

# 2006 JOB COMPLETION REPORT

SPECIES : **EIk**  
 HERD UNIT : **AFTON**  
 HERD UNIT # : **105**  
 HUNT AREAS : **88,89,90,91**

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

	<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	326	325	422	311	314
Yearling Males	85	72	85	80	60
Total Males	411	397	507	391	374
Females	368	321	323	253	257
Juveniles	70	46	107	46	85
Totals	849	764	937	690	716

	#	%	#	%	#	%	#	%	#	%
<b>3. AGE STRUCTURE OF FIELD CHECKED ANIMALS</b>										
Juvenile Female	7	3	3	1	0		8	5	5	4
Yearling Female	2	1	2	1	2	1	3	2	1	1
Adult Female	104	42	86	39	89	38	57	33	55	39
Juvenile Male	3	1	2	1	0		7	4	4	3
Yearling Male	10	4	6	3	5	2	26	15	14	10
Adult Male	119	49	123	55	138	59	74	42	62	44
Total Sample Size	245		222		234		175		141	

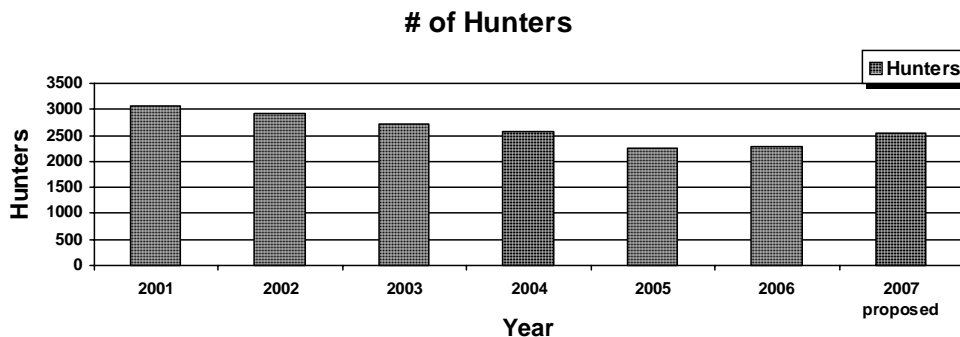
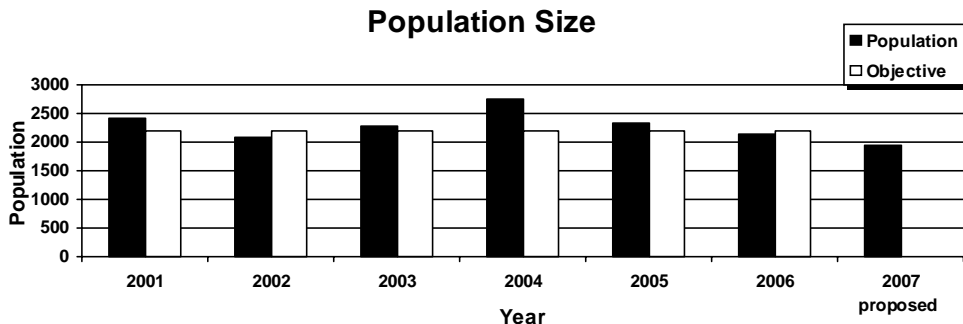
<b>4. POSTHUNT SEX AND AGE RATIO COUNT (per 100 females)</b>					
Juveniles	29	34	39	41	34
Males	20	22	15	29	24
Yearling Males	6	7	7	13	9
Mature Males	14	15	8	17	15
Total Sample Size	1,525	1,900	2,025	1,944	1,820
Adequate Sample Size	475	543	565	731	586

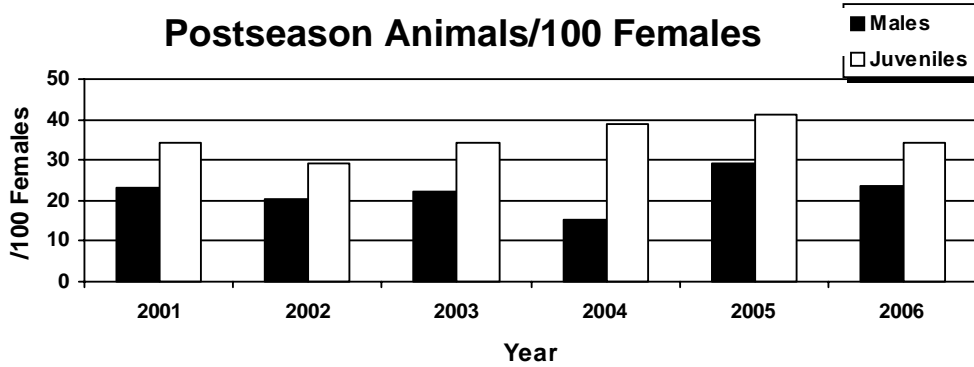
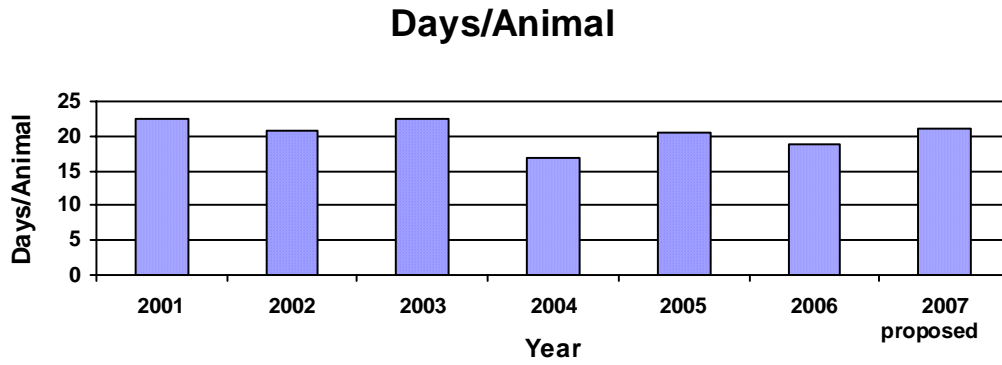
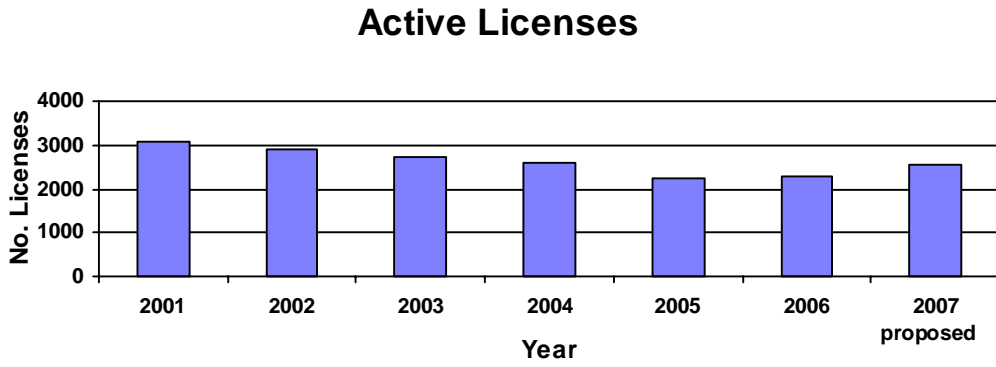
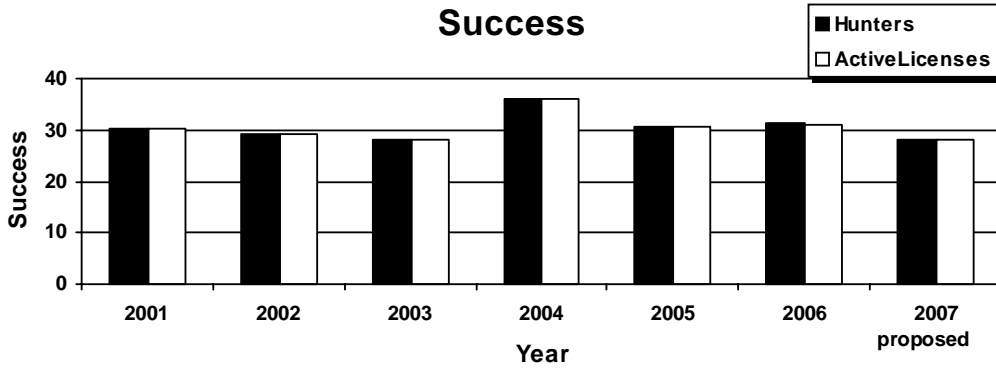
<b>5. POPULATION TRENDS</b>					
Trend Count Dates:	2/03	2/04	2/05	2/06	2/07
Trend Count:	1,945	1,943	2,029	1,945	1,827
Herd Model Pop Est:	2,072	2,266	2,763	2,330	2,141
Line Trans Pop Est:	0	0	0	0	0

SPECIES : Elk  
 HERD UNIT : AFTON  
 YEAR : 2006

MODEL DATE : 5/4/07

	Averages 2001 - 2005	2006	Proposed 2007	Objective
Population (Est.)	2,371	2,141	1,950	2,200
Harvest	835	716	715	
Hunters	2,710	2,289	2,542	
Hunter Success	30.8%	31.3%	28.1%	
Active Licenses	2,710	2,301	2542	
Active Licenses Success	30.8%	31.1%	28.1%	
Recreation Days	17,156	13,505	15,078	
Days/Animal	20.5	18.9	21.1	





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

Year: **2006** Species: **Elk** Herd Unit: **Afton** Herd unit #: **105** Biologist: **Fralick**

Management strategy:  Recreational  Special

	5-year average	Current year	Proposed
Population:	2,371	2,141	1,950
Harvest:	835	716	715
Hunters:	2,710	2,289	2,468
% Success:	31%	31%	29%
Rec. Days:	17,156	13,505	14,078
Days/animal:	20.55	18.92	19.69

Population objective 2,200

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

Number of years population has been +  or -  objective in recent trend: 2

Population estimates tracking with trend counts or line transect results? Yes

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

Most recent classification ratio (j/100f/m): 34/100/24

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

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

J/100f: Decreasing

Most recent 5-year average classification ratio (j/100f/m): 35/100/22

(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:		
Males ≥ 1 year old:		
Juveniles (< 1 year old):		

Total:

Projected change in post-season population: (+ or -)7.00% (+ or -) 9.00%

Moose: Average age of male harvest:

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

# SEX AND AGE COUNT REPORT

SPECIES : **EIK**

HERD UNIT : **AFTON**

YEAR : **2006**

PREPARED BY : **GARY FRALICK**

**POSTHUNT CLASSIFICATION      DATES : 2/07**

Hunt Area	----- MALES -----			Females	Juveniles	Total
	Yearlings	Adults	Total			
<b>88</b>	25	36	61	407	115	583
<b>89</b>	7	2	9	87	40	136
<b>90</b>	54	91	145	566	189	900
<b>91</b>	17	39	56	92	53	201
<b>Total Sample</b>	103	168	271	1,152	397	1,820
<b>Adequate Sample</b>			86	366	126	578
<b>Precision</b>	<b>@</b>	<b>90</b>	<b>C.L.</b>			

**Juveniles / 100 Females : 34 ± 1**  
**Total Males / 100 Females : 24 ± 1**  
**Adult Males / 100 Females : 15**  
**Yearlings / 100 Females : 9**

**2006 ELK HUNTING SEASONS**

**AFTON ELK HERD UNIT - E105**

<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>
88	1	October 1	October 31	Limited Quota; 60 licenses any elk
89		October 15	October 17	General License; any elk
		October 18	October 31	General License; antlered elk
90		October 15	October 31	General License; any elk
	6	October 15	October 31	Limited Quota; 100 licenses cow or calf
91		October 1	October 31	General License; any elk
	1	October 1	October 31	Limited Quota; 350 licenses any elk
		November 1	January 31	Unused area 91 type 1 licenses antlerless elk
88		September 1	September 30	Archery only; Refer to Section 4
89,90		September 1	September 30	General License; Archery only. Refer to Section 4
91		September 1	September 30	Archery only; Refer to Section 4

# HARVEST REPORT

SPECIES **EIk**

HERD UNIT : **AFTON**

YEAR : **2006**

PERIOD COVERED : **9/1/06 - 1/31/07**

Prepared By : **GARY FRALICK**

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	48		6	1	7	1	15	31.3	25.2
<b>88</b>	<b>Non-Resident</b>	0	6		0	1	0	0	1	16.7	50.0
	<b>Total</b>	0	54	(54)*	6	2	7	1	16	29.6 ( 29.6 )*	26.8
	<b>Resident</b>	0	701		24	59	51	23	157	22.4	20.4
<b>89</b>	<b>Non-Resident</b>	0	202		8	43	4	0	55	27.2	18.3
	<b>Total</b>	0	903	(903)*	32	102	55	23	212	23.5 ( 23.5 )*	19.9
	<b>Resident</b>	0	543		11	45	38	4	98	18.0	27.5
<b>90</b>	<b>Non-Resident</b>	0	153		4	51	4	2	61	39.9	14.2
	<b>Total</b>	0	696	(709)*	15	96	42	6	159	22.8 ( 22.4 )*	22.4
	<b>Resident</b>	0	772		7	74	121	55	257	33.3	15.4
<b>91</b>	<b>Non-Resident</b>	0	227		0	40	32	0	72	31.7	18.5
	<b>Total</b>	0	999	(999)*	7	114	153	55	329	32.9 ( 32.9 )*	16.1
	<b>Resident</b>	0	1,762		48	179	217	83	527	29.9	19.4
<b>Total</b>	<b>Non-Resident</b>	0	527		12	135	40	2	189	35.9	17.2
	<b>Total</b>	0	2,289	(2301)*	60	314	257	85	716	31.3 ( 31.1 )*	18.9

\* Active Licenses

## 2006 AGE STRUCTURE OF FIELD CHECKED ANIMALS

SPECIES : Elk  
 HERD UNIT : AFTON

PREPARED BY : GARY FRALICK

Hunt Area	Sex	Young	1+	2+	3+	4+	5+	6+	7+	Older	Unaged Adults *	Total
88	Male	0	0	1	0	0	0	0	0	0	0	1
	Female	0	0	0	0	0	0	0	0	0	0	0
89	Male	4	13	40	0	0	0	0	0	0	0	57
	Female	2	0	33	0	0	0	0	0	0	0	35
90	Male	0	1	15	0	0	0	0	0	0	0	16
	Female	3	1	21	0	0	0	0	0	0	0	25
91	Male	0	0	6	0	0	0	0	0	0	0	6
	Female	0	0	1	0	0	0	0	0	0	0	1
Totals :	Male	4	14	62	0	0	0	0	0	0	0	80
	Female	5	1	55	0	0	0	0	0	0	0	61

\* Unaged animals older than yearlings

Total Aged : 141

# TREND COUNT REPORT

YEAR : 2006

SPECIES : Elk

HERD UNIT : AFTON

METHOD : Helicopter, ground

DATE : 2/07

CONDITIONS : Good snow cover and visibility

OBSERVERS : Fralick, Graham, District 1

---

Hunt Area	Count Block	Flight H : M	Number Counted	Photo	Comments
88	0	0 : 0	583		Greys River Feedground
89	0	0 : 0	143		Native Range
90	0	0 : 0	900		Forest Park Feedground
91	0	0 : 0	201		Native Range
<b>Totals</b>		0 : 0	1,827		

---

SPECIES: Elk  
DAU NAME: Afton (E105)  
HUNT AREAS: 88-91  
TITLE: 2006 Afton Elk Herd JCR

## **BACKGROUND**

The Afton Elk Herd Unit covers the western slope of the Wyoming Range to Tri-basin Divide, the Salt River Range, and west to the Wyoming/Idaho border including Star Valley. This elk herd lies within Lincoln County and covers 810 square miles of habitat. The Forest Service is the major land management agency for this herd unit, and it manages 95% of the surface area. Private lands, restricted primarily to Star Valley, make up most of the remaining area. The Salt River and the Greys River are the major drainages in the herd unit. There are two feedgrounds in this herd unit. The Forest Park Feedground is located in the upper Greys River in Hunt Area 90 and the Greys River Feedground is located near Alpine in Hunt Area 88.

Elk numbers in this herd unit have met or exceeded population objectives for at least eight years. In the lower Greys River (Hunt Area 89), elk that spend the summer and fall in Little Greys and north of Deadman Creek typically migrate to either the Greys River or Dog Creek elk feedground. The number of elk that winter on the Greys River feedground has been generally declining over the last 6 years. Hunting seasons have been designed to increase harvest of the antlerless segment of the population over the last five years by increasing the number of days of general license "any" elk hunting, increasing the number of limited quota licenses and extending hunting seasons into November, in Hunt Area 90, and through January 31 in Hunt Area 91. Attempts to focus additional harvest on the antlerless elk segment of the population in the upper Greys River (Hunt Area 90) and Salt River (Hunt Area 91) have met with mixed success due to limited hunter participation, hunters focusing pressure primarily on antlered elk, and weather-related hunting conditions which has generally hindered hunting opportunity by reducing participation.

Depending on winter severity, the western portion of Hunt Area 91 that lies immediately adjacent to the State of Idaho has experienced a general increase in elk moving from Idaho summer ranges to Wyoming winter ranges. Since 1991 elk trend counts in this western portion of Hunt Area 91 have ranged from 121 elk in 1991 to a high of 869 elk in 1997. During the winter of 1996-1997, at least 525 elk were provided supplemental feed along the western portion of Hunt Area 91 from February to April. These elk are part of an interstate population, which, functionally, is not part of the After Elk Herd. Elk trend counts tend to over-estimate the number of elk in the herd unit because of the movement of Idaho elk into Wyoming during winter months. Consequently, a management decision was implemented in 2001 to discontinue aerial elk surveys along the Idaho-Wyoming Stateline.

## **MANAGEMENT EVALUATION**

### **Classification Data**

#### **2004 Trend Count and Herd Composition Survey**

During 2004 trend counts a total of 2029 elk were counted on feedgrounds and native winter ranges. These counts were only slightly higher than the 1945 and 1943 elk observed in 2002 and 2003, respectively. The results of the 2004 composition survey indicate that this population was not increasing in size. Elk numbers have remained below the Commission quota of 1000 elk on the Greys River feedground for the last 10 years. Elk numbers on the Forest Park feedground have remained within the +/- 10% Commission-established quota

of 750 elk from 2002-2004. Elk on native winter range in Star Valley have remained somewhat stable over the last 29 years. The 29-year average number of elk counted along the west slope of the Salt Mountain Range is 136 elk. In 2004, 191 elk were counted.

The observed total bull:100 cow ratio was 15:100. This is the lowest bull:cow ratio recorded in this elk herd in at least 25 years. During the period from 1996-2003, the average total bull:cow ratio was 23 total bulls:100 cows. During this same 8 years period, an average of 321 antlered elk were counted each year during herd composition surveys. In 2004, only 197 total bulls were counted. The decline in bull numbers has been occurring since 2001. During the last week of the 2003 and 2004 hunts, hunters were harvesting antlered elk in the lower Greys River and on the Greys River feedground because snow conditions pushed elk to lower elevations and made them more accessible to hunters. Another factor that has contributed to the decline in total antlered elk observed during postseason surveys has been the general decline in yearling bulls observed. Trend counts and herd composition data over the last three years indicates that calf recruitment to the yearling age class has significantly decreased. Reasons for this apparent decrease in recruitment to the yearling cohort are unknown.

A total of 507 calves were counted in 2004. Herd unit wide, the observed calf:cow ratio was 39 calves:100 cows. Almost equal numbers of calves were documented on the Greys River and Forest Park feedgrounds in 2004. On the Greys River feedground 161 calves were counted in 2004. The calf:cow ratios on the Greys River feedground have consistently been at or below 31 calves:100 cows from 2001-2003. In 2004, the observed calf:cow ratio on this feedground was 40 calves:100 cows. On the Forest Park feedground 30:100, 24:100, and 35:100 were observed from 2001-2003, respectively. In 2004, the calf ratio decreased to 28 calves:100 cows on this feedground. The calf:cow ratio for elk counted on native winter range in Greys River was 53 calves:100 cows. This calf ratio is likely a result of calves that were orphaned during the hunting season.

A total of 602 elk were counted on the Greys River feedground in 2004. This is the lowest number of elk counted here in at least 25 years. The lower number is indicative of a declining number of elk in the lower Greys River and along the northeast portion of Hunt Area 91. In 2002 and 2003, a total of 663 and 810 elk were classified on this feedground, respectively. The Commission-established feedground quota is 1000 elk.

Elk numbers on the Forest Park feedground increased from 681 elk in 2002 to 771 elk in 2003. In 2004, a total of 819 elk were counted on this feedground. The Wyoming Game and Fish Commission established a quota of 750 elk for this feedground.

A total of 323 elk were counted on native winter ranges in Area 89. This is higher than the 58 elk counted in 2003, but similar to the 342 elk counted in 2002. The winters of 2002 and 2004 were open in Greys River. The south and west exposures were essentially snow-free for a major portion of the winter. This allowed elk to utilize these open slopes along the west slope of Middle Ridge from Little Elk Creek south to Deadman Creek. A total of 93 elk were located on native range south of the feedground in Hunt Area 88. In Area 91, a total of 191 elk were counted on native winter ranges on the west slope of the Salt Range between Cottonwood Creek and Steward Creek.

### **2005 Trend Count and Herd Composition Survey**

During the 2005 trend count, a total of 1945 elk were counted on feedgrounds and native ranges (Appendix B). Since 2002, elk trend counts have not changed significantly. During this four- year period (2002-2005), trend counts ranged from 1945 to 2029 total elk. For the 11<sup>th</sup> consecutive year, elk numbers have remained below the Commission established quota of 1,000 on the Grey River feedground. From 2001-2004, elk numbers have remained within +/- 10% of the quota (n=750) on the Forest Park feedground. In 2005, 919 elk were counted on this feedground. However, due to above average snow levels, some of these elk moved from native ranges in the Deadman Creek area to the Forest Park feedground. Elk on native ranges in Star

Valley have remained somewhat stable over the last 30 years. The 30-year average for the west slope of the Salt Mountain Range is 140 elk. In 2005, 294 elk were counted.

The observed bull:100 cow ratio was 29:100. This is the highest bull:cow ratio ever recorded in this herd unit, and it follows the lowest recorded bull:cow ratio in 2004. In 2005, 17 branch-antlered bull:100 cows and 12 yearling bulls:100 cows were documented for this elk herd. Total bull numbers and bull:cow ratios increased after the 2005 hunting season by shortening the antlered portion of the general license elk hunt in Area 89 and 90. Between 2001-2004 a declining trend was observed for number of bulls and bull:cow ratios. During the last week in October 2003 and especially in 2004, hunters were harvesting antlered elk in the lower Greys River adjacent to the Greys River feedground in Area 89 and on the feedground (Area 88) as deep snow conditions pushed elk toward this feedground. Another factor that contributed to the decline in total antlered elk observed during postseason surveys was the general decline in yearling bulls. Trend counts and herd composition data from 2001-2004 (Appendix B) indicated calf recruitment to the yearling age class significantly decreased.

A total of 472 calves were counted in 2005. This is a slight decline from the 512 calves observed in 2004. The 2005 observed calf:100 cow ratio was 41:100; in 2004, 39 calves:100 cows were observed. The two feedgrounds supported a majority of the calves in the herd unit. On Greys River and Forest Park feedgrounds, a total of 154 calves and 229 calves were observed, respectively. These two feedgrounds account for 81% (n=383 calves) of the calves observed in 2005. During the previous 5 years (2000-2004), an average of 73% of all calves counted were on these two feedgrounds. In Area 91, a total of 74 calves were counted on native ranges and accounted for 16% of all calves documented in 2005.

### **2006 Trend Count and Herd Composition Survey**

During the 2006 trend count, a total of 1827 elk were counted on feedgrounds and native ranges (Appendix B). The 2006 trend count declined from the 1945 elk observed in 2005. During this four-year period (2002-2005), trend counts ranged from 1945 to 2029 total elk. For the 12<sup>th</sup> consecutive year, elk numbers have remained below the Commission established quota of 1,000 on the Grey River feedground. The number of elk counted on this feedground has been declining since 2003 when 810 elk were counted (Appendix B).

From 2001-2006, elk numbers on the Forest Park feedground have generally met or exceeded the Commission-established quota of 750 elk. In 2006, 900 elk were counted on this feedground. In 2005, a total of 919 elk were counted. Elk on native ranges in Star Valley have remained somewhat stable over the last 30+ years, with periodic fluctuations. The 31-year average for the west slope of the Salt Mountain Range is 262 elk. In 2006, 201 elk were counted.

The observed bull:100 cow ratio was 23:100. This is a decline from the 29 bulls:100 cows observed in 2005. Total bulls numbers observed in the 2006 trend count (N=271) declined from the 332 bulls observed in 2005. There was a general decline in the total number of adult and yearling bulls observed from 2005 to 2006. The calf:100 cow ratio declined from 41 calves:100 cow in 2005 to 34 calves:100 cows in 2006.

### **WEATHER DATA**

See Appendix A, Climatic Division 2 – Snake Drainage Basin for weather data applicable to the Afton Herd Unit. It is recognized that the weather conditions may not be a valid indicator of actual winter elk mortality because approximately 70%-80% of all elk counted during the annual trend count are observed on Department-operated feedgrounds. Winter mortality is reduced to negligible levels because of the supplemental feeding operation in this elk herd.

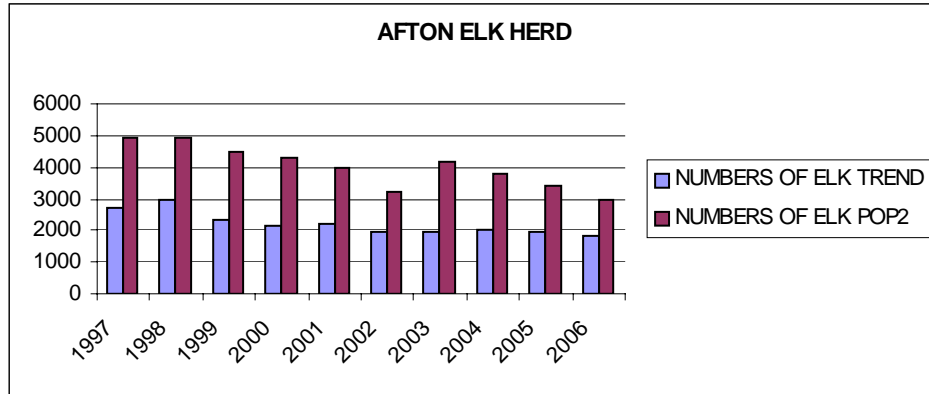
### **Modeling**

The 2004, 2005, and 2006 posthunt populations were estimated at 2763, 2330, and 2141 total elk, respectively, based on hand calculations. Population estimates generated by POP2 modeling appear to

over-estimate the number of elk in this herd unit. Annual herd trend counts from 1997 to 2006 ranged from 1943 to 2744 (Figure 1). POP2 model projections during the same time period estimated posthunt populations at 2839 to 4911 total elk.

The population estimates generated by the computer model are significantly higher than the observed annual trend count. While it is accepted that elk are “missed” during annual helicopter surveys, managers estimate the postseason Afton elk population is actually within 10% of the objective (n= 2200). These estimates are based primarily on a declining number of elk observed on native winter ranges in Area 89, the eastern portion of Area 91, and generally lower numbers of elk on the Greys River feedground since 2001. The population model indicates that a range of 600 to 2000 elk are not observed during annual trend counts from 1997 – 2006. It is improbable that such high numbers of elk are not observed because all current and historical winter elk habitat in the herd unit is surveyed from a helicopter. Further, there appears to be no significant emigration or immigration associated with this elk herd based on tag return data (See Table 1). Only 8 of 71 tagged elk (11%) have been reported outside the Afton herd unit since 2004.

Figure 1. A comparison between posthunt population trend counts and POP2-generated estimates, Afton Elk Herd, 1997-2006.



## HARVEST STATISTICS

### 2004 Hunting Season

A total of 937 elk were harvested in 2004 according to the harvest survey. In 2002 and 2003, a total of 746 elk and 849 elk were harvested in this herd unit, respectively.

Antlered harvest was comprised of 422 adult and 85 yearling elk. Antlered harvest tallied 54% of the total harvest and antlerless elk comprised 45%. This was the 2<sup>nd</sup> consecutive year that total antlered harvest exceeded antlerless harvest. Given the number of bulls counted, the population would be unable to sustain two consecutive years of the bull harvest estimated by the harvest survey unless there was significant immigration of males into this herd. Tag return data from harvested elk throughout the herd unit and adjacent elk herds do not indicate significant immigration of elk into the Afton Elk Herd.

In 2004, adult bulls comprised 83% (n=422 elk) of the total antlered harvest, while yearling bulls tallied 17% (n=85). Similarly, during the 2003 hunt, branch-antlered bull elk tallied 83% (n=330 elk) while yearlings comprised 17% (n=66). Hunter success was estimated at 36% in 2004, which is higher than the 27% success hunters tallied in 2003. Days per elk harvest declined from 23 days in 2003 to 17 days per elk in 2004.

In Area 88, limited quota hunters harvested 52 elk in 2004. This is a dramatic increase in harvest when compared to the 14 elk killed in 2003. In 2004, a total of 20 antlered elk, 22 cows and 10 calves were harvested. Hunter success was estimated at 55% in 2004 and hunter effort averaged 12 days per kill.

In Area 89, 284 elk were harvested in 2004. This is an increase from the 228 elk taken in 2003. The 2004 harvest was comprised of 55% antlered (131 adult, 25 yearling), and 45% antlerless elk (98 cows and 30 calves). Hunter success increased to 27% in 2004 and days per elk harvested dropped to 18.

A total of 235 elk were harvested in Area 90 in 2004. In 2003, 209 elk were harvested. Approximately 64% of the total harvest was antlered elk. Cows and calves tallied 36% of the harvest. General hunters accounted for 73% (n=109) of the antlered harvest, while limited quota license holders bagged the remaining 27% (n=41). General license holders accounted for 72% (n=170 elk) of the total elk harvest. Limited quota hunters killed 65 elk, or 28% of the total elk harvest. According to the harvest survey, nonresident hunters (n=312) killed more elk (125 elk) than the estimated 551 resident hunters. Residents harvested 110 elk, and tallied a success rate of 20%. Residents needed more days (24 days) for each elk harvested than nonresidents. Nonresidents killed elk after 15 days of hunting. Nonresident hunter success was estimated at 40%.

In Area 91, 366 elk were reported harvested. For comparison, a total of 295 elk were killed in 2003. Antlered and antlerless harvest comprised 49% and 51% of the area's harvest in 2004, respectively. General and limited quota license holders harvested 58% and 42% of the total harvest, respectively. General license hunters killed more antlered elk (n=115 elk) than limited quota license holders (n=66 total bulls). Limited quota and general license hunters killed 48% and 52% of the antlerless elk, respectively. Limited quota license hunters tallied a 52% success and needed only 13 days to bag an elk. General license success was estimated at 33% and needed on average 17 days for each elk harvested.

## **2005 Hunting Season**

A total of 690 elk were harvested in 2005 according to the harvest survey. This was a decline from the 937 elk killed in 2004, and lower than the 5-year average of 870 elk harvested during the period from 2000-2004.

Antlered harvest tallied 391 elk (311 adults and 80 yearlings). Antlered elk comprised 57% of the total harvest in 2005. Branch antlered bulls comprised 79% while yearlings tallied 21% of the antlered harvest. During the 5-year period from 2000-2004, antlered elk averaged 50% of the annual harvest. In 2005, antlerless elk composed 43% of the total harvest.

In Area 88, limited quota hunters harvested 19 elk in 2005. This is a decrease from the 52 elk taken in 2004. A total of 4 antlered elk were harvested in 2005 compared to 20 antlered elk taken in 2004. The biggest decrease in harvest occurred in antlerless elk from 2004 to 2005. In 2005, only 15 antlerless elk were reported harvested. The decline in overall harvest from 2004 to 2005 was a result of weather conditions. In 2004, significant snowfall during the last week of October pushed elk out of the lower Greys River and onto, or near, the Greys River feedground. The result was Area 88 hunters capitalized on the dramatic increase of elk in a geographically small hunt area. Conversely, in 2005 the weather conditions throughout most of October were hot and dry. As a result, there was not the movement of elk out of Greys River into Area 88.

In Area 89, there was a significant change in management strategy in 2005. For the first time in at least 30 years, the elk season ended before October 31. The season closed on October 25 in an effort to eliminate harvest on antlered elk after 4 consecutive years of declining bull numbers and bull:cow ratios. The 2005 hunt season resulted in 211 elk harvested, compared to 284 elk taken in 2004. The number of antlered elk (n=144) taken in 2005 was only slightly lower than the 156 reported in 2004. Antlered elk tallied 68% of the 2005 harvest, while cows and calves comprised 32% of the annual harvest in this hunt area. Hunter success declined to 22% in 2005. It took hunters about 24 days to harvest an elk in 2005.

In Area 90, the same shortened, antlered portion of the hunt season occurred here as in Area 89. The 2005 general season closed on October 25 in an effort to eliminate antlered elk harvest the last week of the season to boost overall antlered elk numbers on the Forest Park elk feedground. However, in order to maintain hunting pressure on the antlerless segment of Area 90, the general hunting season continued for antlerless elk until October 31. As a result of the shortened antlered portion of the season, and hot, dry weather that made hunting conditions difficult, harvest declined from 235 elk in 2004 to 128 elk in 2005. Antlered harvest tallied 68% (n=85) of the hunt area harvest, while antlerless harvest (n=43) comprised 32%. Antlered harvest as well as antlerless harvest decreased to 85 antlered elk, and only 43 cows and calves in 2005. Limited quota Type 1 hunters accounted for 21 elk killed, or 16% of the hunt area harvest. Hunter success declined to 22% in 2005, while days/elk harvested increased to 23.

In Area 91, 332 elk were taken in 2005. This is a decline from the 366 elk taken in 2004. Antlered harvest (144 bulls, 14 yearlings) tallied 48% of the total area harvest. The total number of harvested cows and calves declined from 2004 to 2005. In 2005, 174 cows and calves were taken. General and limited quota license holders each tallied 51% (n=169) and 49% (n=163) of the hunt area harvest, respectively. However, general license hunters killed 77% (n=122) of the antlered elk, while limited quota license hunters harvested 73% (n= 127) of the antlerless elk. General license hunters tallied a 28% hunter success rate while limited quota license hunters reported 51% success. General license hunters needed about 20 days to take an elk, while limited quota hunters killed elk after 13 days of hunting.

### **2006 Hunting Season**

A total of 716 elk were harvested in 2006. This a decrease of only 26 elk harvested from the 690 elk estimated taken in 2005.

Antlered harvest tallied 374 total bulls in 2006, this is a slight decline from the 391 antlered elk taken in 2005. Surprisingly, a similar number of branch-antlered bulls were harvested in 2005 (n=311) and 2006 (n=314). Antlered elk comprised 52% of the total harvest in 2006, while antlerless elk (n=342 elk) comprised 48% of the harvest. Branch antlered bulls comprised 84% of the antlered harvest, while yearlings tallied 16%.

Hunters recorded a 30% success rate, and needed about 20 days for each elk harvested in 2006. Nonresident elk hunters harvested 41% (n=150 bulls) of the antlered elk in 2006, and tallied a 34% success rate. Resident hunters killed a total of 214 antlered elk, or 59% of the total bull harvest, and recorded an overall success of 29% in 2006.

A total of 16 elk were harvested in Area 88 in 2006. The number of elk harvested in this area accounts for 2% of the annual herd unit harvest. A total of 8 antlered elk and 8 antlerless elk were taken in 2006. Hunters recorded a 30% over success rate, and needed an average of 27 days to harvest an elk. Resident hunters killed 15 of the 16 total elk harvested in 2006. The generally lower numbers of elk taken over the last two years in this area is a reflection of poor snow accumulation in late October. Deep snows in the lower Greys River typically encourage elk to migrate out of Area 89 and into Area 88. These weather conditions did not occur during the 2005 and 2006 hunting seasons.

In 2006, elk hunting seasons in Hunt Area 89 was extended back to 17 days after the shortened 11 days season in 2005. The season was shortened in 2005 in an effort to reduce harvest on antlered elk. There was a notable increase in antlered elk after the 2005 hunting season, and as a result the 2006 season was lengthened to its historical closing date of October 31. A total of 212 elk were harvested in 2006. The number of antlered elk harvested decreased to 134 bulls and 32 spikes in 2006. In most years, the number of branch-antlered bulls harvested usually exceeds the number of yearling bulls. Antlered harvest exceeded antlerless harvest with a total of 78 antlerless elk taken in 2006. Resident hunters accounted for 74% (n=157 elk) of the 2006 harvest in this area, while nonresident hunters harvested 26% (n=55) of the elk. Ninety three percent (93%, n=51) of the nonresident hunter harvest was comprised antlered elk; nonresident hunters killed only four cow elk in 2006. Overall hunter statistics for the area indicate that percent success was 23%, while all hunters needed about 20 days to harvest an elk.

In Area 90, 159 elk were harvested in 2006. A total 111 antlered elk and 48 antlerless elk were harvested. Antlered elk harvest comprised 70% of the total hunt area harvest; cows and calves tallied 30% of the area harvest. Bulls 2+ years of age comprised 86% (n=96) of the antlered harvest, while yearling bulls tallied 24% (n=15). General license hunters harvested 96% (n=152) of the elk, while limited quota Type 6 hunters killed only 7 cows and calves. Resident hunters accounted for 62% (n=98 elk) of the total area elk harvest; while nonresidents killed 38% (n=61 elk) of the harvest. Residents and nonresidents tallied almost equal number of antlered elk harvested in 2006. Residents killed 56 antlered elk, while nonresidents killed 55 total bulls. Nonresidents tallied a success rate of 40% compared to the residents' 18% hunter success. Resident hunters expended almost twice the effort to harvest an elk as a nonresident. Residents bagged their elk after hunting for 27 days, while nonresidents killed their elk in about 14 days of hunting.

Hunt Area 91 hunters killed 329 elk in 2006. Antlered harvest tallied 37% (n=121 elk) of the total harvest, while antlerless elk comprised 63% (n=208 elk) of the area's harvest. General and limited quota license holders accounted for 53% (n=174 elk) and 47% (n=155 elk) of the 2006 harvest, respectively. Limited quota hunters killed a total of 122 cows and calves, or 59% of the antlerless harvest, while general license hunters harvested 41% (n=86 elk) of the antlerless harvest. General hunters killed 73% (n=88 elk) of the area's antlered harvest. Interestingly, limited quota hunters Type 1 hunters harvested just 33 antlered elk. The limited quota harvested was comprised of 21% and 79% antlered and antlerless harvest, respectively. Limited quota license holders achieved 53% success and needed about 11 days for each elk harvested. General license hunters success was 25% and these hunters harvested an elk after 21 days of hunting.

## **Field Checks**

### **2004 Field Checks**

A total of 234 elk were checked in the field in 2004. Approximately 33% of the estimated harvest was examined in the field in 2004. As in previous years, the number of field checked elk in Area 89 exceeded all other hunt areas. A total of 143 elk, or 61% of the total field checks, were harvested in this area and later examined in the field. Male elk tallied 57% (n=81 elk) of the area's field checks, while female elk comprised 43% (n=62 elk). In 2004, Area 90 accounted for 30% (n=71 elk) of the field checks. Hunt Areas 88 and 91 accounted for the fewest elk with only 12 elk from Area 88 and Area 91 tallied eight (n=8) elk examined in the field.

### **2005 Field Checks**

In 2005, a total of 175 elk were checked in the field. This is a decline from the 234 elk checked in 2004 when early snows in mid-October pushed elk to lower elevations, thereby making them more accessible to hunters. More elk were checked from Hunt Area 89 than other hunt areas. A total of 130 elk, or 74%, of all elk checked in 2005 were harvested in Area 89. By contrast, the remaining hunt areas, 88, 90, and 91 accounted for only 3% (n=5 elk), 12% (n=21 elk), and 11% (n=19 elk), respectively, of the field checks. Yearling bull elk accounted for 26% (n=26) while bulls 2+ year old comprised 74% of the field checks.

### **2006 Field Checks**

In 2006, a total of 141 elk were checked in the field. This is a decline from 2004 and 2005. The declining trend in the number of elk checked in the field correlates with a generally declining elk herd, based on the number of elk counted during annual trend counts. Hunt Area 89 continued to yield more elk checked than other areas in the herd unit. In 2006, 92 elk, or 65%, of all elk examined were taken in Area 89. A total of 41 elk, or 29% of the 2006 field checks were from Hunt Area 90. Hunt Areas 88 and 91 accounted for only one and 7 elk checked, respectively in 2006. The number of antlered elk checked in the field tallied 76 elk, or 54% of the total elk checked, while the number of cows and calves accounted for 65 total elk. Yearling bulls tallied 18% (n=14 elk) of all antlered elk at least 1+ years of age. Branch-antlered bulls, or 2+ age class bulls comprised 82% (n=62 elk) of the antlered field checks.

## Tag Returns

Hunter-harvested elk that were previously tagged on Department-operated feedgrounds provides an assessment of elk movement patters within herd unit boundaries as well as the amount of egress from the herd unit. The most current tag return data for 2004-2006 is provided in Table 1.

A total of 71 elk that were captured and ear-tagged on Afton Elk Herd feedgrounds are reported in Table 1. A total of 63 elk, or 89% of the total tagged elk were killed or died within the boundaries of the Afton Elk Herd. Hunt Area 89 accounted for the most tagged elk taken (n=44, 70%) during this period; eleven (n=11, 17%) were harvested in Hunt Area 88, while Area 90 tallied seven (n=7, 11%) elk. The remaining elk (n=1) was harvested in Area 91.

A total of 61 elk were recovered during the report period that were tagged on the Greys River feedground at Alpine. The recovery locations of these elk were: Hunt Area 89 – 44 elk (72%); Hunt Area 88 – 11 elk (18%); Fall Creek elk herd: 4 elk (6%); State of Idaho – 2 elk (3%); and Hunt Area 91: 1 elk. During the same report period, a total of nine (n=9) elk were recovered that were captured and tagged on the Forest Park feedground (Area 90). Seven (n=7, 78%) of these elk were harvested in Area 90, while the remaining two elk were taken in Areas 92 (n=1)and 94 (n=1) of the Piney Elk Herd.

There were a total of 8 elk that were taken in herd units other than the Afton DAU. Those herd units, and the number of elk taken were: Fall Creek DAU - 4 elk; Piney DAU – 2 elk; and State of Idaho - 2 elk.

Tag return data from hunter-harvested elk indicates that a significant number of elk that winter on the Greys River and Forest Park feedgrounds remain within the herd unit boundaries throughout the year. There is minimal emigration out of the herd unit into the adjacent herds, notably the Fall Creek and Piney herds, and into the State of Idaho. These inter-herd unit movements are believed to be insignificant, and do not warrant a revision of herd unit/hunt area boundaries.

Table 1. Tag returns in the Afton Elk Herd, 2004-2006.

Tag No	Tag Site	Tag Date	Tag HA	Sex/Age	Kill Site	Kill HA	Kill Date	Comment
A1400/01	Alpine	3/93	88	F/J	Murphy Cr.	89	10/06	
A1671/72	Alpine	1/95	88	F/A	McCoy Cr	66	11/04	Idaho
A1889/90	Alpine	3/04	88	F/A	FG	88	10/04	
A2219/20	Alpine	2/01	88	F/A	Weiner Cr.	89	10/05	
A2243/44	Alpine	2/97	88	F/A	Weiner Cr.	89	10/99	
A2445/46	Alpine	2/98	88	F/Y	Mill Holl.	88	10/05	
A2533/34	Alpine	2/99	88	F/Y	GRFG	88	10/04	
A2457/56	Alpine	2/01	88	F/A	Weiner Cr.	89	10/05	
A2632/33	Alpine	2/01	88	F/A	Mid.Ridge	89	10/04	
A2673/74	Alpine	2/02	88	F/A	Jordan Cany.	85	10/04	
A2713/14	Alpine	2/03	88	F/A	GRFG	88	10/04	
A2717/18	Alpine	2/01	88	M/J	The Forks	89	10/05	
A2740/41	Alpine	1/98	88	F/A	UNK	85	10/04	
A2745/46	Alpine	1/98	88	F/A	Aspen Hol	89	10/04	
A2779/80	Alpine	2/00	88	F/A	Porcupine Cr	89	10/05	
A2847/48	Alpine	2/00	88	F/A	Lynx Cr.	89	10/04	
A2957/58	Alpine	2/03	88	F/A	Squaw Cr.	89	10/04	
A2976/77	Alpine	2/01	88	F/J	FG	88	10/04	
A2991/92	Alpine	2/01	88	F/J	Idaho	66	11/05	Idaho
A2997/98	Alpine	1/01	88	M/J	Squaw Cr.	89	10/04	

Table 1. Tag returns in the Afton Elk Herd, 2004-2006 (cont.).								
Tag No	Tag Site	Tag Date	Tag HA	Sex/Age	Kill Site	Kill HA	Kill Date	Comment
A3377/78	Alpine	2/02	88	M/J	Murphy Cr.	89	10/06	
A3420/21	Alpine	2/03	88	F/Y	Aspen Holl.	89	10/04	
A3458/59	Alpine	3/04	88	F/A	FG	88	10/04	
A3486/87	Alpine	3/04	88	M/Y	Skull Cr.	89	10/05	
A3773/74	Alpine	2/03	88	F/A	Squaw Cr.	89	10/04	
A3819/20	Alpine	2/03	88	F/J	Squaw Cr.	89	10/05	
A3873/74	Alpine	3/04	88	M/J	Squaw Cr.	89	10/04	
A3923/24	Alpine	3/04	88	M/J	Weiner Cr.	89	10/05	
A3933/34	Alpine	3/04	88	F/J	LongSprgs	85	10/04	
A3961/62	Alpine	3/04	88	F/A	N.Murphy	89	10/04	
A3965/66	Alpine	3/04	88	F/A	UNK	85	11/04	
A3974/75	Alpine	3/04	88	F/J	FG	88	10/04	
A3994	Alpine	1/05	88	M/Y	Squaw Cr.	89	10/05	A4573
A4405/06	Alpine	3/04	88	M/J	Squaw Cr.	89	10/05	
A4417/18	Alpine	3/04	88	M/J	UNK	89	10/06	
A4421/22	Alpine	3/04	88	M/Y	Weiner Cr.	89	10/05	
A4478/79	Alpine	3/04	88	M/J	Murphy Cr.	89	10/04	
A4582/83	Alpine	1/05	88	M/J	UNK	89	10/06	
A4616/17	Alpine	1/05	88	M/J	Greys Riv.	88	10/06	
A4682/83	Alpine	1/05	88	F/A	The Forks	89	10/05	
A4740/41	Alpine	2/06	88	M/Y	Squaw Cr.	89	10/06	
A4758	Alpine	2/06	88	M/Y	Greys R.	89	10/06	A4823
A4905/06	Alpine	2/06	88	M/J	NMurphy	89	10/06	
A4907/08	Alpine	2/06	88	F/J	GRFG	88	10/06	
F1036/37	FPFG	2/06	90	F/J	Lander Pk.	92	10/06	
F1181/82	FPFG	2/01	90	M/J	3 Forks	90	10/04	
F1189/90	FPFG	2/01	90	M/J	Crow Cr.	90	9/04	
F1201/02	FPFG	2/02	90	M/Y	Mink Cr.	90	10/05	
F1215/16	FPFG	2/01	90	M/J	Sheep Cr.	90	10/04	
F1273/74	FPFG	2/01	90	F/J	Bench Corral	94	10/04	
F1310/11	FPFG	2/01	90	F/A	Bug Cr.	90	10/04	
F1377/78	FPFG	2/02	90	F/J	UNK	90	10/04	
F1396/97	FPFG	2/02	90	F/Y	Cabin Cr.	90	10/04	
A3325/26	Alpine	3/04	88	F/A	Greys River	89	10/04	
A3347/48	Alpine	2/02	88	F/J	Snake River	89	10/04	
A3367/68	Alpine	2/02	88	M/J	Greys River	89	10/04	
A3377/78	Alpine	2/02	88	M/J	N.Murphy	89	10/06	
A3420/21	Alpine	2/03	88	F/Y	AspenHol	89	10/04	
A2997/98	Alpine	1/01	88	M/J	Squaw Cr.	89	10/04	
A3007/08	Alpine	2/01	88	M/J	Greys Riv.	89	10/04	
A3031/32	Alpine	2/01	88	F/J	NMurphy	89	10/05	
A3047/48	Alpine	2/01	88	F/J	N.Murphy	89	10/04	
A3090/91	Alpine	2/02	88	M/J	Murphy Cr.	89	10/06	
A3151/52	Alpine	2/02	88	F/J	FG	88	10/04	
A3165/66	Alpine	2/02	88	M/J	L.GreysR.	89	10/04	
A3179/80	Alpine	2/02	88	F/J	Aspen Hol	89	10/05	
A3282/83	Alpine	2/02	88	M/J	Murphy Cr.	89	10/04	
A3290/91	Alpine	2/02	88	F/A	UNK	91	12/05	
A3292/93	Alpine	2/02	88	F/J	FG	88	10/04	
A3298/99	Alpine	2/03	88	F/A	L.GreysR.	89	10/04	
A3304/05	Alpine	2/02	88	M/A	Squaw Cr.	89	10/05	
A3316/17	Alpine	2/02	88	M/J	Squaw Cr.	89	10/05	

## **BRUCELLOSIS MANAGEMENT**

### **BRUCELLOSIS SURVEILLANCE/RESEARCH**

#### **Greys River Feedground**

Elk were successfully captured on this feedground on February 15 and 21, 2007 in a permanent corral-style trap. Thirty-six sera samples from yearling and adult females were obtained to reach the goal of 85% confidence that the true *Brucella* exposure rate (seroprevalence) of the feedground population falls within +/- 15% of the measured rate. A total of 112 elk were captured in 2007; 83 animals were tagged for the first time in 2007 and 29 had been captured and marked in previous years (Table 2). Brucellosis seroprevalence for adult females was 14% (n=5/36) in 2007 (Table 3). The 85% confidence sera sample was not attained during 2006. Mean seroprevalence had increased from 11% during 1993-2000 to 54% for 2001-04, but 2005 and 2007 data suggest this trend may be reversing (Table 3).

Elk seroprevalence rates on Greys River feedground may be used to assess efficacy of the strain 19-vaccination program. Table 3. illustrates pre- versus post-vaccination mean seroprevalence trend in elk on Greys River feedground. Additionally, elk seroprevalence rates from Greys River feedground (treatment) can be compared with those of elk on Dell Creek feedground (control) where no vaccination has occurred (Table 4.). Differences in seroprevalence rates using these comparisons are less than desirable. However, the potential reduction of *Brucella*-induced abortion rate in vaccinated elk is unknown. A study has been proposed to utilize Vaginal Implant Transmitters (VIT's) to document actual abortion rates in seropositive elk from both Greys River and Dell Creek feedground.

Table 2. Ear tag records for elk trapped at Greys River Feedground, winter 2007.

DATE	AGE	AGE_CLASS	SEX	TAGS	TAG1	TAG2	COLLAR
02/15/07	A	6-9	F	A	4461	4473	Blue Z9
02/15/07	A	2-5	F	A	3834	3833	Blue Z1
02/15/07	A	>10	F	A	4924	4925	Blue Z3
02/15/07	A	6-9	F	A	3345	3346	Blue Z0
02/15/07	A	6-9	F	A	3736	3737	Blue Z5
02/15/07	A	>10	F	A	2468	2467	Blue Z4
02/15/07	A	2-5	F	A	4517	4516	Blue E0
02/15/07	A	2-5	F	A	4839	4838	Blue E2
02/15/07	A	>10	F	A	5024	5025	Blue E1
02/15/07	A	6-9	F	A	3449	3450	Blue E4
02/15/07	A	6-9	F	A	3843	3844	Blue E5
02/15/07	A	6-9	F	A	3763	3764	Blue E8
02/15/07	A	2-5	F	A	4603	4604	Blue E7
02/15/07	A	6-9	F	A	2999	3000	Blue E6
02/15/07	A	6-9	F	A	4520	5018	Blue F0
02/15/07	A	6-9	F	A	4528	4529	Blue F6
02/21/07	A	6-9	F	A	4734	4735	Blue X3
02/15/07	J		F	A	4913	4914	
02/15/07	J		F	A	4911	4912	
02/15/07	J		F	A	5030	5031	

02/15/07	J		F	A	4922	4923	
02/15/07	J		F	A	5032	5033	
02/15/07	J		F	A	5003	5004	
02/15/07	J		F	A	5022	5023	
02/15/07	J		F	A	5095	5096	
02/15/07	J		F	A	5011	5012	
02/15/07	J		F	A	5093	5094	
02/15/07	J		F	A	5013	5014	
02/15/07	J		F	A	5091	5092	
02/15/07	J		F	A	5015	5017	
02/15/07	J		F	A	5015	5016	
02/15/07	J		F	A	5087	5088	
02/15/07	J		F	A	5081	5082	
02/15/07	J		F	A	5051	5052	
02/15/07	J		F	A	5053	5054	
02/15/07	J		F	A	5057	5058	
02/15/07	J		F	A	5059	5060	
02/15/07	J		F	A	5077	5078	
02/21/07	J		F	A	5071	5072	
02/21/07	J		F	A	5353	5354	
02/21/07	J		F	A	5357	5358	
02/21/07	J		F	A	5367	5368	
02/21/07	J		F	A	5365	5366	
02/21/07	J		F	A	5307	5308	
02/21/07	J		F	A	5313	5314	
02/21/07	J		F	A	5319	5320	
02/21/07	J		F	A	5317	5318	
02/21/07	J		F	A	5315	5316	
02/15/07	Y		F	A	4851	4852	Blue Z2
02/15/07	Y		F	A	5006	5005	Blue Z6
02/15/07	Y		F	A	5048	5049	Blue Z8
02/15/07	Y		F	A	4643	4648	Blue Z7
02/15/07	Y		F	A	4827	4826	Blue E3
02/15/07	Y		F	A	4956	4957	Blue E9
02/15/07	Y		F	A	4936	4937	Blue F1
02/15/07	Y		F	A	4841	4840	Blue F3
02/15/07	Y		F	A	4964	5019	Blue F2
02/15/07	Y		F	A	4890	5079	Blue F4
02/15/07	Y		F	A	4895	4896	Blue F5
02/15/07	Y		F	A	4996	5080	Blue F8
02/15/07	Y		F	A	4654	5061	Blue F7
02/15/07	Y		F	A	4926	4927	Blue W0
02/15/07	Y		F	A	4887	4888	Blue F9
02/21/07	Y		F	A	4932	4933	Blue X0
02/21/07	Y		F	A	5068	5075	Blue X1
02/21/07	Y		F	A	5373	5374	Blue X2
02/21/07	Y		F	A	5259	5375	Blue X4

02/15/07	A		M	A	4623	4622	
02/15/07	J		M	A	5026	5027	
02/15/07	J		M	A	4920	4921	
02/15/07	J		M	A	5028	5029	
02/15/07	J		M	A	4918	4919	
02/15/07	J		M	A	5097	5098	
02/15/07	J		M	A	5036	5037	
02/15/07	J		M	A	5034	5035	
02/15/07	J		M	A	5038	5039	
02/15/07	J		M	A	5001	5002	
02/15/07	J		M	A	5040	5041	
02/15/07	J		M	A	5042	5043	
02/15/07	J		M	A	5046	5047	
02/15/07	J		M	A	5044	5045	
02/15/07	J		M	A	5099	5100	
02/15/07	J		M	A	5006	5007	
02/15/07	J		M	A	5009	5010	
02/15/07	J		M	A	5050	5076	
02/15/07	J		M	A	5020	5021	
02/15/07	J		M	A	5089	5090	
02/15/07	J		M	A	5085	5086	
02/15/07	J		M	A	5083	5084	
02/15/07	J		M	A	5055	5056	
02/15/07	J		M	A	5062	5063	
02/21/07	J		M	A	5069	5070	
02/21/07	J		M	A	5066	5067	
02/21/07	J		M	A	5073	5074	
02/21/07	J		M	A	5355	5356	
02/21/07	J		M	A	5351	5352	
02/21/07	J		M	A	5359	5360	
02/21/07	J		M	A	5369	5370	
02/21/07	J		M	A	5363	5364	
02/21/07	J		M	A	5309	5310	
02/21/07	J		M	A	5311	5312	
02/15/07	Y		M	A	4916	4917	
02/15/07	Y		M	A	4865	4866	
02/15/07	Y		M	A	4831	4830	
02/15/07	Y		M	A	4899	4900	
02/15/07	Y		M	A	4820	4819	
02/21/07	Y		M	A	4865	4866	
02/21/07	Y		M	A	4948	4949	
02/21/07	Y		M	A	5654	5655	
02/21/07	Y		M	A	5371	5372	
02/21/07	Y		M	A	5361	5362	
02/21/07	Y		M	A	4954	4955	

Table 3. Mean *Brucella* exposure rates of yearling and adult female elk from Grey's River feedground, 1971-2007.

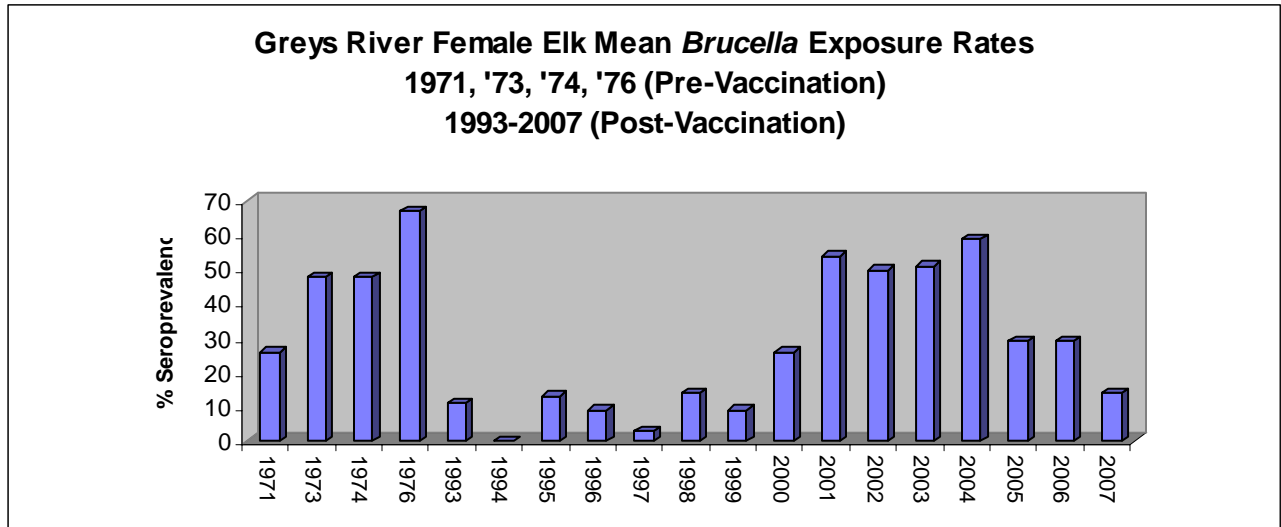
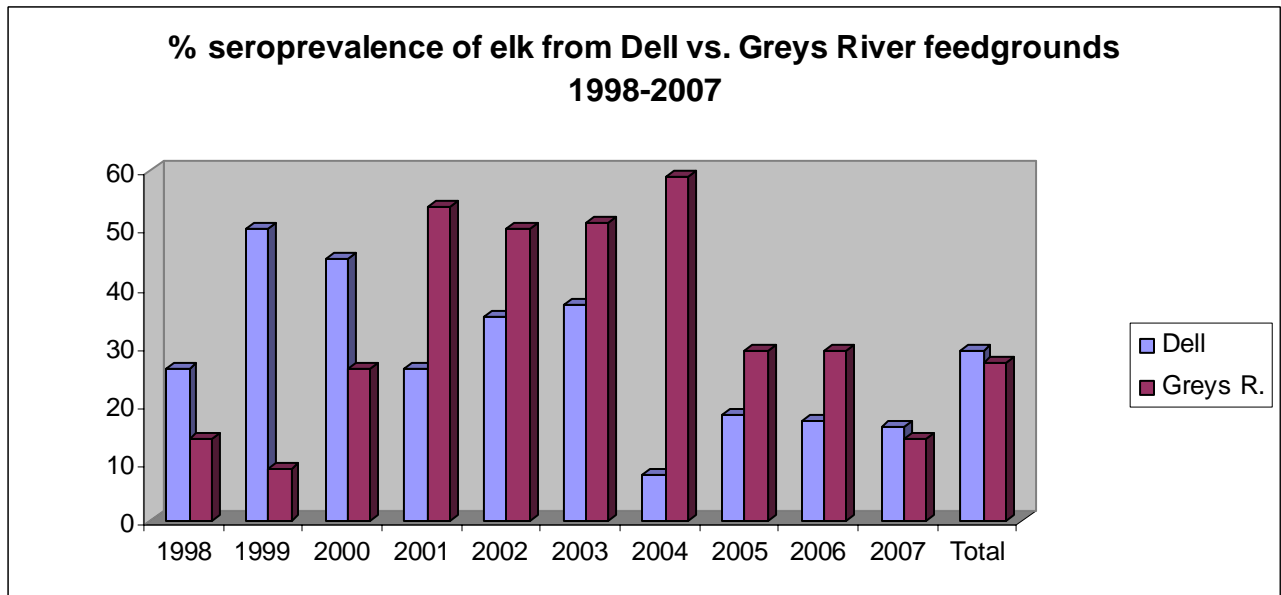


Table 4. Mean *Brucella* exposure rates of yearling and adult female elk from Grey's River and Dell Creek feedgrounds, 1998-2007.



**Greys River Feedground**

A total of 116 of 115 (>100%) juveniles classified were vaccinated during 2007. Work began in late February and was completed in 5 days. The strain 19 elk vaccination program on Wyoming's feedgrounds initiated at the Greys River feedground in 1985. Since then, a total of 5,557 elk have been vaccinated on Greys River and yearly coverage has been very complete. Juvenile coverage rates from 1985 to 1989 averaged 96%. In the 1990s, 99% of all juveniles were vaccinated, and an average of 100% were dosed in the 2000's. The large proportion of juveniles annually covered by strain 19 vaccine indicates a successful vaccination delivery program.

### **Forest Park Feedground**

Vaccination was completed in early-March during 2007. A total of 191 of 189 (>100%) juveniles were vaccinated with strain 19. Vaccination was initiated at this feedground in 1988. Since that time, a total of 3,944 juveniles and 715 adult females have been vaccinated.

### **FEEDGROUND MANAGEMENT**

Table 5. Summary data from Greys River Feedground, 1975-76 to 2006-07.

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TON/ELK
1975-76	925	573	156	11	\$33	0.62
1976-77	450	161	94	2	\$27	0.36
1977-78	850	623	154	5	\$39	0.73
1978-79	850	537	150	6	\$34	0.63
1979-80	800	372	106	8	\$28	0.46
1980-81	430	131	74	2	\$24	0.3
1981-82	720	671	149	7	\$60	0.93
1982-83	650	507	158	4	\$56	0.78
1983-84	830	605	166	16	\$50	0.73
1984-85	830	550	137	17	\$48	0.66
1985-86	947	593	144	14	\$48	0.63
1986-87	716	414	127	5	\$45	0.58
1987-88	1000	545	119	5	\$40	0.55
1988-89	1200	672	149	31	\$46	0.56
1989-90	933	591	135	8	\$63	0.63
1990-91	885	526	131	9	\$53	0.59
1991-92	954	568	136	7	\$51	0.6
1992-93	980	683	153	13	\$64	0.7
1993-94	906	470	111	1	\$37	0.52
1994-95	1100	683	145	18	\$57	0.62
1995-96	916	537	130	17	\$55	0.59
1996-97	980	654	151	9	\$66	0.67
1997-98	900	508	128	9	\$81	0.65
1998-99	880	462	118	7	\$52	0.53
1999-00	840	439	129	3	\$43	0.52
2000-01	740	448	137	3	\$63	0.61
2001-02	806	470	140	8	\$78	0.58
2002-03	663	341	115	2	\$62	0.51
2003-04	810	452	134	8	\$62	0.56
2004-05	602	276	114	12	\$51	0.46
2005-06	657	441	141	7	\$75	0.67

2006-07	583	295	115	9	\$66	0.51
30 Year Ave	823	494	133	9	\$52	0.60

Table 6. Summary data from Forest Park Feedground, 1979-80 to 2006-07.

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TON/ELK
1979-80	379	107	122	1	22	0.28
1980-81	38	9	60	0	18	0.24
1981-82	300	267	136	9	73	0.89
1982-83	250	239	156	3	86	0.96
1983-84	440	374	172	12	72	0.85
1984-85	450	318	143	1	63	0.71
1985-86	550	323	165	1	51	0.59
1986-87	550	266	125	1	44	0.48
1987-88	625	347	130	5	49	0.56
1988-89	800	462	155	4	51	0.58
1989-90	885	410	130	3	52	0.46
1990-91	950	517	145	2	55	0.54
1991-92	850	483	132	5	56	0.57
1992-93	950	613	154	5	65	0.65
1993-94	760	419	137	2	52	0.55
1994-95	790	451	134	5	57	0.57
1995-96	720	450	135	5	65	0.63
1996-97	806	465	137	9	66	0.58
1997-98	1050	492	122	1	69	0.51
1998-99	1091	517	129	3	51	0.47
1999-00	976	462	120	3	49	0.47
2000-01	929	478	131	2	56	0.51
2001-02	883	490	133	18	76	0.55
2002-03	681	411	129	7	75	0.6
2003-04	771	442	132	9	68	0.57
2004-05	819	350	107	2	58	0.43
2005-06	919	529	141	9	62	0.58
2006-07	900	441	147	3	66	0.49
30 Year Ave	718	398	134	5	58	0.57

### **HABITAT MANAGEMENT**

Please see the [2006 Annual Report Strategic Habitat Plan Accomplishments, Jackson Region section](#) (pages 36-46) located at the Jackson Game & Fish Regional Office for detailed summaries of habitat work within the Afton Herd Unit.

### **MANAGEMENT SUMMARY**

Elk numbers in this herd unit have been at or within the desired 10% of the population objective over the last three years. Hunting seasons have been designed to maintain varying levels of hunting pressure on subpopulations of the antlerless segment of the herd in the upper Greys River (Area 90) and Salt River (Area 91). In Area 89, general license “any” elk hunting seasons have not exceeded more than 3 days because of lower than desired elk numbers on the Greys River feedground. Elk numbers have been below the Commission-established quota of 1000 elk for the last 9 years. Management attempts to boost elk numbers on this feedground have met with marginal success over the last three years. The continuance of three days of “any” elk hunting allows minimal take of antlerless elk, while reducing hunting pressure on antlered elk during the period when most hunters are in the field. Consequently, the number of general license, “any” elk hunting days will remain at three in order to increase elk numbers on the Greys River feedground.

In Hunt Area 90, the upper Greys River, elk numbers have exceeded the Commission-established quota of 750 elk for seven of the last nine years. Consequently, management has emphasized the take of antlerless elk during the October portion of the season with general license elk hunting as well as limited quota Type 6 cow or calf licenses. In 2004, the general portion of the seasons was extended into November to allow general license hunters an opportunity to harvest antlerless elk from November 1-November 4. This November hunt strategy will continue into 2007. General license hunters and Limited Quota Type 6 license holders will have the opportunity to hunt antlerless elk through November 11.

In Salt River (Hunt Area 91), hunting seasons over the last six years have been designed to harvest elk in order to minimize damages to stored crops and co-mingling with livestock during the winter. Hunting seasons will extend into January in order to maintain hunting pressure on antlerless elk.

The 2007 hunting seasons are designed to promote the take of antlerless elk in Area 89 with general license, “any” elk hunting days for three days in an attempt to increase the number of elk on the Greys River feedground to 800-1000 elk. Three days of “any” elk hunting appears to be sufficient to affect additional harvest on that portion of the antlerless elk segment that spends the summer and fall in Little Greys River and subsequently migrate to the Dog Creek feedground (Fall Creek Elk Herd) to winter. In Area 90, seasons will offer additional hunting opportunity by extending that portion of the general hunting, antlerless elk only season from November 1-11, and offer 100 limited quota Type 6 licenses valid for cow or calf elk. Elk numbers have been higher than Commission-established quotas on the Forest Park feedground. This season will attempt to lower elk numbers to desired levels. In Area 91 the goal is to increase the harvest on antlerless elk that move into Wyoming from Idaho summer ranges, and to harvest elk that are causing damages to stored crops and mingling with livestock on the eastern portion of the area. An additional 100 Type 6 cow/calf only licenses will be available in this area.

The 2007 hunting seasons are projected to harvest 715 elk. Approximately 300 antlered elk, 325 cow elk, and 90 calves are projected in the 2007 harvest. The estimated 2007 harvest should lower the population to approximately 1950 elk following the hunting season.

### **MANAGEMENT RECOMMENDATIONS**

1. Develop hunting seasons which maintain a posthunt bull:cow ratio of at least 20 bulls:100 cows and maintain the population within +/- 10% of the objective (n=2200).
2. Monitor existing and potential damage situations and develop hunting seasons or depredation hunts to resolve damage problems throughout the herd unit.
3. Work with the Forest Service to inventory, develop and implement habitat improvement projects in suitable areas adjacent to all feedgrounds, in parturition areas, and on spring/fall transition ranges in this elk herd.

4. Work with Forest Service personnel to implement a summer motorized travel plan that will effectively manage motorized travel in crucial parturition habitat and in important summer and fall ranges.
5. Develop an elk trapping schedule in cooperation with BFH personnel to monitor *Brucella* seroprevalence on herd unit feedgrounds. Concurrent with this effort, attempt to maximize the number of elk tagged in order to assess and evaluate intra-and inter-herd unit movements based on hunter-harvested tag returns.

**2007 ELK HUNTING SEASONS**

**AFTON ELK HERD UNIT - E105**

<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>
88	1	October 1	October 31	Limited Quota; 60 licenses any elk
89		October 15	October 17	General License; any elk
		October 18	October 31	General License; antlered elk
90		October 15	October 31	General License; any elk
		November 1	November 11	General License; antlerless elk
	6	October 15	November 11	Limited Quota; 100 licenses cow or calf
91		October 1	October 31	General License; any elk
	1	October 1	October 31	Limited Quota; 350 licenses any elk
		November 1	January 31	Unused area 91 type 1 licenses antlerless elk
	6	October 1	January 31	Limited quota; 100 licenses cow or calf
88		September 1	September 30	Archery only; Refer to Section 4
89,90		September 1	September 30	General License; Archery only. Refer to Section 4
91		September 1	September 30	Archery only; Refer to Section 4

AFTON ELK HERD POSTSEASON CLASSIFICATION SUMMARY

Appendix B. Posthunt herd composition data, 2001-2006.

Hunt Area	Yrlng	Adult	Total	Females	Calf	Total	100 Females			
							YM	AM	TM	Juv
<u>2001</u>										
88 GRFG	40	66	106	534	166	806				
88 NR	0	0	0	0	0	0				
89 NR	0	1	1	4	0(46)	51				
90 FPF	45	105	150	562	171	883				
91 NR	18	24	42	179	104(168)	493				
<b>TOTAL</b>	<b>103</b>	<b>196</b>	<b>299</b>	<b>1,279</b>	<b>441(214)</b>	<b>2,233</b>	<b>8</b>	<b>15</b>	<b>23</b>	<b>34</b>
<u>2002</u>										
88 GRFG	32	47	79	451	133	663				
88 NR	0	0	0	13	6(17)	36				
89 NR	11	9	20	80	39(203)	342				
90 FPF	17	77	94	472	115	681				
90 NR	5	7	12	2	6	20				
91 NR	0	3	3	0	0(200)	203				
<b>TOTAL</b>	<b>65</b>	<b>143</b>	<b>208</b>	<b>1,018</b>	<b>299(420)</b>	<b>1,945</b>	<b>6</b>	<b>14</b>	<b>20</b>	<b>29</b>
<u>2003</u>										
88 GRFG	31	68	99	543	168	810				
88 NR	0	0	0	0	0(11)	11				
89 NR	2	2	4	42	10(2)	58				
90 FPF	30	88	118	483	170	771				
91 NR	26	23	49	145	69(30)	293				
<b>TOTAL</b>	<b>89</b>	<b>181</b>	<b>270</b>	<b>1,213</b>	<b>417(43)</b>	<b>1,943</b>	<b>7</b>	<b>15</b>	<b>22</b>	<b>34</b>
<u>2004</u>										
88 GRFG	17	27	44	397	161	602				
88 NR	4	3	7	51	35	93				
89 NR	13	7	20	198	105	323				
90 NR	0	0	0	1	0	1				
90 FPF	43	55	98	561	160	819				
91 NR	10	19	29	108	51(3)	191				
<b>TOTAL</b>	<b>87</b>	<b>111</b>	<b>198</b>	<b>1,316</b>	<b>512(3)</b>	<b>2,029</b>	<b>7</b>	<b>8</b>	<b>15</b>	<b>39</b>
<u>2005</u>										
88 GRFG	35	38	73	430	154	657				
88 NR	1	2	3	4	2	9				
89 NR	8	5	13	37	13(1)	64				
90 FPF	71	77	148	542	229	919				
90 NR	0	2	2	0	0	2				
91 NR	28	65	93	127	74	294				
<b>TOTAL</b>	<b>143</b>	<b>189</b>	<b>332</b>	<b>1,140</b>	<b>472(1)</b>	<b>1,945</b>	<b>12</b>	<b>17</b>	<b>29</b>	<b>41</b>
<u>2006</u>										
88 GRFG	25	36	61	407	115	583				
88 NR	0	0	0	0	0	0				
89 NR	7	2	9	87	40(7)	143				
90 NR	0	0	0	0	0	0				
90 FPF	54	91	145	566	189	900				
91 NR	17	39	56	92	53	201				
<b>TOTAL</b>	<b>103</b>	<b>168</b>	<b>271</b>	<b>1,152</b>	<b>397(7)</b>	<b>1,827</b>	<b>9</b>	<b>14</b>	<b>23</b>	<b>34</b>

Afton Elk – Hand Model

Postseason 2005 Estimate = 2300 (85% Observability of 2005 trend count)

Postseason 2005 Observed Ratios (male:female:juvenile) = 29:100:41

	<b>Male</b>	<b>Female</b>	<b>Juvenile</b>	<b>Total</b>
Posthunt 2005	396 (17%)	1374 (59%)	559 (24%)	2329
Posthunt Mortality	-1%	-2%	-5%	
	<u>392</u>	<u>1346</u>	<u>531</u>	2269

**End of 2005 Biological Year**

Yearling Recruitment/ Reproduction	265	265	582	
Prehunt 2006	657	1611	582	2850
Harvest 2006	-364	-257	-85	-706
Posthunt 2006	290	1354	497	2141
Modeled Ratios	23:100	-----	34:100	
Observed Ratios	24:100	-----	34:100	

Postseason 2006 Estimate = 2141

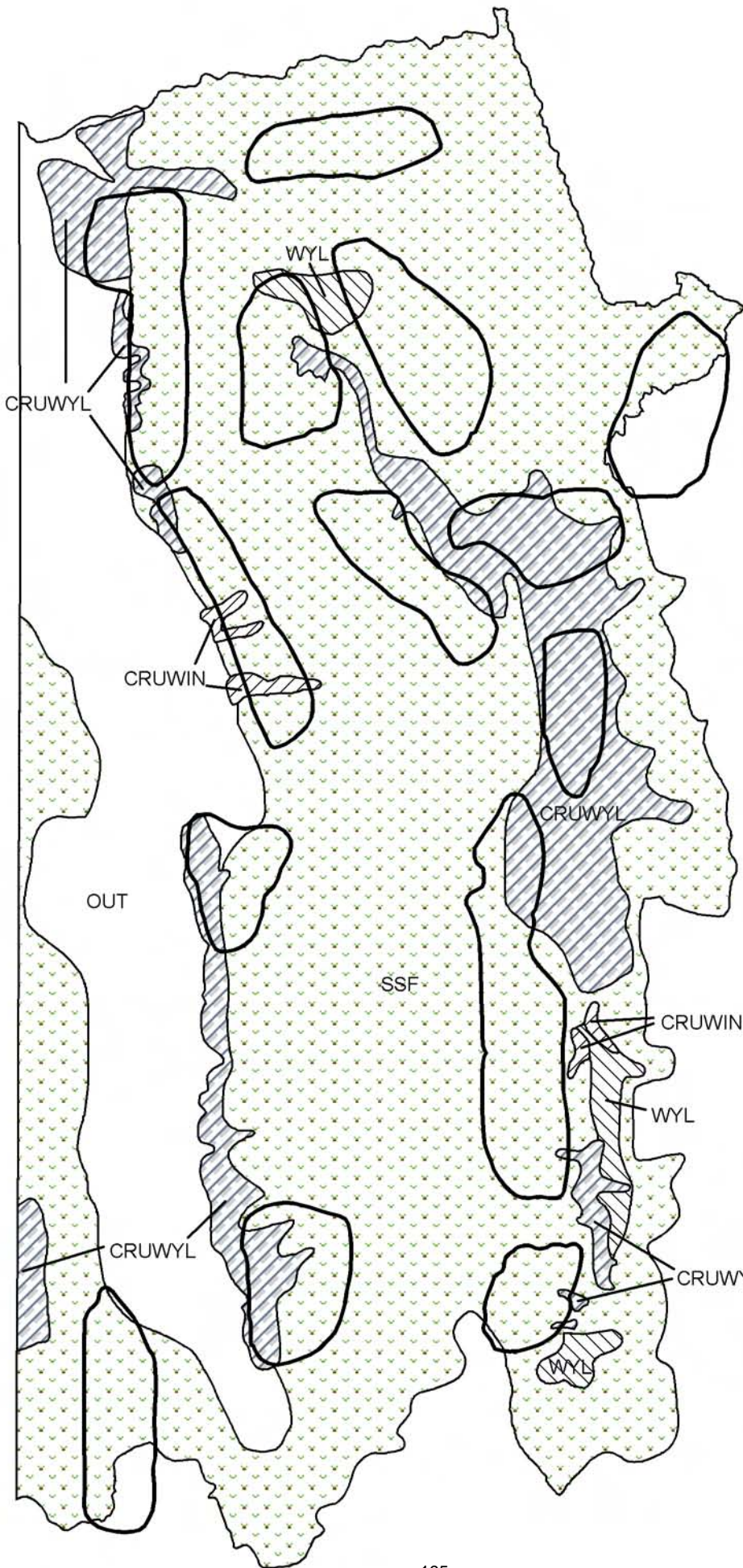
Postseason 2006 Observed Ratios (male:female:juvenile) = 24:100:34

Posthunt 2006	321 (15%)	1370 (64%)	471 (22%)	2162
Posthunt Mortality	-1%	-2%	-5%	
	<u>318</u>	<u>1343</u>	<u>448</u>	2109

**End of 2006 Biological Year**

	<b>Male</b>	<b>Female</b>	<b>Juvenile</b>	<b>Total</b>
Yearling	224	224		
Recruitment/ Reproduction			556 (1343 x 0.41)	
Prehunt 2007	542	1567	556	2665
Projected Harvest 2007	-242	-325	-90	-657
Posthunt 2007	300	1242	466	1950

Projected  
Postseason 2007 Ratios (male:female:juvenile) = 24:100:38



E105 - Afton  
 HA 88-91  
 Revised - 2/87

 Parturition Area