

2006 JOB COMPLETION REPORT

SPECIES : **EIk**
 HERD UNIT : **HOBACK**
 HERD UNIT # : **104**
 HUNT AREAS : **86, 87**

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>
1. PREHUNT SEX AND AGE RATIO COUNT (per 100 females)					
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

2. HARVEST					
Adult Males	120	129	165	54	130
Yearling Males	25	8	30	26	47
Total Males	145	137	195	80	177
Females	62	83	78	52	117
Juveniles	22	25	30	19	30
Totals	229	245	303	151	324

	#	%	#	%	#	%	#	%	#	%
3. AGE STRUCTURE OF FIELD CHECKED ANIMALS										
Juvenile Female	1	1	1	3	0		6	18	5	9
Yearling Female	3	4	0		1	3	1	3	2	4
Adult Female	11	16	13	33	11	32	5	15	20	37
Juvenile Male	2	3	3	8	0		3	9	2	4
Yearling Male	8	12	1	3	2	6	3	9	7	13
Adult Male	42	63	22	55	20	59	15	45	18	33
Total Sample Size	67		40		34		33		54	

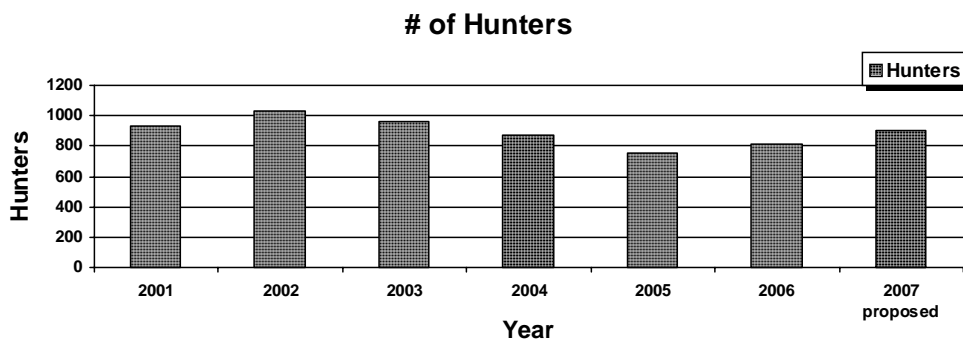
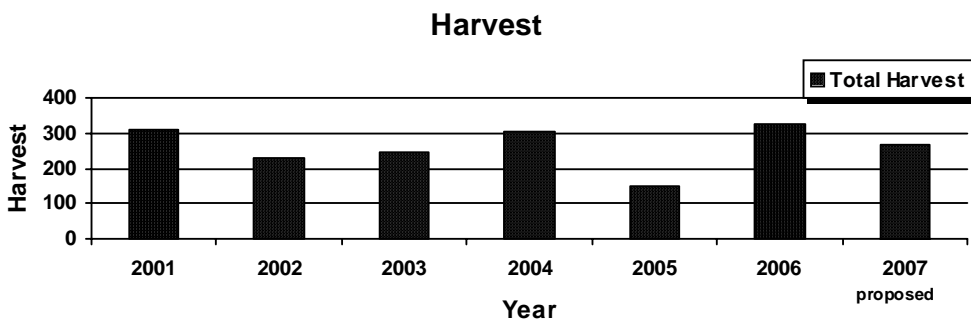
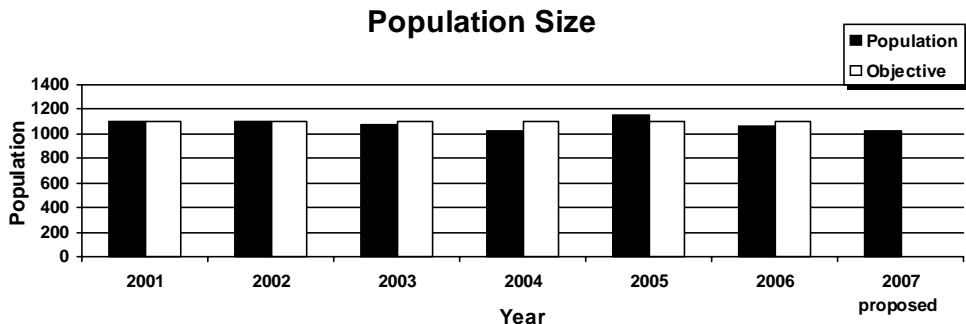
4. POSTHUNT SEX AND AGE RATIO COUNT (per 100 females)					
Juveniles	38	40	36	38	35
Males	17	20	17	16	16
Yearling Males	8	10	7	8	7
Mature Males	9	10	9	8	9
Total Sample Size	757	1,042	871	984	902
Adequate Sample Size	489	507	453	499	447

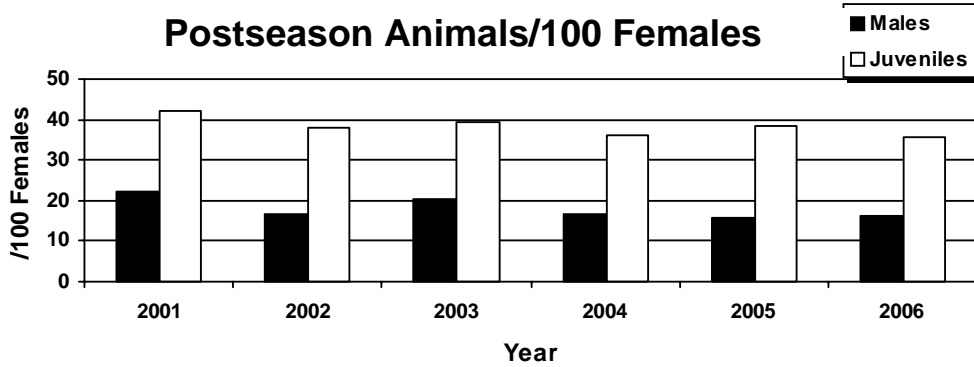
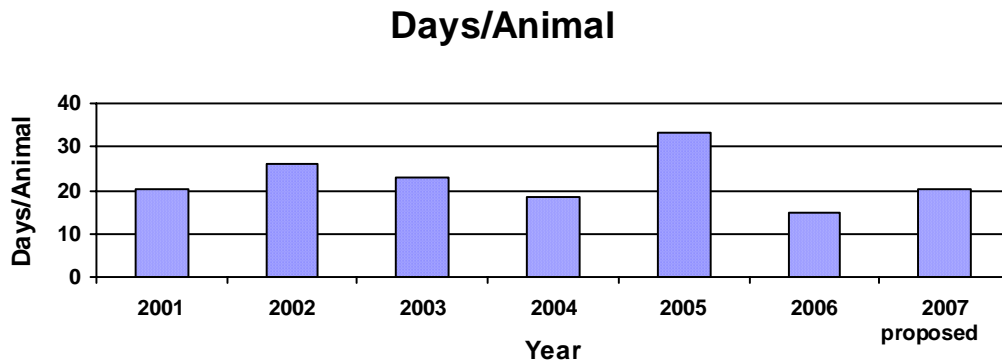
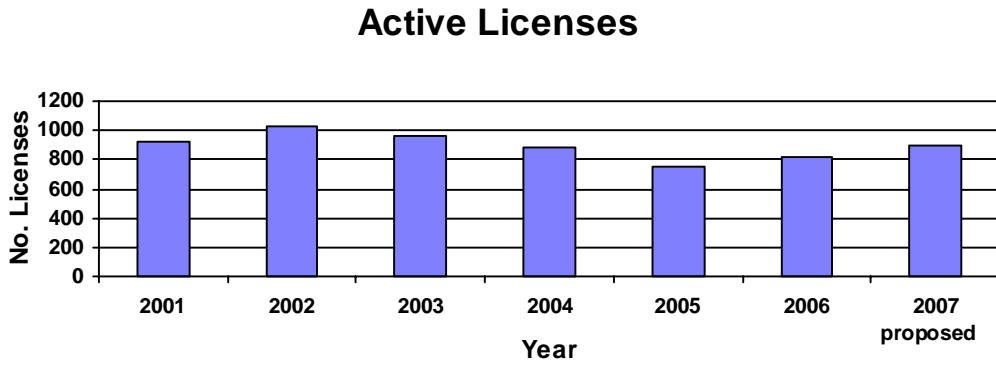
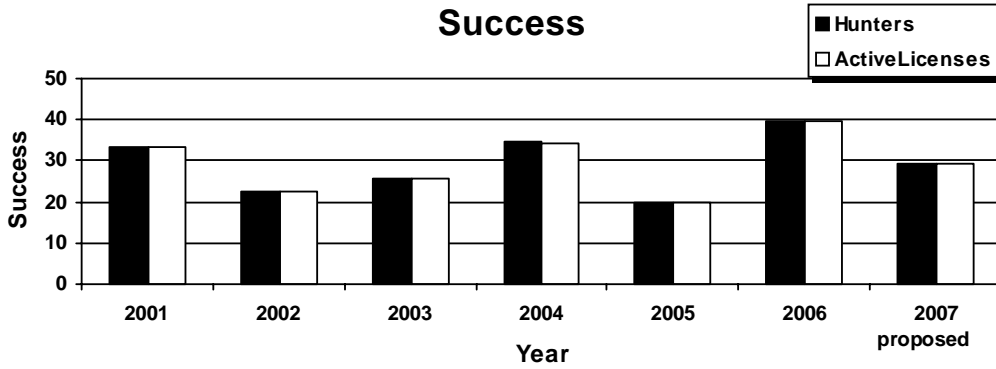
	2/03	2/04	2/05	2/06	2/07
5. POPULATION TRENDS					
Trend Count Dates:	2/03	2/04	2/05	2/06	2/07
Trend Count:	817	1,046	941	1,044	962
Herd Model Pop Est:	1,100	1,081	1,025	1,160	1,062
Line Trans Pop Est:	0	0	0	0	0

SPECIES : Elk
 HERD UNIT : HOBACK
 YEAR : 2006

MODEL DATE :

	Averages 2001 - 2005	2006	Proposed 2007	Objective
Population (Est.)	1,093	1,062	1,025	1,100
Harvest	248	324	265	
Hunters	909	817	900	
Hunter Success	27.2%	39.7%	29.4%	
Active Licenses	911	819	900	
Active Licenses Success	27.2%	39.6%	29.4%	
Recreation Days	5,693	4,870	5,400	
Days/Animal	23.0	15.0	20.4	





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

Year: **2006** Species: **Elk** Herd Unit: **Hoback** Herd unit #: **104** Biologist: **Clause**

Management strategy: Recreational Special

	5-year average	Current year	Proposed
Population:	1,093	1,062	1,025
Harvest:	248	324	265
Hunters:	909	817	900
% Success:	27%	40%	29%
Rec. Days:	5,693	4,870	5,400
Days/animal:	22.96	14.98	20.38

Population objective 1,100

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

Number of years population has been + or - objective in recent trend: 5

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

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

Most recent classification ratio (j/100f/m): 35/100/16

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

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

J/100f: Decreasing

Most recent 5-year average classification ratio (j/100f/m): 39/100/18

(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:	13.00%	11.00%
Males ≥ 1 year old:	70.00%	63.00%
Juveniles (< 1 year old):	12.00%	12.00%
Total:	23.00%	21.00%

Projected change in post-season population: (+ or -)8.00% (+ or -) 4.00%

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 population estimates cannot be calculated with any confidence. Hand modeling was used to derive population estimates. Managers feel 90+% of the animals are counted during most winters.

SEX AND AGE COUNT REPORT

SPECIES : Elk

HERD UNIT : HOBACK

YEAR : 2006

PREPARED BY : Dean Clause

POSTHUNT CLASSIFICATION DATES : 2/07

Hunt Area	----- MALES -----			Females	Juveniles	Total
	Yearlings	Adults	Total			
86	0	0	0	2	4	6
87	41	55	96	593	207	896
Total Sample	41	55	96	595	211	902
Adequate Sample			48	298	106	452
Precision	@	90	C.L.			

Juveniles / 100 Females : 35 ± 2
Total Males / 100 Females : 16 ± 1
Adult Males / 100 Females : 9
Yearlings / 100 Females : 7

2006 ELK HUNTING SEASON RECOMMENDATION

HOBACK HERD UNIT - E104

<u>HUNT AREA</u>	<u>TYPE</u>	<u>OPENS</u>	<u>CLOSES</u>	<u>LIMITATIONS</u>
86		Sept. 26	Oct. 14	General License; any elk
		Oct. 15	Oct. 31	General License; antlered elk
87		Oct. 15	Oct. 31	General License; any elk
	6	Nov. 19	Jan. 31	Limited Quota; 30 licenses cow or calf valid only in that portion of Area 87 south and east of Dell Creek, north of U.S. Highway 191, and west of the North Fork of Fisherman Creek.
Special Archery Season 86		Sept. 1	Sept. 25	Refer to Section 3
87		Sept. 1	Sept. 30	Refer to Section 3

HARVEST REPORT

SPECIES **Elk**

HERD UNIT : **HOBACK**

YEAR : **2006**

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

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
	Resident	0	266	7	34	21	3	65	24.4	23.8
86	Non-Resident	0	51	0	8	12	0	20	39.2	18.3
	Total	0	317	(317)*	7	42	3	85	26.8 (26.8)*	22.5
	Resident	0	470	32	65	79	22	198	42.1	13.3
87	Non-Resident	0	77	8	23	5	5	41	53.2	7.8
	Total	0	547	(549)*	40	84	27	239	43.7 (43.5)*	12.4
	Resident	0	697	39	99	100	25	263	37.7	15.9
Total	Non-Resident	0	120	8	31	17	5	61	50.8	11.2
	Total	0	817	(819)*	47	130	30	324	39.7 (39.6)*	15.0

* Active Licenses

2006 AGE STRUCTURE OF FIELD CHECKED ANIMALS

SPECIES : Elk
 HERD UNIT : HOBACK

PREPARED BY : Dean Clause

Hunt Area	Sex	Young	1+	2+	3+	4+	5+	6+	7+	Older	Unaged Adults *	Total
86	Male	0	1	0	0	0	0	0	0	0	5	6
	Female	0	0	0	0	0	0	0	0	0	1	1
87	Male	2	6	0	0	0	0	0	0	0	13	21
	Female	5	2	0	0	0	0	0	0	0	19	26
Totals :	Male	2	7	0	0	0	0	0	0	0	18	27
	Female	5	2	0	0	0	0	0	0	0	20	27

* Unaged animals older than yearlings

Total Aged : 54

TREND COUNT REPORT

YEAR : 2006

SPECIES : Elk

HERD UNIT : HOBACK

METHOD : Helicopter, ground

DATE : 2/07

CONDITIONS : Very Light Snow Conditions

OBSERVERS : Clause, Fralick

Hunt Area	Count Block	Flight H : M	Number Counted	Photo	Comments
86	0	0 : 0	6		Native Winter Range
87	0	0 : 0	598		McNeel Feedground
87	0	0 : 0	297		Dell Creek Feedground
87	0	0 : 0	61		Native Winter Range / Pfister Ranch
Totals		0 : 0	962		

SPECIES: Elk
DAU NAME: Hoback (E104)
HUNT AREAS: 86 & 87
TITLE: 2006 Management Evaluation

BACKGROUND

The Hoback Herd Unit encompasses approximately 341 square miles of occupied elk habitat almost entirely within Sublette County. The main plant community associations in this herd unit are willow, sagebrush, aspen, conifer, and alpine communities extending from low to high elevations (6,500 to 11,500 feet). The majority of this herd unit is public land managed by the U.S. Forest Service with moderate vehicle and trail access. Most of the private lands in this herd unit are concentrated at lower elevations, associated with riparian and floodplain habitat of the Dell Creek, Hoback, and Jack Creek drainages. Two elk feedgrounds (Dell Creek and McNeel) 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 (primarily brucellosis). Approximately 8 square miles of native winter range have been identified throughout this herd unit with very few animals that rely exclusively on this native range. Hunt Area 86 (Monument Ridge) and Area 87 (Raspberry Ridge) make up the Hoback Herd Unit. This Hoback Herd Unit is managed to maintain a posthunt elk population of 1,100.

MANAGEMENT EVALUATION

Population Estimate

The 2006 post hunt population estimate of 1,062 elk declined compared to the 2005 estimate of 1,160 elk. The population estimate was derived by hand calculations which provide a more accurate representation of herd dynamics based on postseason trend counts, herd composition, and reported harvest. Hand calculations have proven somewhat effective at depicting population levels since the 1970s because the development of a workable and effective PopII model has been difficult to achieve. PopII model estimates do not track with observed trend counts due to the interchange of animals with surrounding herd units. Elk movement in and out of the Hoback herd unit has been documented with all adjacent herd units, violating the “closed” population assumption. The population objective for the Hoback Herd Unit is 1,100 elk.

Trend Count and Herd Composition Survey

During 2006 postseason trend counts, 962 elk were observed on Department-operated elk feedgrounds and native winter ranges which is down from the 2005 count (Table 1). A total of 67 elk were counted away from established feedgrounds in Areas 86 and 87. In Area 87, a total of 297 elk and 598 elk were counted on the Dell Creek and McNeel Feedgrounds, respectively.

The number of elk counted on the Dell Creek feedground has been relatively consistent the past 3 years, averaging 284 elk. As indicated in Tables 1 and 8, elk attendance at the McNeel feedground tends varies annually, ranging from 448 to 716 during the past five years. This fluctuation is primarily associated with winter conditions and elk interchange with Franz feedground located approximately 10 miles southeast within the Piney Herd Unit. Years with higher attendance at McNeel feedground appear to be associated with heavier snow accumulations, which most likely correlates with lower trends counts at Franz feedground, located at a higher elevation. Although very few elk typically winter on native winter range, the 67 elk documented wintering away from these two feedground during 2006 is mostly likely conservative, especially since this past winter was very mild.

Table 1. Herd trend counts in the Hoback 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>
Dell Creek F.G.	159	225	150	185	230	225	230	298	258	297
McNeel F.G.	274	427	510	560	570	448	680	560	716	598
<u>N.W.R.</u>	<u>48</u>	<u>44</u>	<u>70</u>	<u>22</u>	<u>48</u>	<u>144</u>	<u>136</u>	<u>83</u>	<u>70</u>	<u>67</u>
Herd Unit Total	481	696	730	767	848	817	1046	941	1044	962

The 2006 post hunt ratios were 16 bulls:100 cows:35 calves (Table 2). Compared to 2005, the bull:100 cow ratio remained the same and the calf: 100 cow ratio declined. The past 5-year average bull:cow:calf ratio was 18:100:39. It was anticipated that the bull ratio would increase during the 2006 postseason composition count, as bull harvest was significantly lower (n=80) in 2005. This static bull ratio during the past three years, when the reported bull harvest has greatly fluctuated, demonstrates why population modeling efforts fail in this herd unit.

Table 2. Herd composition count summary in the Hoback Herd Unit, 1997-2006.

<u>Per 100 Females</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>
Ad. Male	6	5	3	2	8	9	10	9	8	7
Yrling Male	2	5	8	7	14	8	10	7	8	9
Total Males	8	10	11	9	22	17	20	16	16	16
Juveniles	24	33	28	35	42	38	39	36	38	35

Weather Data

See Appendix A, Climatic Division 2 – Snake Drainage Basin for weather data applicable to this Hoback Herd Unit. 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. In particular, one storm resulted in decent snow accumulations during the third week of October that resulted in improved harvest rates for a short period in this herd unit.

HARVEST STATISTICS

Harvest

The continuation of general license, “any” elk hunting seasons in Area 86, and limited number of days of general, “any” elk hunting in Area 87 have proven successful at maintaining this population near the objective over the last several years. In 2006, a total of 324 elk were harvested according to the harvest survey. A total of 130 adult bulls, 47 yearling bulls, 117 cows, and 30 calves were reported (Table 3). Reported harvest from 2005 and 2006 showed dramatic shifts in trends. The 2005 harvest of 146 total elk, hunter success at 18% and 36 days/harvested animal represents the lowest harvest levels documented in the past 10+ years. Hot and dry weather during the fall of 2005 provided tough hunting conditions that resulted in lower than average harvest and success rates. The increase in fuel prices during the late summer may have also contributed to lower harvest levels, as hunter recreational days were lower than normal. The 2006 harvest was above normal at 324 total elk, hunter success at 40%, and 15 days/harvest. Improved hunting conditions during mid to late October, due to good snow accumulations, most likely contributed to improved harvest levels during 2006. The past five-year (2001-2005) averages report a total harvest of 248 elk, hunter success of 30%, and 23 days/animal harvested.

Table 3. Harvest trends in the Hoback 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	156	130	153	116	106	120	129	165	54	130
Yearling Males	51	44	47	59	55	25	8	30	26	47
Total Males	207	174	200	175	161	145	137	195	80	177
Females	141	106	114	85	108	62	83	78	52	117
Juveniles	20	11	32	27	27	22	25	30	19	30
Total Harvest	368	291	346	287	296	229	245	304	151	324
%Field Checked						29%	16%	11%	22%	17%

Field Harvest Checks

A total of 54 elk (25 bulls, 22 cows, and 7 calves) were checked by field personnel during the 2006 hunting season, which is an increase from the 33 elk checked in 2005. During the past 5 years (2002-2006), an average of 46 field checked elk have been documented for this herd unit. The trends in the number of field checked animals corresponds fairly well with the reported harvest trends. The proportion of field checked animals compared to the reported harvest has varied from 11% to 29% during the past five years.

Ear Tag Returns

In an effort to increase understanding of elk movements in and out of the Hoback DAU, a trapping and tagging program was initiated at the McNeel Feedground during the 1996-97 and 1997-98 winters. Tag returns from this tagging effort at McNeel documented 39% of the harvested animals came from surrounding herd units (Piney and Fall Creek DAU's). In addition to trapping efforts at McNeel Feedground, elk have also been tagged at the Dell Creek Feedground during 1989 and 1998-2006. Tagging efforts prior to 2004 from Dell Creek Feedground have documented anywhere from 6% to 36% interchange with surrounding herd units, depending on the analysis period. Most of the tag returns from outside this DAU has come from HA84 (Fall Creek DAU). See the 2003 Job Completion Report for detailed information on past tagging efforts and results. Elk were also tagged during January 2003 at Franz Feedground, which is located within the Piney DAU but lies very close to the southeast portion of the Hoback DAU. Analysis of tag returns from animals tagged at Franz documents interchange with the Hoback DAU (See 2003 and 2006 – Piney Herd Unit Job Completion Report for further tag return summaries).

Ear tags were returned from 48 elk during 2004-06 (Table 4). Of the 47 tag returns, all tags came from elk trapped at Dell Creek Feedground. A total of 17 (36%) of these elk were killed outside this Hoback DAU (Hunt Areas 86 and 87); 19% harvested in the Fall Creek DAU (Area 84); 4% in the Upper Green River DAU (Area 93 & 96); 11% in the Jackson DAU (Area 81, 82, & 83); and 2% in the Wiggins Fork DAU (Area 67). Tag return data from 2002-2006 indicate a significant amount of elk interchange with surrounding Herd Units, with a recent increase of tag returns from the Jackson DAU.

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

DATE	LOCATION	AGE	SEX	TAGS	TAG1	TAG2	Kill Date, Location (HA)
01/09/06	DELL CREEK	J	M	C	0514	0515	10/21/06, Gros Ventre Drainage (83)
01/19/02	DELL CREEK	YRLG	M	C		1601	10/15/04, Jack Creek (87)
01/18/06	DELL CREEK	J	M	C	0544	0545	10/15/06, Gros Ventre Drainage (82)
01/21/05	DELL CREEK	JUV	M	C	0560	0561	10/16/05, Dell Creek (87)
01/21/05	DELL CREEK	JUV	M	C	0562	0564	9/26/05, Shoal Creek (84)
01/26/06	DELL CREEK	Y	M	C	0640	0641	10/16/06, Dell Creek (87)
03/02/98	DELL CREEK	ADULT	F	C	1018	1019	10-30-04, Dell Creek (87)
01/11/02	DELL CREEK	ADULT	F	C	1034	1035	11-6-04, Riling Draw (87)
02/26/98	DELL CREEK	JUV	M	C	1057	1058	10/16/05, Jack Creek (87)
02/05/03	DELL CREEK	ADULT	F	C	1148	1149	10-24-04, Garden Cr. (84)
01/27/99	DELL CREEK	ADULT	F	C	1171	1172	10/06, HA 87

02/08/01	DELL CREEK	ADULT	F	C	1247	1248	10/15/05, Dell Creek (87)
01/21/05	DELL CREEK	ADULT	F	C	1279	1852	10-16-06, Jenny Cr. (87)
01/16/01	DELL CREEK	JUV	M	C	1367	1368	2004, Mt. Kent (67)
01/16/01	DELL CREEK	YRLG	F	C	1371	1372	9/12/06, W. Shoal/ Shoal Creek (84)
01/24/01	DELL CREEK	JUV	F	C	1406	1407	10/29/06, Parady Draw (87)
01/21/05	DELL CREEK	ADULT	F	C	1543	1544	2006, Dell Cr. FG (87)
02/05/03	DELL CREEK	YRLG	F	C	1550	1551	10/9/05, Monument Ridge (86)
01/11/02	DELL CREEK	ADULT	F	C	1572	1573	11-11-04, Dell Cr. (87)
01/26/02	DELL CREEK	YRLG	M	C	1602	1603	10/06, HA 87
01/17/03	DELL CREEK	JUV	M	C	1630	1631	10/31/04, Jamb Creek (86)
01/21/03	DELL CREEK	JUV	M	C	1636	1637	9/22/05, HA 84
01/21/03	DELL CREEK	JUV	F	C	1660	1661	10-20-04, Dell Creek (87)
01/21/03	DELL CREEK	YRLG	M	C	1673	1674	10-15-04, Red Cr. (81)
01/24/03	DELL CREEK	JUV	F	C	1693	1694	10-31-04, HA 87
01/24/03	DELL CREEK	JUV	M	C	1705	1706	10-04-04, New Fork Lakes (96)
02/19/04	DELL CREEK	YRLG	F	C	1713	1714	10/20/06, Dell Creek (87)
02/01/03	DELL CREEK	YRLG	M	C	1721	1722	9-26-05, Shoal Cr. (87)
02/01/03	DELL CREEK	JUV	M	C	1724	1729	10/30/05, Bacon Ridge (83)
02/01/03	DELL CREEK	JUV	M	C	1725	1726	10-15-04, HA 87
02/13/04	DELL CREEK	YRLG	M	C	1732	1733	9-26-05, Raspberry Ridge (84)
02/05/04	DELL CREEK	JUV	F	C	1761	1762	10-16-04, HA 87
02/05/04	DELL CREEK	JUV	M	C	1781	1782	9/15/05, Granite Creek (84)
02/05/04	DELL CREEK	JUV	M	C	1789	1790	10/06, HA 81
02/05/04	DELL CREEK	JUV	M	C	1795	1796	2005, HA 84
02/05/04	DELL CREEK	ADULT	F	C	1800	1826	10-16-04, Dell Cr. (87)
02/09/04	DELL CREEK	ADULT	F	C	1805	1806	11-30-05, HA 87
02/09/04	DELL CREEK	YRLG	F	C	1809	1810	10-24-04, Jack Cr. (87)
02/13/04	DELL CREEK	ADULT	F	C	1855	1856	2005, Pfisters Ranch (87)
02/13/04	DELL CREEK	JUV	F	C	1860	1861	10/24/06, Sanford Hill Drainage (87)
02/13/04	DELL CREEK	YRLG	M	C	1862	1863	9-11-04, Little Granite Cr. (84)
01/27/05	DELL CREEK	ADULT	F	C	1864	1865	10/29/06, Rock Creek Drainage (87)
02/19/04	DELL CREEK	JUV	F	C	1872	1873	10/15/05, Dell Creek (87)
02/19/04	DELL CREEK	ADULT	F	C	1874	1875	2005, Pfister Ranch (87)
01/26/06	DELL CREEK	Y	M	C	1897	1898	2006, Cliff Cr (86)
01/18/05	DELL CREEK	JUV	F	C	1899	1900	10/5/05, HA 93
01/18/05	DELL CREEK	JUV	M	C	1927	1928	10/11/06, Shoal Creek (84)

In addition to placing ear tags in all elk, neck bands are placed on all adult females captured at trapping locations. These neck bands allow for live observations in the summer and fall, and also allow quick identification on feedgrounds in following years. Several observations of neck bands have been documented in Areas 84, 87, and 93 in past years.

HABITAT EVALUATION

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 Hoback Herd Unit.

MANAGEMENT SUMMARY

This Hoback Herd Unit is “leaky” in regards to elk moving in and out of the herd on a seasonal basis. Therefore population estimates remain very difficult and computer simulations are unreliable. Fluctuations of 100+ animals between annual winter counts are common without any rational explanation for the changes. Annual hand calculations seem to assess population dynamics fairly well, especially during heavy snow years given the limited native winter range and increased attendance at winter- feeding sites. The late fall of 2006 started with promising snow accumulations, but as winter progressed, snow accumulation tapered off resulting in below normal levels. The 2004-2006 postseason trend counts of 962,

1,044, and 941, respectively, correlate directly harvest levels during those same years. The reduced harvest in 2005 resulted in an increased count that following winter, while the above average harvest resulted in fewer elk counted during 2006. Postseason data collection efforts indicate that calf ratios declined, bull ratios were maintained, and the population declined by 8%. Adequate bull:cow:calf ratios and population estimates within 10% of the herd unit objective of 1,100 are being maintained with past management strategies.

2007 Proposed Hunting Seasons and Projected Harvest

For the sixth consecutive year, the 2007 hunting season in Area 87 will offer general license, “any” elk hunting the entire season. An increase in 20 limited quota (Type 6 – cow/calf) licenses for a total of 50 licenses will be offered in a portion of Area 87, valid from November 19 through January 31, in an effort to reduce damage to privately stored hay crops.

In past years, the season in Area 86 offered 19 days of general license for “any” elk hunting from September 26 through October 14 followed by “antlered” only hunting for the remainder of October (October 15-31). The 2007 season will allow general license hunting for “any” elk throughout the entire season (September 26 – October 31) in Area 86. This season should slightly increase antlerless harvest rates while potentially reducing antlered harvest.

The 2007 hunting seasons are projected to harvest approximately 265 elk. Approximately 148 bulls, 88 cows, and 29 calves should be harvested with this proposed season. The anticipated harvest will maintain the population within the +/- 10% threshold of the population objective. The projected 2007 post hunt population estimate is 1,025 elk.

MANAGEMENT RECOMMENDATIONS

1. Continue helicopter survey to classify and count elk that spend the winter on native ranges. Schedule extra survey time for native winter ranges during mild winters.
2. Collect incisors from harvested elk in the field to get a reliable estimate of the age structure of the male segment of this herd.
3. Discuss Travel Plan violations and possible revisions with the Big Piney Ranger District. Specific areas of concern include Monument Ridge (winter) and the Fisherman Creek, Jack Creek, Raspberry Ridge, and Dell Creek areas (4-wheelers-fall).
4. Continue management activities (i.e. late season hunts) to address damage and co-mingling concerns on private lands.
5. Consider options for including portions of this herd unit into the adjacent Fall Creek and Piney Elk Herd Units or retain the existing herd unit and set management objectives based on winter trend counts.

BRUCELLOSIS-FEEDGROUND-HABITAT PROGRAM

BRUCELLOSIS MANAGEMENT ACTION PLAN

Per request of the Governor’s Brucellosis Coordination Team, drafting the Hoback Elk Herd Unit (E104) Brucellosis Management Action Plan (BMAP) was initiated in July 2006 with presentation of the final document on 20 February 2007. The document is one of 7 BMAPs (1 per elk herd unit within the Brucellosis Endemic Area) drafted for the Jackson/Pinedale region and covers all aspects of brucellosis, feedground, and habitat management and ongoing research. No significant changes occurred to management of feedgrounds within E104 based on data included and discussed within the BMAP. In order to develop the BMAP, WGFD consulted with cooperating land management agencies (e.g., Bridger-Teton National Forest), cattle producers operating within E104, as well as the Wyoming Livestock Board and the federal Animal and Plant Health Inspection Service (APHIS)-Vet Services. Options discussed during the process included: 1) feedground relocation, 2) feedground elimination, 3) reducing the elk population, 4) providing incentives for cattle producer change of operation, 5) fencing stackyard, feedground, or other

areas, 6) habitat enhancement, 7) acquiring productive habitat/protecting habitat from development through conservation easements, and 8) continuing strain 19 vaccination on feedgrounds. Options 1-3 were deemed unfeasible at the present. WGFD will continue to pursue Options 4-7 as opportunities arise. Finally, Option 8 will continue to be instituted at McNeel feedground, but not at Dell Creek, as that feedground serves as the only non-vaccinated feedground to compare serology with other vaccinated feedground elk.

BRUCELLOSIS SURVEILLANCE

Dell Creek Feedground

For the tenth consecutive winter elk were trapped at Dell Creek feedground for brucellosis surveillance. A total of 100 elk (71 newly tagged) and 2 juvenile moose were captured and processed over four trap days (Table 5).

Table 5. Demography, ear tag, and collar data of animals captured and processed at Dell Creek Feedground, 2007.

SPECIES	AGE	AGE CLASS	SEX	TAGS	TAG 1	TAG 2
ELK				C	0678	0679
ELK	A		F	C	0629	0731
ELK	A		F	C	0730	0535
ELK	A	>10	F	C	1038	1039
ELK	A	>10	F	C	1273	1274
ELK	A	>10	F	C	1199	1200
ELK	A	6-9	F	C	1471	1472
ELK	A	6-9	F	C	1922	1699
ELK	A	6-9	F	C	1859	1521
ELK	A	6-9	F	C	1650	1651
ELK	A	6-9	F	C	1638	1639
ELK	A	6-9	F	C	1040	1041
ELK	A	6-9	F	C	1606	1607
ELK	A	6-9	F	C	1369	1370
ELK	A	2-5	F	C	1285	1286
ELK	A	2-5	F	C	0790	0791
ELK	A	2-5	F	C	0705	0706
ELK	A	2-5	F	C	1764	1767
ELK	A	2-5	F	C	0355	0730
ELK	A	2-5	F	C	1525	1526
ELK	A	2-5	F	C	0732	0733
ELK	A	2-5	F	C	1797	1794
ELK	A	2-5	F	C	0632	0633
ELK	A	2-5	F	C	0518	0519
ELK	A	2-5	F	C	0752	0753
ELK	A	2-5	F	C	0762	0763
ELK	A	2-5	F	C	0631	0634
ELK	A	2-5	F	C	1921	1920
ELK	A	2-5	F	C	1496	1495
ELK	A	2-5	F	C	0846	0847
ELK	A	2-5	F	C	1655	1654
ELK	A	2-5	F	C	1748	1745
ELK	Y		F	C	0615	0616
ELK	Y		F	C	0513	0512

ELK	Y		F	C	0758	0759
ELK	Y		F	C	0603	0604
ELK	Y		F	C	0582	0583
ELK	Y		F	C	0843	0844
ELK	J		F	C	0682	0683
ELK	J		F	C	0676	0677
ELK	J		F	C	0688	0689
ELK	J		F	C	0686	0687
ELK	J		F	C	0684	0685
ELK	J		F	C	0696	0697
ELK	J		F	C	0695	0700
ELK	J		F	C	0778	0779
ELK	J		F	C	0776	0777
ELK	J		F	C	0782	0783
ELK	J		F	C	0780	0781
ELK	J		F	C	0786	0787
ELK	J		F	C	0794	0795
ELK	J		F	C	0796	0797
ELK	J		F	C	0709	0710
ELK	J		F	C	0707	0708
ELK	J		F	C	0726	0727
ELK	J		F	C	0728	0729
ELK	J		F	C	0736	0737
ELK	J		F	C	0742	0743
ELK	J		F	C	0744	0745
ELK	J		F	C	0746	0747
ELK	J		F	C	0749	0750
ELK	J		F	C	0796	0716
ELK	J		F	C	0715	0800
ELK	J		F	C	0719	0720
ELK	J		F	C	0723	0724
ELK	J		F	C	0721	0722
ELK	J		F	C	0760	0761
ELK	J		F	C	0764	0765
ELK	J		F	C	0837	0838
ELK	J		M	C	0678	0679
ELK	J		M	C	0698	0699
ELK	J		M	C	0692	0693
ELK	J		M	C	0701	0702
ELK	J		M	C	0703	0704
ELK	J		M	C	0784	0785
ELK	J		M	C	0788	0789
ELK	J		M	C	0792	0793
ELK	J		M	C	0798	0799
ELK	J		M	C	0711	0712
ELK	J		M	C	0713	0714
ELK	J		M	C	0734	0735
ELK	J		M	C	0748	0739
ELK	J		M	C	0717	0718
ELK	J		M	C	0774	0775
ELK	J		M	C	0756	0757
ELK	J		M	C	0767	0768
ELK	J		M	C	0850	0848

ELK	J		M	C	0703	0845
ELK	J		M	C	0841	0842
ELK	J		M	C	0839	0840
ELK	Y		M	C	0740	0741
ELK	Y		M	C	0524	0525
ELK	Y		M	C	0754	0755
ELK	Y		M	C	0725	0751
ELK	Y		M	C	0530	0766
ELK	Y		M	C	0588	0589
ELK	Y		M	C	0772	0773
ELK	Y		M	C	0769	0771
MOOSE	J			C	0670	0671
MOOSE	J		M	C	0680	0681

The desired sera sample from 37 yearling and adult females was achieved. In 2007 (and for the fourth consecutive year), brucellosis seroprevalence (16%, n = 6/37) for yearling and adult females was substantially lower than the long-term feedground average (34%), as determined by the four standard (card, SPT, Riv., CF) and cELISA tests. *Brucella* exposure rates were 8%, 18%, and 17% in 2004, 2005, and 2006, respectively (Table 6). Since inception of the vaccination program in 1985, mean seroprevalence rates for vaccinated (Grey's River, mean = 34%, n = 209/608) vs. unvaccinated (Dell Creek, mean = 28%, n = 119/352) elk continue to be statistically not different ($\chi^2_{1,960} = 0.03$, P = 0.86). Further analyses suggest that vaccination is not a covariate of seroprevalence among years ($F_{1,26} = 0.97$, P = 0.34), i.e., seroprevalence of vaccinated elk has not decreased over time since inception when compared to seroprevalence of unvaccinated elk over the same time frame. Seroprevalence may be better represented at this feedground using only the four standard tests, which indicate 36% (n = 119/352) seroprevalence for the ten years (1989, 1998-2007) that elk have been tested. cELISA test results (mean = 28%) may not accurately represent true seroprevalence on this feedground, due to elk never receiving vaccinations on Dell Creek feedground and the assumption that relatively few elk vaccinated on other feedgrounds immigrate to and are captured/tested at Dell Creek feedground. Although strain 19 reduces abortion rate in captive animals challenged with *Brucella abortus*, the influence of strain 19 vaccination on abortion and/or seroprevalence rate has not been evaluated but is proposed for investigation.

Table 6. Number of yearling, adult, total female, and % seroprevalence of elk tested on Hoback EHU feedgrounds as determined by 4 standard tests and cELISA.

Feedground	Year	# Tested			% Seroprevalence	
		Yearling	Adult	Total	4 Standard	cELISA
Dell Creek	1989	4	19	23	61	*
	1998	8	26	34	47	26
	1999	9	28	37	62	50
	2000	7	15	22	45	45
	2001	14	21	35	31	26
	2002	12	22	34	38	35
	2003	10	20	30	40	37
	2004	8	28	36	8	8
	2005	4	30	34	18	18
	2006	6	24	30	17	17
	2007	6	31	37	16	16
	Sum	82	233	315	36	28
McNeel	1997	0	2	2	0	*
	1998	1	10	11	64	*
	Sum	1	12	13	54	N/A

* cELISA test not conducted

STRAIN 19 VACCINATION

McNeel Feedground

Vaccination was conducted during approximately 3 days in mid March 2007. Ninety-nine of 142 juveniles classified (70%) were vaccinated. Extremely warm ambient temperatures, low snowfall, and subsequent reduced dependency on feed coupled with late delivery of strain 19 biobullets precluded typical vaccination of $\geq 91\%$ of juveniles as has occurred in all previous years. Since 1992, at least 2,290 juveniles, 704 adult females, and several undocumented yearlings have been vaccinated.

Dell Creek Feedground

No strain 19 activity has taken place at this feedground, as this population serves as a control to compare serology with other vaccinated feedground elk. Active surveillance is presently ongoing.

RESEARCH – ABORTION/PARTURITION ECOLOGY IN VACCINATED VS. UNVACCINATED ELK

A proposal was recently submitted for funding to initiate investigation of serology, abortion rates, and vegetation characteristics of parturition sites associated with vaccinated (Grey’s River) and unvaccinated (Dell Creek) elk. A 2-yr ongoing research project at Soda Lake, Scab Creek, and Bench Corral feedgrounds and the winter-free ranging population in Buffalo Valley indicate that vaginal implant transmitters (VITs) are a viable tool for locating expelled transmitters either due to brucellosis-induced abortion or viable birth.

FEEDGROUND MANAGEMENT SUMMARY

Table 7. Summary data from Dell Creek Feedground, 1975-76 to 2006-07.

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TON/ELK
1975-76	259	285	158	3	66	1.1
1976-77	365	28	84	0	9	0.1
1977-78	350	300	154	4	55	0.9
1978-79	265	234	155	3	59	0.9
1979-80	245	188	153	1	59	0.8
1980-81	200	140	131	0	64	0.7
1981-82	234	234	172	5	87	1.0
1982-83	225	203	156	0	86	0.9
1983-84	290	277	176	3	83	1.0
1984-85	230	228	169	2	91	1.0
1985-86	300	305	175	0	90	1.0
1986-87	320	238	156	3	68	0.7
1987-88	235	195	130	2	81	0.8
1988-89	285	278	163	2	89	1.0
1989-90	320	221	136	2	81	0.7
1990-91	275	206	143	2	80	0.7
1991-92	214	164	138	1	85	0.8
1992-93	246	234	184	1	107	1.0
1993-94	234	145	128	0	66	0.6
1994-95	255	168	148	0	75	0.7

1995-96	290	179	146	0	71	0.6
1996-97	220	193	166	1	118	0.9
1997-98	159	80	100	1	82	0.5
1998-99	225	191	156	1	103	0.8
1999-00	150	119	137	0	104	0.8
2000-01	185	158	144	1	109	0.9
2001-02	245	185	149	0	115	0.8
2002-03	225	141	139	1	90	0.6
2003-04	275	195	146	0	93	0.7
2004-05	298	198	141	0	86	0.7
2005-06	258	202	151	0	103	0.8
2006-07	297	205	151	0	100	0.7
30 Year Ave	255	197	148	1	83	0.8

Table 8. Summary data from McNeel Feedground, 1975-76 to 2006-07.

YEAR	ELK #	TONS	DAYS	DEAD	COST/ELK	TON/ELK
1975-76	590	472	158	6	\$46	0.8
1976-77	450	103	87	0	\$20	0.23
1977-78	650	463	141	4	\$44	0.71
1978-79	633	465	145	3	\$47	0.73
1979-80	530	376	150	7	\$50	0.71
1980-81	475	215	126	0	\$40	0.45
1981-82	438	406	179	2	\$76	0.93
1982-83	435	341	153	2	\$81	0.78
1983-84	500	392	162	0	\$66	0.78
1984-85	430	314	163	3	\$82	0.73
1985-86	560	431	163	3	\$68	0.77
1986-87	570	429	149	3	\$63	0.75
1987-88	700	366	130	1	\$44	0.52
1988-89	850	652	158	8	\$71	0.77
1989-90	1003	515	137	10	\$56	0.51
1990-91	736	366	138	1	\$50	0.5
1991-92	729	426	150	8	\$57	0.58
1992-93	789	522	159	3	\$67	0.66
1993-94	565	266	126	0	\$45	0.47
1994-95	488	189	119	6	\$42	0.39
1995-96	603	410	173	12	\$72	0.68
1996-97	630	470	164	10	\$86	0.75
1997-98	274	112	91	5	\$60	0.41
1998-99	427	231	149	9	\$62	0.54
1999-00	500	286	123	5	\$63	0.57
2000-01	500	321	131	2	\$75	0.64
2001-02	570	299	131	7	\$70	0.52
2002-03	448	206	137	0	\$62	0.46
2003-04	680	364	133	9	\$65	0.53
2004-05	560	235	119	0	\$53	0.42

2005-06	716	452	153	4	\$77	0.63
2006-07	598	309	123	4	\$70	0.52
30 Year Ave	582	356	141	4	\$60	0.61

2007 ELK HUNTING SEASON RECOMMENDATION

HOBACK HERD UNIT - E104

<u>HUNT AREA</u>	<u>TYPE</u>	<u>OPENS</u>	<u>CLOSES</u>	<u>LIMITATIONS</u>
86		Sept. 26	Oct. 31	General License; any elk
87		Oct. 15	Oct. 31	General License; any elk
	6	Nov. 19	Jan. 31	Limited Quota; 50 licenses cow or calf valid only in that portion of Area 87 south and east of Dell Creek, north of U.S. Highway 191, and west of the North Fork of Fisherman Creek.
Special Archery Season 86		Sept. 1	Sept. 25	Refer to Section 3
87		Sept. 1	Sept. 30	Refer to Section 3

Hoback Elk – Hand Model

Postseason 2005 Estimate = 1160 (90% Observability of 2005 trend count)

Postseason 2005 Observed Ratios (male:female:juvenile) = 16:100:38

	Male	Female	Juvenile	Total
Posthunt 2005	116 (10%)	754 (65%)	290 (25%)	1160
Posthunt Mortality	-1%	-2%	-5%	
	<hr/> 115	<hr/> 739	<hr/> 275	1129

End of 2005 Biological Year

Yearling Recruitment/ Reproduction	137	138	259 (739 x 0.35)	
Prehunt 2006	252	877	257	1386
Harvest 2006	-177	-117	-30	-324
Posthunt 2006	75	760	227	1062
Modeled Ratios	9:100	-----	30:100	
Observed Ratios	16:100	-----	35:100	962

Postseason 2006 Estimate = 1069 (90% Observability)

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

Posthunt 2006	118 (11%)	705 (66%)	246 (23%)	1069
Posthunt Mortality	-1%	-2%	-5%	
	<hr/> 117	<hr/> 691	<hr/> 234	1042

End of 2006 Biological Year

	Male	Female	Juvenile	Total
Yearling	117	117		
Recruitment/ Reproduction			248 (691 x 0.37)	
Prehunt 2007	234	808	248	1290
Projected Harvest 2007	-148	-88	-29	-265
Posthunt 2007	86	720	219	1025

Projected
Postseason 2007 Ratios (male:female:juvenile) = 12:100:30

