) = 22:100:25



E108 - Pinedale  
HA 97, 98  
Revised - 12/88

 Parturition Area

