2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR520 - CHALK BLUFFS

HUNT AREAS: 111 | PREPARED BY: MARTIN HICKS

	2006 - 2010 Average	2011	2012 Proposed
Population:	0	N/A	N/A
Harvest:	223	200	180
Hunters:	273	276	270
Hunter Success:	82%	72%	67%
Active Licenses:	316	291	280
Active License Percent:	71%	69%	64%
Recreation Days:	1,182	1,420	1,290
Days Per Animal:	5.3	7.1	7.2
Males per 100 Females	23	22	
Juveniles per 100 Females	40	51	

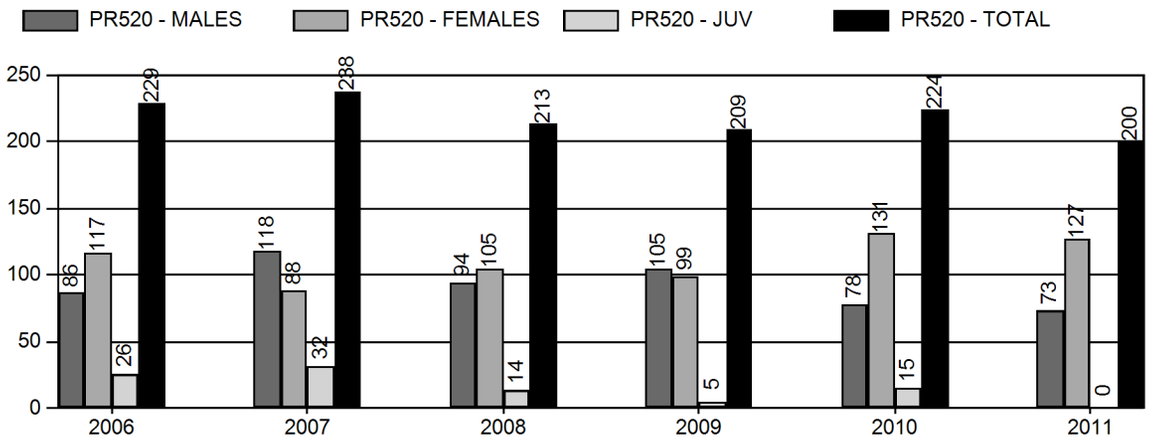
Population Objective:	450
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	N/A%
Number of years population has been + or - objective in recent trend:	0
Model Date:	None

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

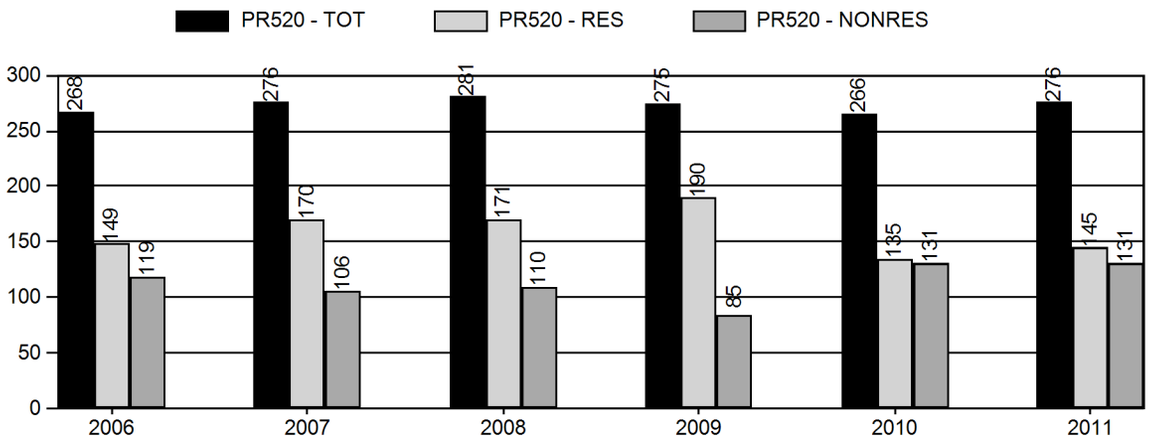
	JCR Year	Proposed
Females ≥ 1 year old:	na%	na%
Males ≥ 1 year old:	na%	na%
Juveniles (< 1 year old):	na%	na%
Total:	na%	na%
Proposed change in post-season population:	na%	na%

Population Size - Postseason

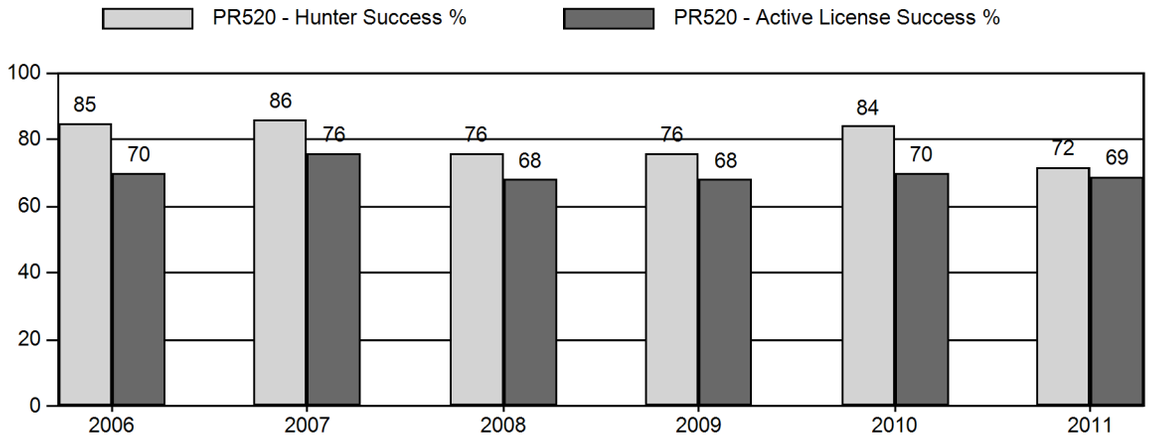
Harvest



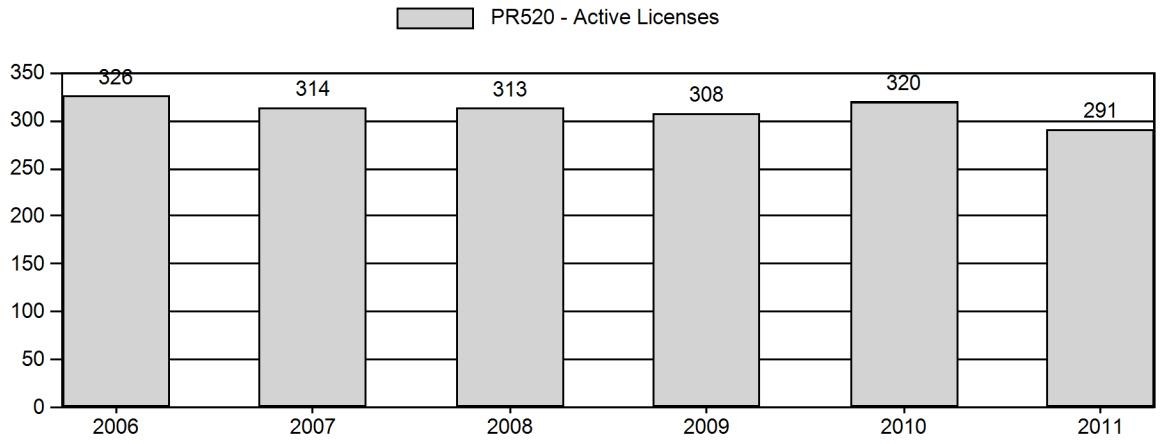
Number of Hunters



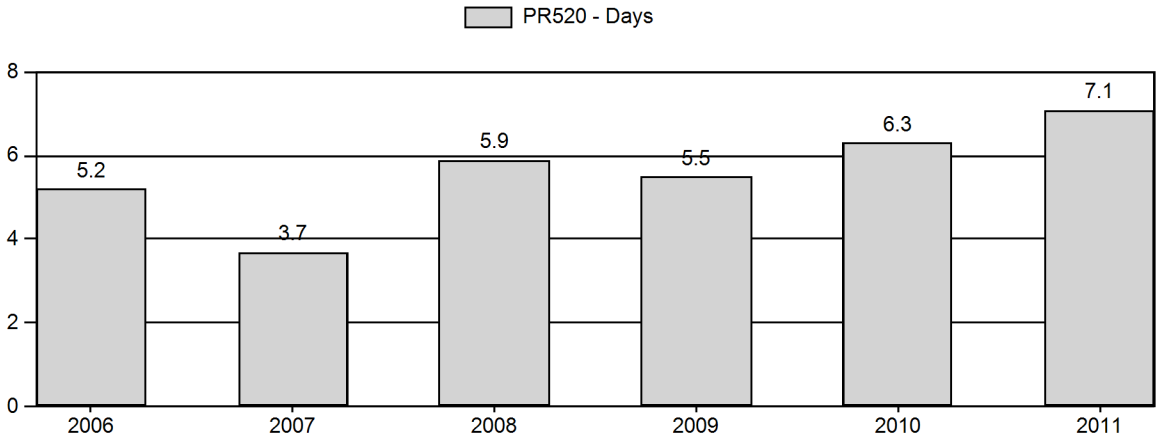
Harvest Success



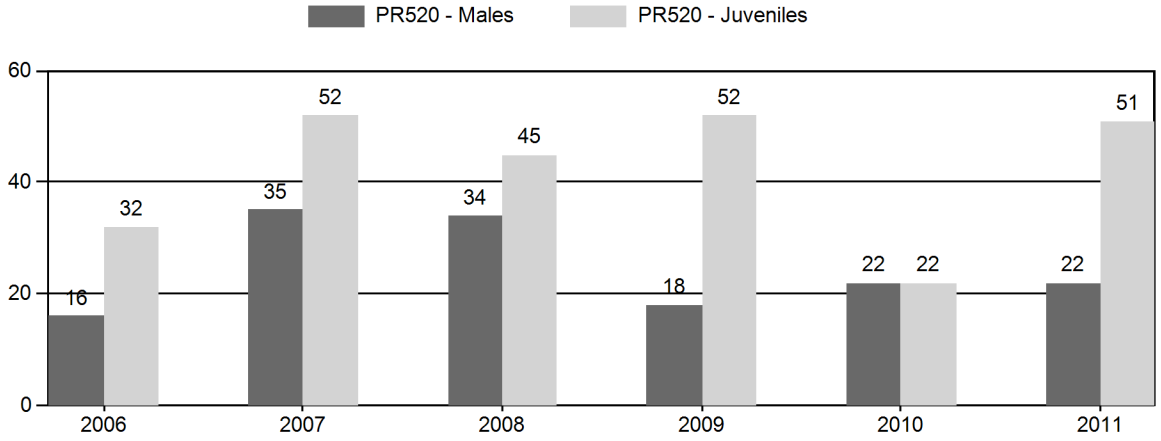
Active Licenses



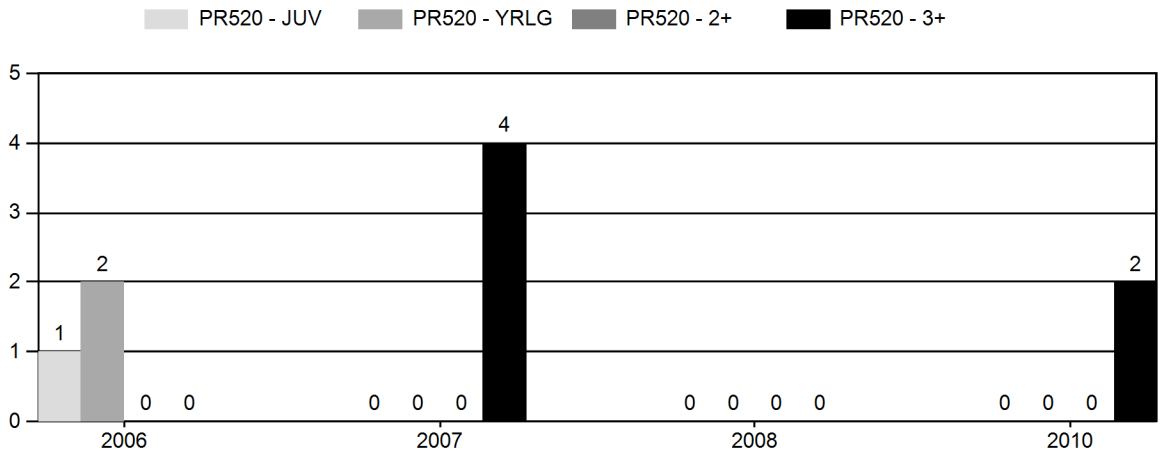
Days Per Animal Harvested



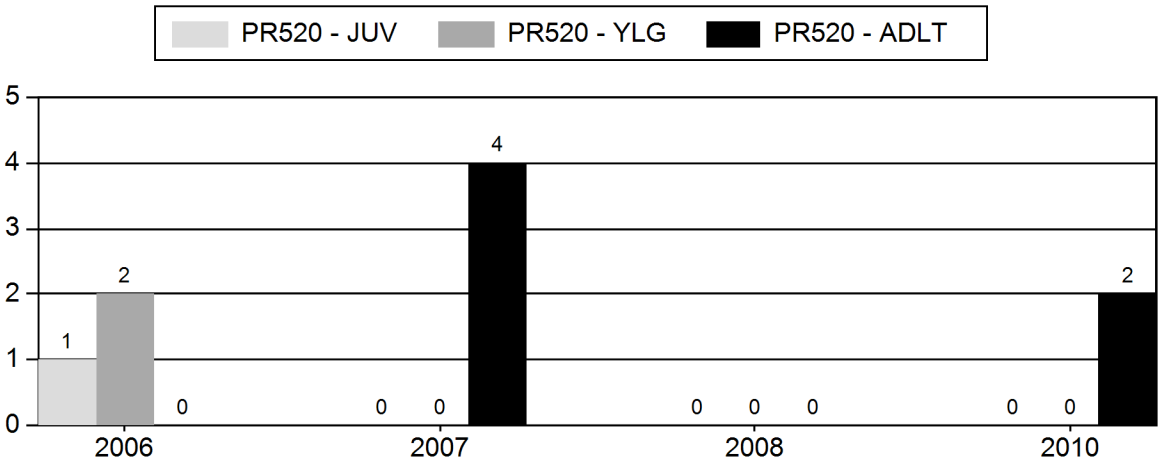
Preseason Animals per 100 Females



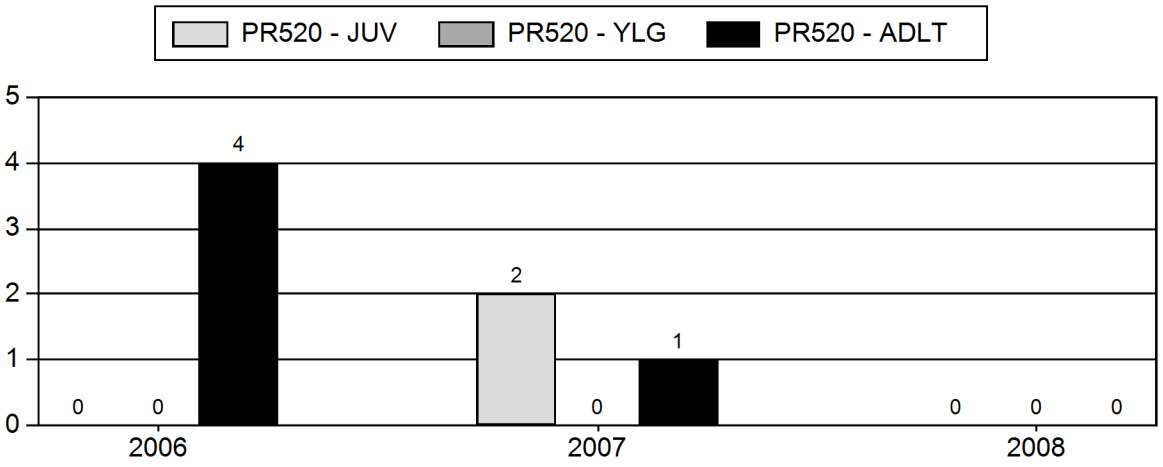
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2006 - 2011 Preseason Classification Summary

for Pronghorn Herd PR520 - CHALK BLUFFS

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2006	0	5	13	18	11%	114	67%	37	22%	169	0	4	11	16	± 0	32	± 0	28
2007	0	7	14	21	19%	60	54%	31	28%	112	0	12	23	35	± 0	52	± 0	38
2008	0	2	24	26	19%	77	56%	35	25%	138	304	3	31	34	± 0	45	± 0	34
2009	0	1	15	16	11%	89	59%	46	30%	151	348	1	17	18	± 0	52	± 0	44
2010	0	0	17	17	15%	78	70%	17	15%	112	289	0	22	22	± 0	22	± 0	18
2011	0	1	14	15	13%	67	58%	34	29%	116	370	1	21	22	± 0	51	± 0	41

2011 HUNTING SEASONS

PR520 - CHALK BLUFFS

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
111		ARCH		08/15 - 09/16	Refer to Section 3 of this Chapter
111		Type 1	150	09/17 - 10/14	Any
111		Type 6	200	09/17 - 08/14	Reduced Price doe/fawn
111		Type 6	200	11/15 - 12/31	Unused Area 111 Type 6 licenses

Table 1. PH520 Harvest, 2011.

Area	Type	Active Lic/H	Buck	Doe	Fawn	Total	Success	Days/Harve	Days	Licenses Sold
2011										
111 CHALK BLUFFS										
	Type 1	130	73	5	0	78	60%	7.7	602	148
	Type 6	161	0	122	0	122	75.80%	6.7	818	200
Pooled Total		276	73	127	0	200	72.50%	7.1	1420	
Pooled Resident		145	39	47	0	86	59.30%	11.6	997	
Pooled Nonresident		131	34	80	0	114	87.00%	3.7	423	
2011 Hunt Area Total		276	73	127	0	200	72.50%	7.1	1420	348
2011 Herd Total		276	73	127	0	200	72.50%	7.1	1420	348

*Active Licenses

2006 - 2011 Harvest Age Structure

for Pronghorn Herd PR520 - CHALK BLUFFS

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2006	1	2	100%	0	0	0%	3	0	0	3	0	0	0%	2	2	50%	4	0	0	4	7
2007	0	0	0%	0	4	100%	4	0	0	4	2	0	0%	1	0	0%	3	0	0	3	7
2008	0	0	0%	0	0	0%	0	0	0	0	0	0	0%	0	0	0%	0	0	0	0	0
2010	0	0	0%	0	0	0%	0	2	0	2	0	0	0%	0	0	0%	0	0	0	0	2

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

CHALK BLUFFS ANTELOPE (A520)
HUNT AREA 111
2012 HUNTING SEASONS

HUNT AREA	TYPE	OPENS	CLOSES	LIMITATIONS
111	1	SEPT. ~~17~~15	OCT.14	L.Q.; 150 licenses any antelope
	6	SEPT. ~~17~~15	OCT.14	L.Q.; 200 licenses doe or fawn
		NOV. 15	DEC. 31	Unused Area 111 Type 6 licenses
ARCHERY				
111		AUG. 15	SEPT. ~~16~~14	Refer to Section 3 of this Chapter

CHANGES FOR 2012

- Have the opening day on the third Saturday, which falls on the 15th of September this year.

MANAGEMENT EVALUATION

Population: A reliable population estimate of the Chalk Bluffs Herd Unit has not been developed due to the interchange with Colorado. In 2009 a density estimate of 9,000 pronghorn (2 pronghorn/square mile) was estimated by the Colorado Division of Wildlife (CDOW) using the WGFD's Line Transect Sampling Method (Guenzel, 2007). As a result of this estimate the CDOW has slowly increased license numbers and season length. If we applied this density estimate to occupied habitat in the Chalk Bluffs Herd Unit there would be around 700 pronghorn, slightly more than 150% over the objective of 450. Given ongoing access issues and pronghorn movement patterns the current management practices of trying to maximize opportunity and minimize damage will remain in place.

The sample size for buck and fawn ratios continues to be below the 90% confidence level needed for and adequate sample size so that data continues to not help in inferring population levels.

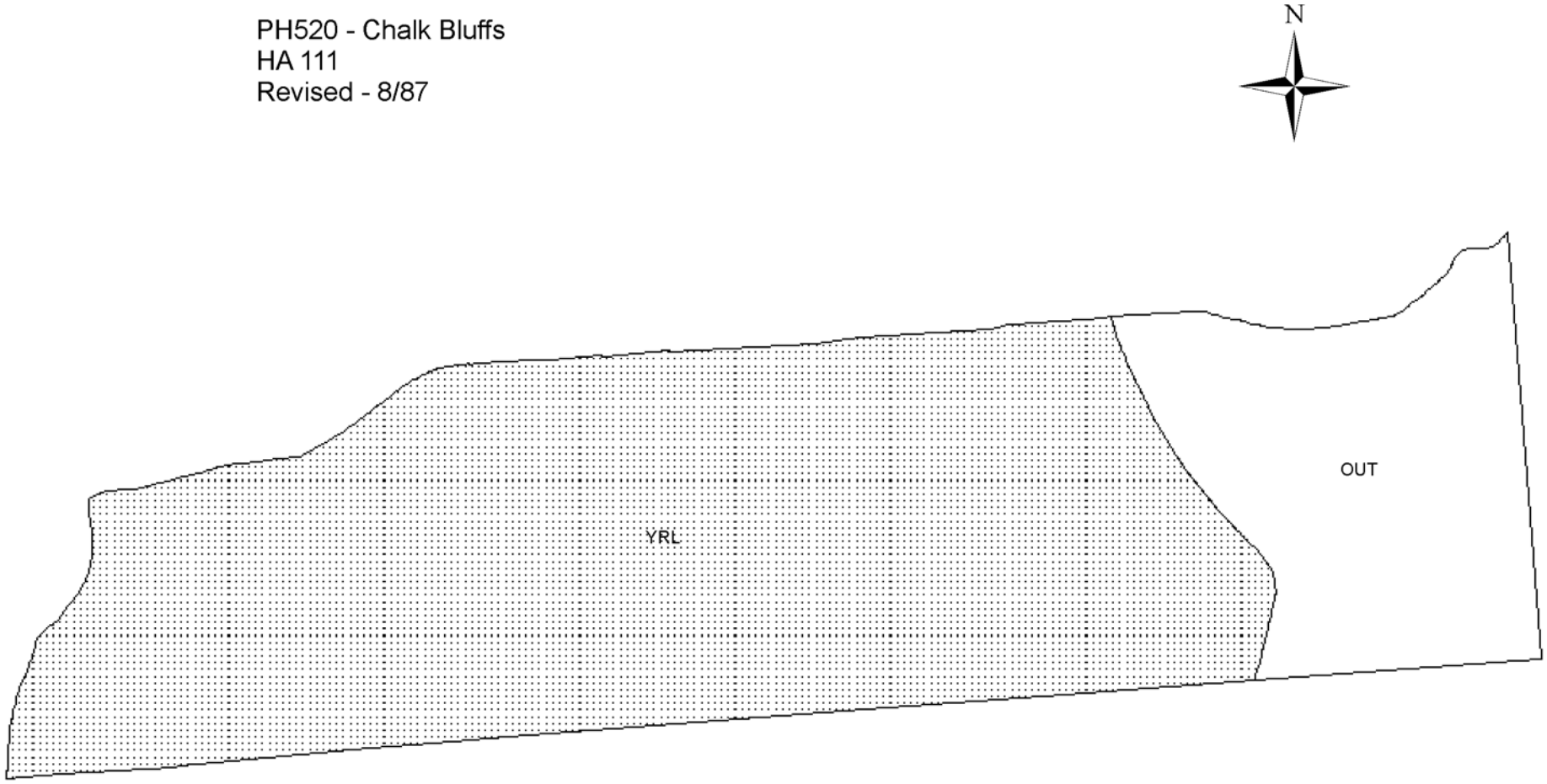
A herd unit objective review is slated within the next couple of years.

2011 Season: The 2011 season was designed to reduce pronghorn and allow opportunity where access is available. Type 1 harvest decreased to the five-year average with the same number of licenses available (n=150). Active licenses fluctuated around 140 during the past five seasons and in 2011 they decreased to 130. Harvest sequentially declined in 2011 (77 pronghorn) compared to the five-year average of 103. The 2011 Type 6 active licenses (152) and harvest (103 pronghorn) also decreased to the five-year average (175 active licenses, 120 pronghorn harvested) with the same number of permits issued (n=200) for the last six years.

Overall active license harvest success in 2011 (69%) has remained fairly consistent compared to the five-year average (70%) while 2011 hunter effort (7.1 days per harvest) increased compared to the five-year average (5.3 days per harvest). Given this data comparison it appears the population has declined. However there are several unknowns to consider. This is an interstate population with Colorado and landowners experience damage problems later in the season (November-December). Urban sprawl by commercial and rural development has increased significantly in the last 2-3 years. It appears that pronghorn numbers fluctuate based on weather and human disturbances combined with a decrease in accessible acres and an increase in lost habitat.

2012 Season: There are no changes to the 2012 season. This season structure is designed to try and maintain opportunity while minimizing damage. Based on past seasons, we predict there will be a harvest of 75 bucks, 130 does and 10 fawns for a total harvest of 215 pronghorn.

PH520 - Chalk Bluffs
HA 111
Revised - 8/87



2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR521 - HAWK SPRINGS

HUNT AREAS: 34-36 | PREPARED BY: MARTIN HICKS

	2006 - 2010 Average	2011	2012 Proposed
Population:	13,280	10,000	8,000
Harvest:	980	1,192	1,395
Hunters:	1,084	1,347	1,575
Hunter Success:	90%	88%	89 %
Active Licenses:	1,235	1,515	1,600
Active License Percent:	79%	79%	87 %
Recreation Days:	3,784	5,661	5,800
Days Per Animal:	3.9	4.7	4.2
Males per 100 Females	45	39	
Juveniles per 100 Females	49	46	

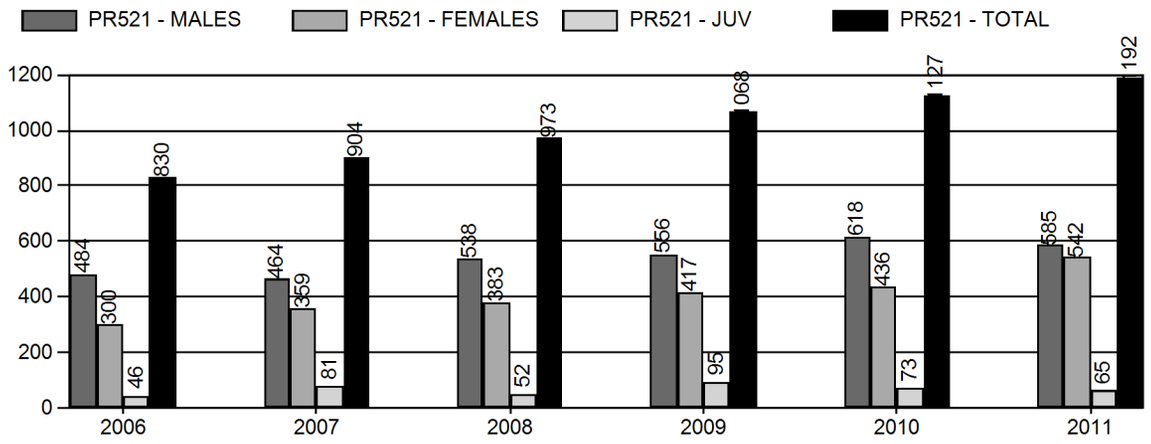
Population Objective:	7,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	43%
Number of years population has been + or - objective in recent trend:	21
Model Date:	02/29/2012

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

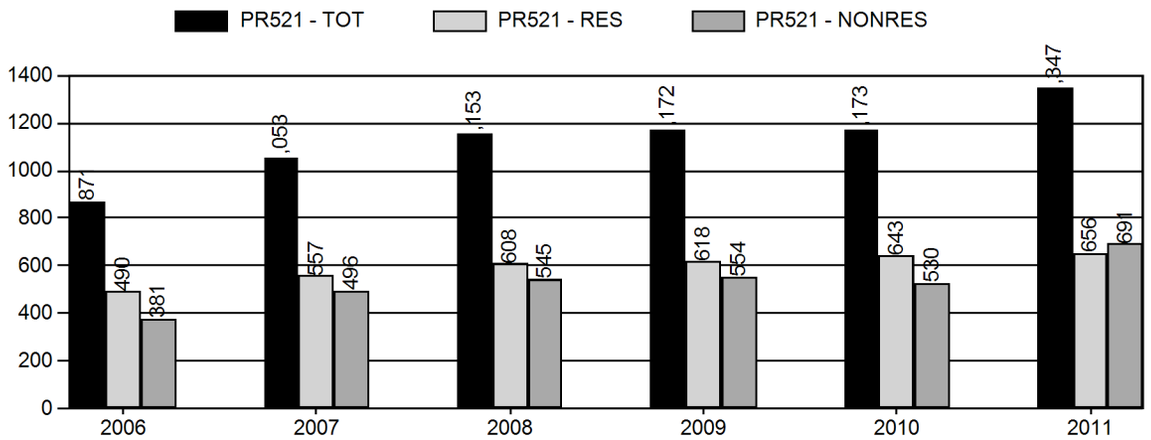
	JCR Year	Proposed
Females ≥ 1 year old:	9.5%	14.9%
Males ≥ 1 year old:	19.2%	25.5%
Juveniles (< 1 year old):	2.5%	3.6%
Total:	10.5%	14.9%
Proposed change in post-season population:	-23%	-25%

Population Size - Postseason

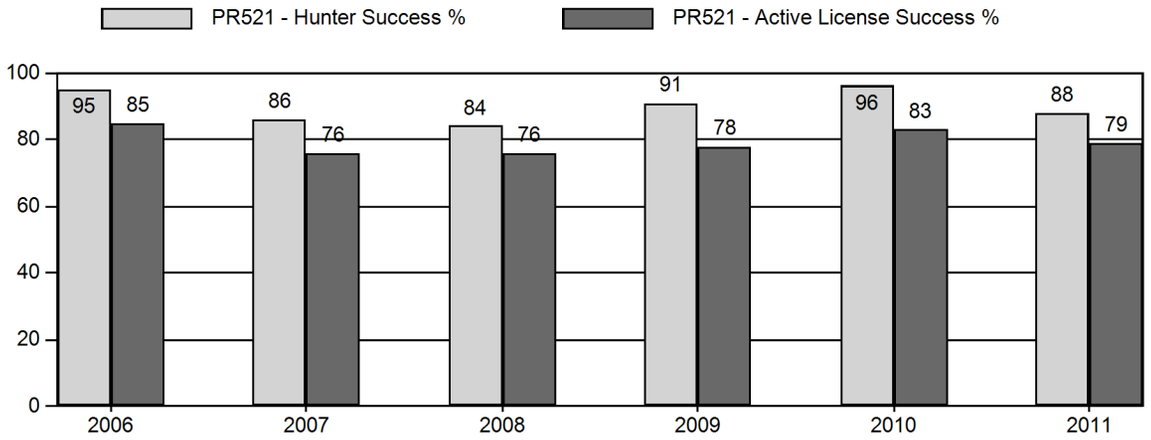
Harvest



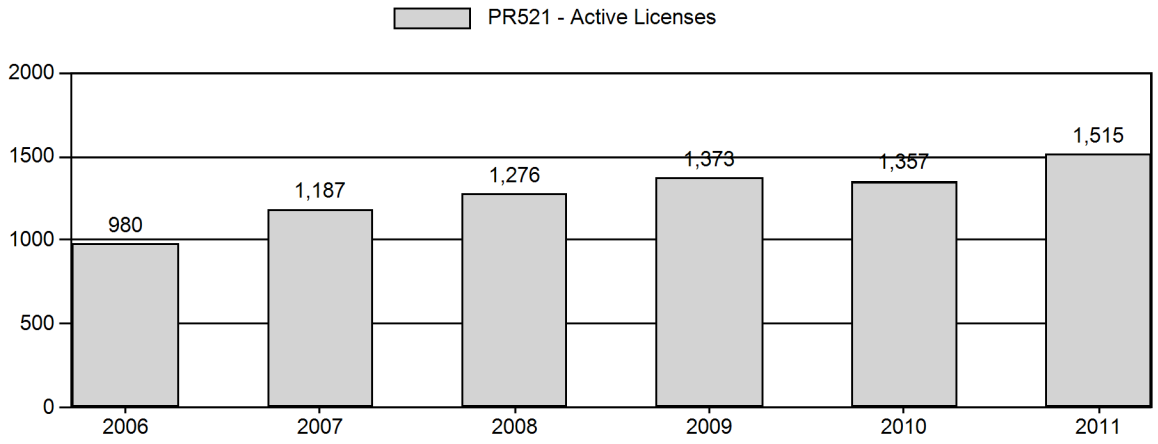
Number of Hunters



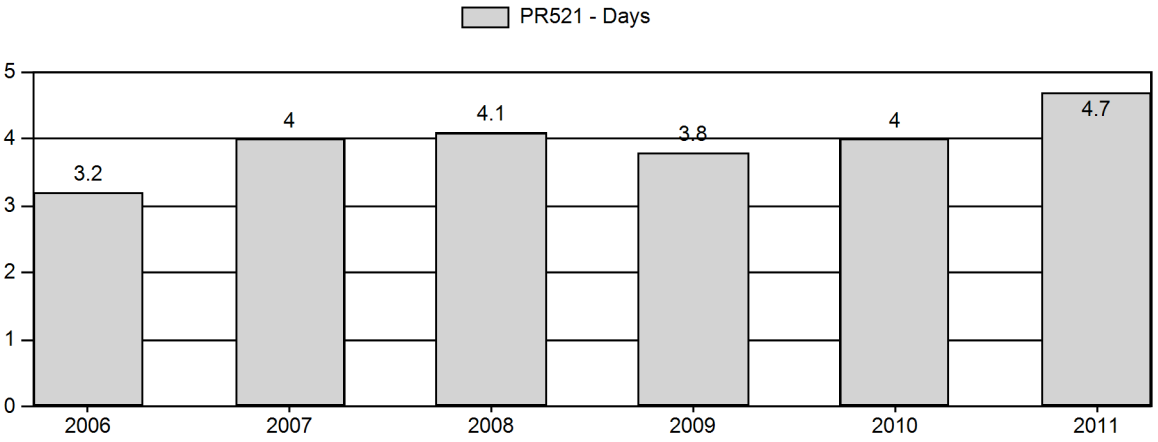
Harvest Success



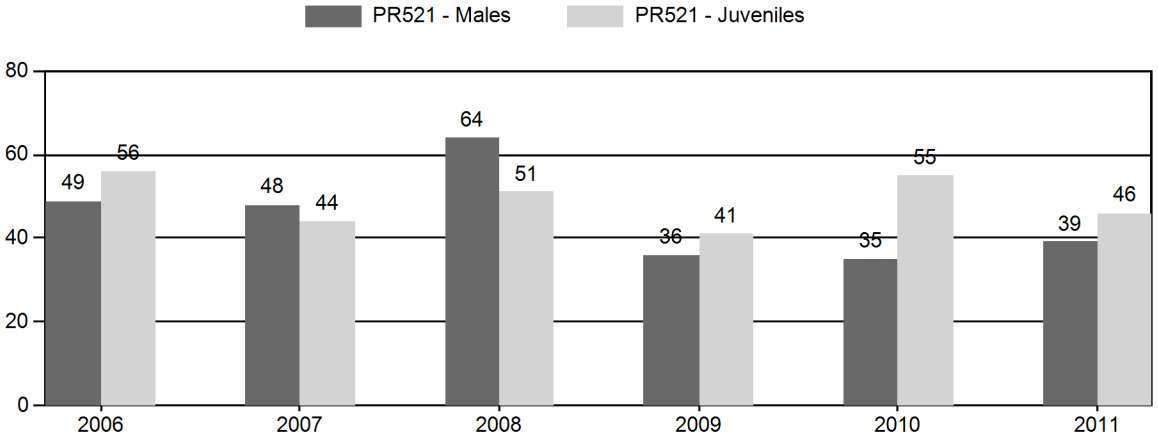
Active Licenses



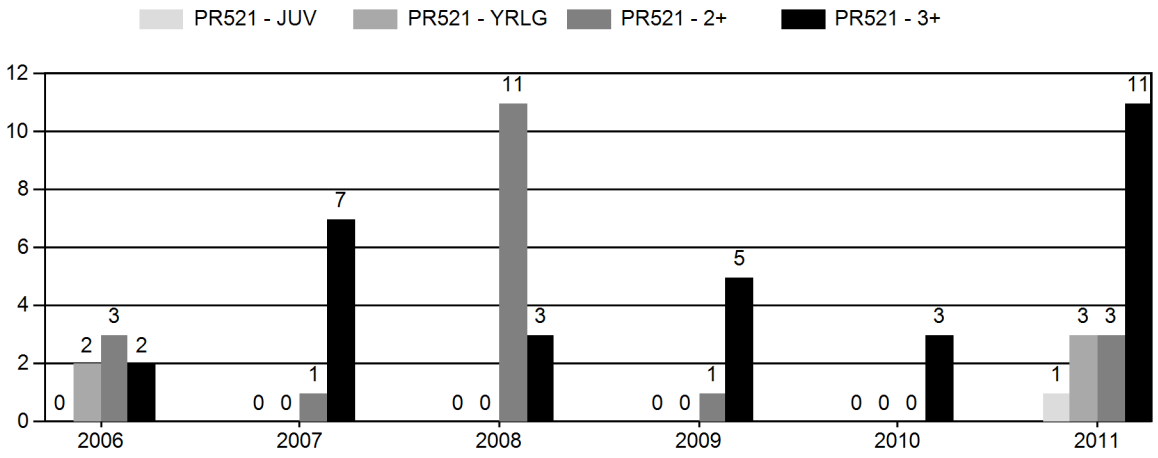
Days Per Animal Harvested



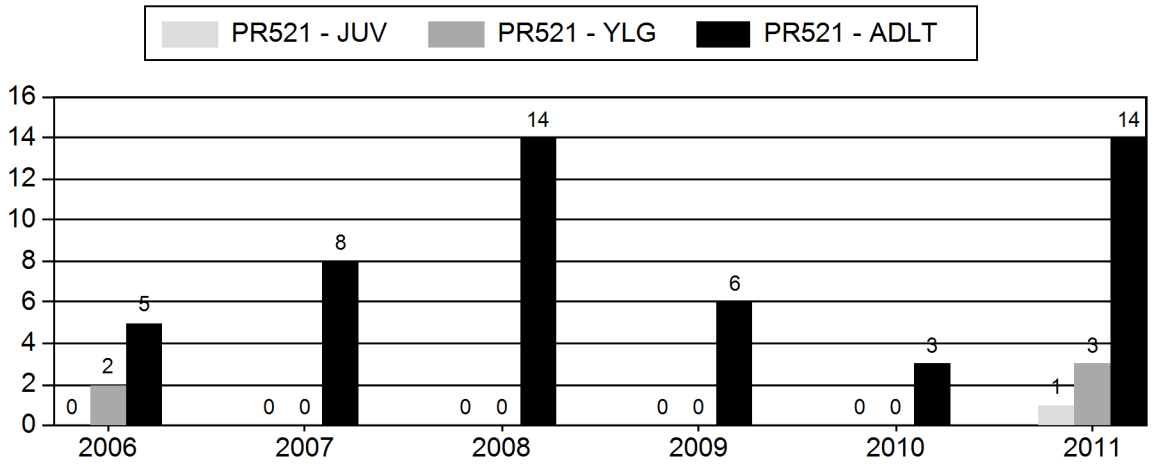
Preseason Animals per 100 Females



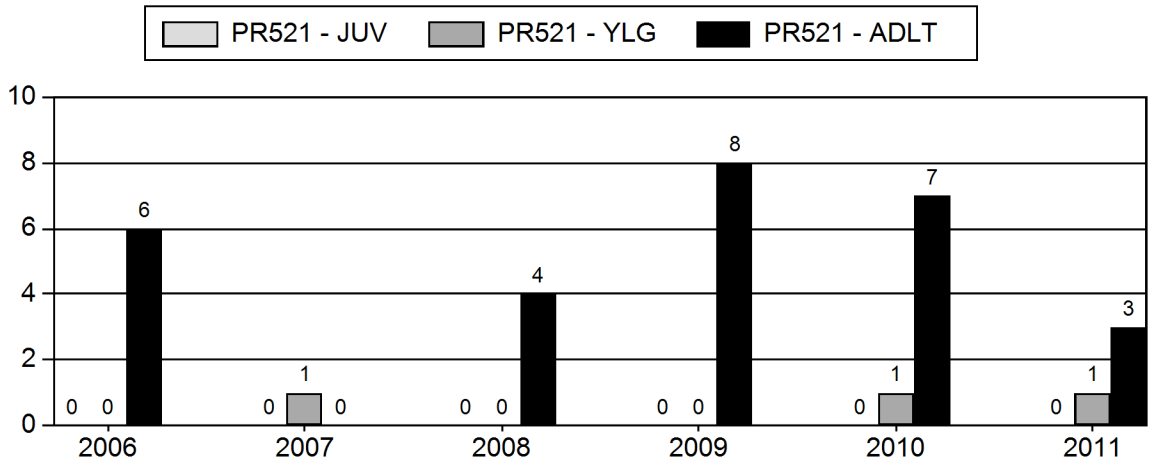
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2006 - 2011 Preseason Classification Summary

for Pronghorn Herd PR521 - HAWK SPRINGS

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2006	12,000	217	196	413	24%	842	49%	474	27%	1,729	1,682	26	23	49	± 4	56	± 5	38
2007	12,500	195	199	394	25%	824	52%	365	23%	1,583	1,315	24	24	48	± 5	44	± 4	30
2008	15,000	158	177	335	30%	524	47%	265	24%	1,124	1,418	30	34	64	± 7	51	± 6	31
2009	16,000	144	166	310	20%	872	57%	359	23%	1,541	1,010	17	19	36	± 4	41	± 4	30
2010	15,700	69	161	230	18%	658	53%	360	29%	1,248	1,183	10	24	35	± 0	55	± 0	41
2011	11,300	104	160	264	21%	669	54%	309	25%	1,242	1,378	16	24	39	± 4	46	± 5	33

2011 HUNTING SEASONS

PR521 - HAWK SPRINGS

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
34		ARCH		08/15 - 09/30	Refer to Section 3 of this Chapter
34		Type 1	250	10/01 - 10/14	Any
34		Type 6	275	10/01 - 12/31	Reduced Price doe/fawn
35	36	ARCH		08/15 - 09/19	Refer to Section 3 of this Chapter
35		Type 1	375	09/20 - 10/14	Any
36		Type 1	225	09/20 - 10/14	Any
36		Type 6	250	09/20 - 12/31	Reduced Price doe/fawn

Table 1. PH521 Harvest Data, 2011.

Area	Type	Active Lic/H	Buck	Doe	Fawn	Total	Success	Days/Harve	Days	Licenses Sold
2011										
34 ROCK EAGLE										
	Type 1	230	182	8	0	190	82.60%	3.7	699	255
	Type 6	250	0	195	20	215	86%	4.6	999	275
Pooled Total		449	182	203	20	405	90.20%	4.2	1698	
Pooled Resident		268	142	66	10	218	81.30%	4.9	1073	
Pooled Nonresident		181	40	137	10	187	103.30%	3.3	625	
35 HORSE CREEK										
	Type 1	341	269	15	0	284	83.30%	4.9	1386	373
	Type 6	273	0	169	39	208	76.20%	5.3	1110	300
Pooled Total		545	269	184	39	492	90.30%	5.1	2496	
Pooled Resident		179	105	30	10	145	81.00%	5.7	828	
Pooled Nonresident		366	164	154	29	347	94.80%	4.8	1668	
36 BURNS										
	Type 1	200	134	12	0	146	73%	5	735	226
	Type 6	221	0	143	6	149	67.40%	4.9	732	250
Pooled Total		377	134	155	6	295	78.20%	5	1467	
Pooled Resident		209	104	42	0	146	69.90%	5.6	818	
Pooled Nonresident		168	30	113	6	149	88.70%	4.4	649	
2011 Hunt Area Total		1371	585	542	65	1192	86.90%	4.7	5661	1679
2011 Herd Total		1347	585	542	65	1192	88.50%	4.7	5661	1679

*Active Licenses

2006 - 2011 Harvest Age Structure

for Pronghorn Herd PR521 - HAWK SPRINGS

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2006	0	2	29%	3	2	29%	7	0	0	7	0	0	0%	1	2	67%	3	3	0	6	13
2007	0	0	0%	1	7	88%	8	0	1	9	0	1	100%	0	0	0%	1	0	0	1	10
2008	0	0	0%	11	3	21%	14	0	0	14	0	0	0%	3	1	25%	4	0	0	4	18
2009	0	0	0%	1	1	50%	2	4	0	6	0	0	0%	4	3	43%	7	1	2	10	16
2010	0	0	0%	0	3	100%	3	0	0	3	0	1	12%	2	3	50%	6	2	1	9	12
2011	1	3	18%	3	6	50%	13	5	0	18	0	1	25%	1	1	33%	3	1	1	5	23

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

HAWK SPRINGS PRONGHORN
(A521)
HUNT AREAS 34, 35, 36
2012 HUNTING SEASONS

HUNT AREA	TYPE	OPENS	CLOSES	LIMITATIONS
34	1	OCT. 1	OCT. 14	L.Q.; 250 licenses any antelope
	6	OCT. 1	DEC. 31	L.Q.; 275 licenses doe or fawn
	7	NOV 1	DEC. 31	L.Q. 75 licenses doe or fawn
35	1	SEPT. 20	OCT. 14	L.Q.; 375 licenses any antelope
	6	SEPT. 20	DEC. 31	L.Q.; 300 licenses doe or fawn
	7	NOV. 1	DEC. 31	L.Q. 75 licenses doe or fawn
36	1	SEPT. 20	OCT. 14	L.Q.; ~~225~~ 175 licenses any antelope
	6	SEPT. 20	DEC. 31	L.Q. ~~250~~ 175 licenses doe or fawn
	7	NOV. 1	DEC. 31	50 Licenses doe or fawn
ARCHERY				
34		AUG 15	SEPT. 30	Refer to Section 3 of this Chapter
35,36		AUG 15	SEPT. 19	Refer to Section 3 of this Chapter

CHANGES FOR 2012

- Add 75 Type 7 licenses respectively to Hunt Areas 34 and 35
- Add 50 Type 7 licenses to Hunt Area 36
- Decrease Hunt Area 36 Type 1 licenses by 50
- Decrease Hunt Area 36 Type 6 licenses by 75
- Archery dates remain the same as the 2011 season

Hunt Area	License Type	Proposed Change	% Nonresident
34	Type 7	New License Type +75	63% Type 6
35	Type 7	New License Type +75	86% Type 6
36	Type 7	New License Type +50	72% Type 6
36	Type 1	Decrease Type 1 from 225 to 175 (-50)	
36	Type 6	Decrease Type 6 from 250 to 175 (-75)	

Management Evaluation

Population: Population simulations were anchored to the 2003 end-of-the year line transect point estimate bringing the 2011 post-season population to 10,000 pronghorn, 43% above the objective of 7,000 pronghorn. An end-of-the-year line

transect was completed in June of 2008. The survey was completed by adapting the Wyoming technique for single observer aircraft (Guenzel, 2007) using 5 distance bands. The survey resulted in a density estimate of 9.3 pronghorn per square mile for a population estimate of approximately 21,000 pronghorn. This is 1.9 times the population estimate that was simulated using observed data incorporated into the POP II model. Given the Hawk Springs Pronghorn herd is largely dependent on artificial forage (dryland crops and irrigated hay meadows) for a majority of their year round diet, coupled with poor fawn production (ten-year average = 48 fawns:100 does) along with contradicting harvest statistics it does not appear the population should be inflated to align with the 2007 line-transect density estimate.

The population was anchored to fawn ratios and adult male ratios. Yearling male ratios were not aligned due to lack of confidence in the survey assuming yearling bucks were not separately classified from adult pronghorn or were confused with doe pronghorn.

Model simulations seem to track observed data adequately. Increased harvest over the past 10 years coupled with poor recruitment indicates the population is starting to decrease towards the objective. However, access continues to decrease especially in Hunt Area 36 where Cheyenne and surrounding communities have increased with sub-division development and oil production.

The 2011 pre-season fawn ratio (46 fawns:100 does) was slightly lower than the five-year average of 49 fawn: 100 does. Fawn production should have increased during the spring of 2011 in response to above average precipitation. Most likely the winter of 2010/2011 was severe enough to negatively affect pregnant does.

The winter of 2011/12 produced below average snow production and average to above average temperatures, most likely resulting in below average winter mortality.

However, the spring of 2012 has seen the lowest amount of precipitation in recent years. Based on the Wyoming Climate Web page (www.wrds.uwyo.edu/sco/data/climate_Summary_2012Mar.html) Southeast Wyoming had 0” of precipitation in March. Also based on the same website the Laramie River Basin was 64% of normal as of March 2012. April, May and June were not available at the submission of this report, but based on anecdotal observations there was little precipitation recorded during those months when precipitation is critical for Southeast Wyoming’s vegetation production crucial for big game juvenile production and survival. The summer of 2012 has also experienced the highest amount of wildfire activity in recent history. At the time of this report there have been 4 wildfires that have burned an estimate of 88,500 acres.

The WGFD will change the way ungulate populations are estimated starting biological year 2012. POP II will be replaced by Spreadsheet Models that were developed by G. White and B. Lubow, of the Colorado Division of Wildlife. Based on input from T. Morrison of the Wyoming Cooperative Fish and Wildlife Research Unit, the Spreadsheet Model provides a more statistically rigorous way to estimate population sizes and to compare different models (Morrison, 2012).

2011 Season: The 2011 season was designed to take advantage of surplus bucks in Hunt Area 34 and reduce the population by increasing Hunt Area 34 Type 1 licenses by 25 and Hunt Areas 34 and 35 Type 6 licenses by 25 and 50 respectively. Harvest increased by 5% compared to the 2010 season. Male and juvenile harvest was similar to 2010, however female harvest increased by 24%.

2012 Season: The 2012 season is designed to continue reducing the population where there is access. Type 6 licenses will remain the same, but there will be a new Type 7 license. This additional doe/fawn license is intended to reduce the population by having a total of 200 licenses (75 licenses in Hunt Areas 34 and 35 and 50 licenses in Hunt Area 36) available from November 1 through December 31. The rational for this new license type is that the majority of the Type 6 licenses were sold to non residents (average of 73% for all three hunt areas). Non residents typically do not hunt after the first weekend, so there was little hunting pressure placed on the herd during November and December when landowners were experiencing damage to their agriculture fields. This license type will hopefully displace pronghorn and increase harvest on the herd unit. Based on previous years the proposed hunt structure should result in the harvest of 600 males, 715 females and 80 juveniles for a total harvest of 1,395 pronghorn. This amount of harvest will lower the population to 8,000 pronghorn which is 14% above the objective.

Literature Cited:

Guenzel, R.J. 2007. Procedures for Estimating Pronghorn Abundance In Wyoming Using Aerial Line Transect Sampling. Wyoming Game and Fish Department, Cheyenne. ____pp.

Morrison, T. 2012. User Guide: Spreadsheet Model for Ungulate Population Data, Wyoming Cooperative Fish and Wildlife Research Unit, 4.

Data Set: A5212012.GN1 02/29/2012 12:23 pm Page 1

HAWK SPRINGS PRONGHORN 521
Data from 1990 to 2012 Simulation from 2002 to 2012

Age Class	Init Pop. Male	Init Pop. Female	Presn Male	Mort% Female	Postsn Mort% Male	Postsn Mort% Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	40.0	40.0	50.0	50.0	30.0	30.0	1.00	1.00	1.00	1.00
1	8.4	21.2	5.0	2.0	5.0	4.0	1.45	1.00	0.00	1.00
2	6.7	16.9	5.0	2.0	7.0	4.0	1.00	1.00	1.00	1.00
3	5.4	13.5	5.0	2.0	7.0	4.0	1.00	1.00	1.00	1.00
4	4.3	10.8	5.0	2.0	7.0	4.0	1.00	1.00	1.00	1.00
5	3.4	8.7	5.0	2.0	7.0	4.0	1.00	1.00	1.00	1.00
6	2.7	6.9	5.0	2.0	50.0	10.0	1.00	1.00	1.00	1.00
7	2.2	5.5	5.0	2.0	75.0	20.0	1.00	1.00	1.00	1.00
8	1.8	4.4	5.0	2.0	100.0	30.0	1.00	1.00	1.00	1.00
9	1.4	3.6	5.0	2.0	100.0	40.0	1.00	0.90	1.00	1.00
10	1.1	2.8	5.0	2.0	100.0	50.0	1.00	0.90	1.00	1.00
11	0.9	2.3	5.0	2.0	100.0	60.0	1.00	0.90	1.00	1.00
12	0.7	1.8	5.0	2.0	100.0	75.0	1.00	1.00	1.00	1.00
13	0.6	1.5	5.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 219.5 Estimated Sum = 12500 Subadults: Ages 0 to 0

Data Set: A5212012.GN1 02/29/2012 12:23 pm Page 2

Bio-Year	Preseason MSI	MSI Function is Linear Harvest // Des. Pop Size in NA Subadults#	Males#	Females#	Postseason MSI	Effort & Wound Set Used
1990	0.63	8	200	135	1.00	1
1991	1.19	15	248	84	1.00	1
1992	1.45	7	244	107	1.10	1
1993	1.40	11	270	160	2.00	1
1994	1.58	36	307	240	1.20	1
1995	1.61	17	315	65	1.00	1
1996	1.34	9	334	109	1.00	1
1997	1.59	45	459	186	0.75	1
1998	1.44	22	415	201	0.75	1
1999	1.57	30	465	227	0.75	1
2000	1.24	24	403	90	0.75	1
2001	0.90	3	350	15	0.75	1
2002	1.11	0	429	41	0.75	1
2003	1.36	16	417	89	0.75	1
2004	1.41	29	440	145	0.75	2
2005	1.34	29	412	195	0.80	2
2006	1.26	46	484	300	0.80	1
2007	1.41	81	464	359	0.20	1
2008	1.33	52	538	383	0.20	1
2009	1.44	95	556	417	1.80	1
2010	1.33	73	618	436	1.80	1
2011	1.43	65	585	542	1.80	1
2012	1.43	80	600	715	1.80	1

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	0.%	0.%	0.%	Yearling Male 0.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1991	0.0	180.0	0.0	
1992	0.0	180.0	0.0	
1993	0.0	180.0	0.0	
1994	0.0	180.0	0.0	
1995	0.0	180.0	0.0	
1996	0.0	180.0	0.0	
1997	0.0	180.0	0.0	
1998	0.0	180.0	0.0	
1999	0.0	180.0	0.0	
2000	0.0	180.0	0.0	
2001	0.0	180.0	0.0	
2002	0.0	180.0	0.0	
2003	0.0	180.0	0.0	
2004	0.0	180.0	0.0	
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	0.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for A5212012.GN1, 02/29/2012 12:23 pm

Table 1. Population Size During Bio-Year for A5212012.GN1 02/29/2012 12:23 pm

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
2002	12500	9720	9203	7818	33.9
2003	16741	10376	9802	8495	4.6
2004	17506	10812	10198	8996	6.1
2005	18566	11806	11170	9754	5.4
2006	19572	13023	12110	10552	5.5
2007	20649	13081	12087	11717	11.0
2008	22926	14995	13925	13450	11.8
2009	25632	16260	15085	10764	-15.9
2010	21565	13936	12697	9210	-14.8
2011	18381	11419	10107	7507	-16.4
2012	15365	9422	7887	5742	-62.6

Table 2. Preseason Natural Mortality for A5212012.GN1 02/29/2012 12:23 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	2528	125	126	2780	22.2
2003	6068	141	156	6365	38.0
2004	6353	168	172	6693	38.2
2005	6411	178	170	6759	36.4
2006	6185	196	167	6549	33.5
2007	7118	252	197	7567	36.6
2008	7454	275	202	7931	34.6
2009	8771	356	245	9372	36.6
2010	7183	266	180	7629	35.4
2011	6557	236	169	6962	37.9
2012	5619	183	142	5943	38.7

Table 3. Harvest Mortality for A5212012.GN1 02/29/2012 12:23 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	0	429	41	470	4.8
2003	16	417	89	522	5.0
2004	29	440	145	614	5.7
2005	29	412	195	636	5.4
2006	46	484	300	830	6.4
2007	81	464	359	904	6.9
2008	52	538	383	973	6.5
2009	95	556	417	1068	6.6
2010	73	618	436	1127	8.1
2011	65	585	542	1192	10.4
2012	80	600	715	1395	14.8

Table 4. Harvest Percentages for A5212012.GN1 02/29/2012 12:23 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
2002	0.0	20.1	0.7	4.84	28.1
2003	0.6	21.6	1.6	5.03	46.9
2004	1.1	19.8	2.4	5.68	0.0
2005	0.9	16.6	3.2	5.39	0.0
2006	1.3	16.6	4.6	6.37	47.3
2007	2.7	13.9	5.3	6.91	47.1
2008	1.4	14.0	5.2	6.49	41.5
2009	2.8	12.1	5.0	6.57	44.0
2010	2.0	16.5	6.6	8.09	25.4
2011	2.5	19.1	9.4	10.44	32.2
2012	3.6	25.3	14.9	14.81	30.1

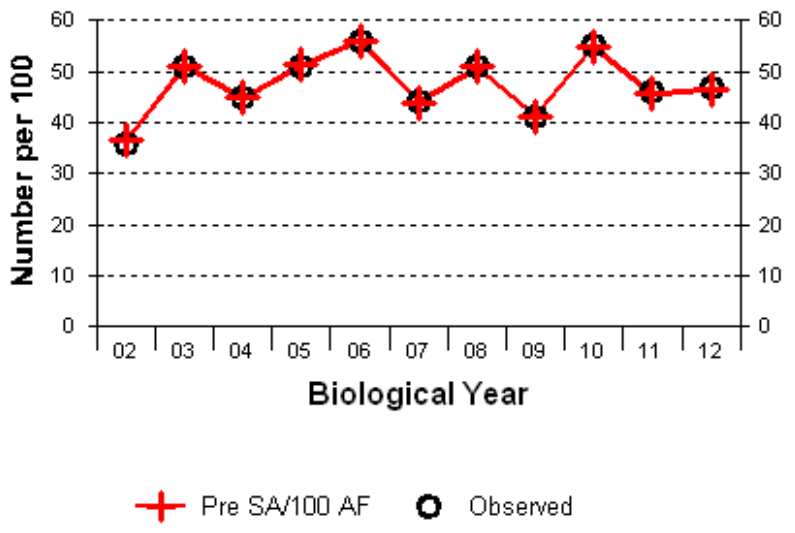
Table 5. Postseason Natural Mortality for A5212012.GN1 02/29/2012 12:23 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	456	369	560	1385	15.1
2003	639	186	483	1307	13.3
2004	592	138	472	1202	11.8
2005	751	149	516	1416	12.7
2006	860	163	536	1559	12.9
2007	173	45	152	370	3.1
2008	222	58	195	475	3.4
2009	1785	734	1801	4321	28.6
2010	1911	569	1007	3487	27.5
2011	1373	451	777	2601	25.7
2012	1162	355	629	2145	27.2

Table 6. Preseason Ratios for A5212012.GN1 02/29/2012 12:23 pm

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2002	36.4	30.2	8.1	38.3
2003	51.1	21.5	13.1	34.6
2004	44.8	20.2	17.2	37.4
2005	51.2	24.9	15.4	40.3
2006	56.1	27.8	17.2	45.0
2007	44.0	30.5	18.7	49.1
2008	50.9	35.1	17.2	52.2
2009	41.3	36.0	19.5	55.5
2010	55.0	46.0	10.8	56.8
2011	45.5	40.2	13.2	53.4
2012	46.6	38.1	11.3	49.3

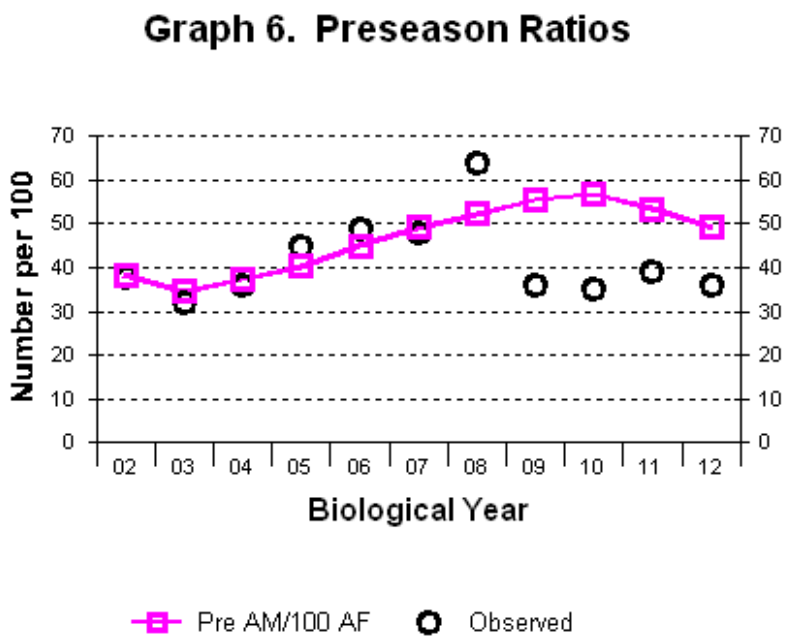
POP-II (V1.2.9) Graph 6. Preseason Ratios



A5212012.GN1, 02/29/2012 12:23 pm, Correlation (R) = 0.999, GOF = 0.994

YR	SIM	OBS
02	36	36
03	51	51
04	45	45
05	51	51
06	56	56
07	44	44
08	51	51
09	41	41
10	55	55
11	46	46
12	47	47
	AVERAGES	
of Col.	48	
of Pair	48	48

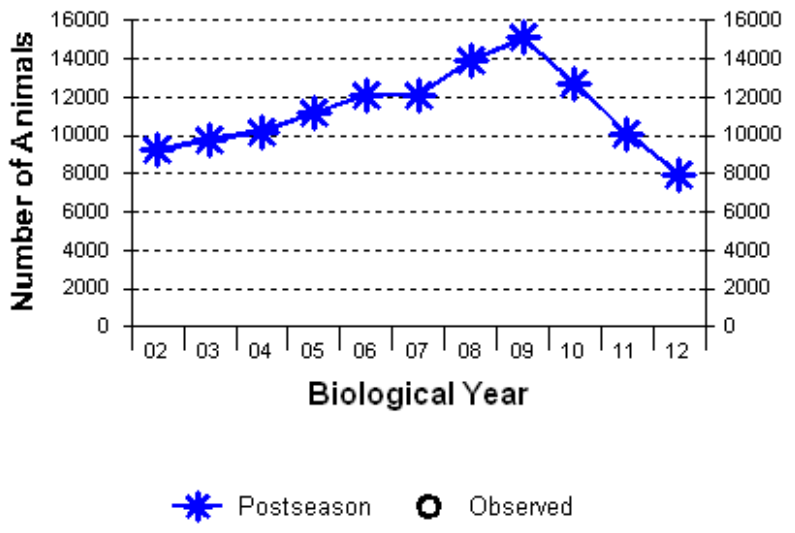
POP-II (V1.2.9) Graph 6. Preseason Ratios



A5212012.GN1, 02/29/2012 12:23 pm, Correlation (R) = 0.213, GOF = 0.726

YR	SIM	OBS
02	38	38
03	35	32
04	37	36
05	40	45
06	45	49
07	49	48
08	52	64
09	56	36
10	57	35
11	53	39
12	49	36
	AVERAGES	
of Col.	47	
of Pair	47	42

POP-II (V1.2.9) Graph 1. Population Size During Bio-Year

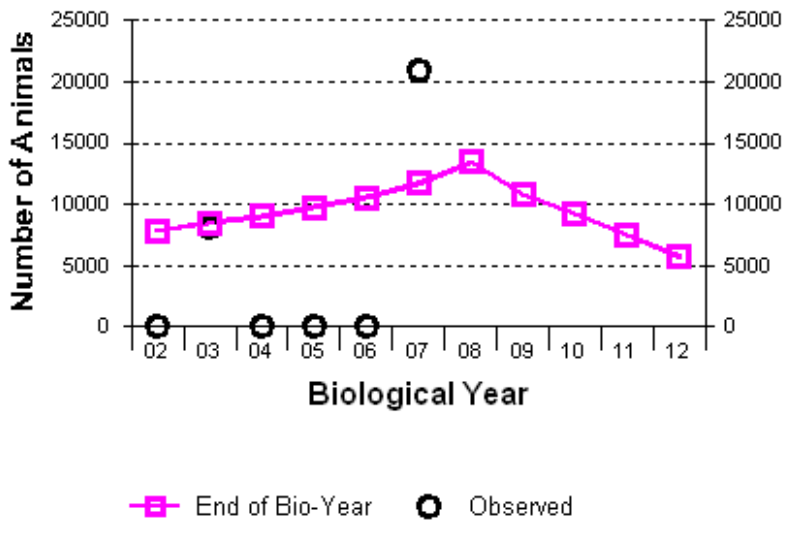


YR	SIM	OBS
02	9203	-----
03	9802	-----
04	10198	-----
05	11170	-----
06	12110	-----
07	12087	-----
08	13925	-----
09	15085	-----
10	12697	-----
11	10107	-----
12	7887	-----

AVERAGES

of Col.	11297	

POP-II (V1.2.9) Graph 1. Population Size During Bio-Year

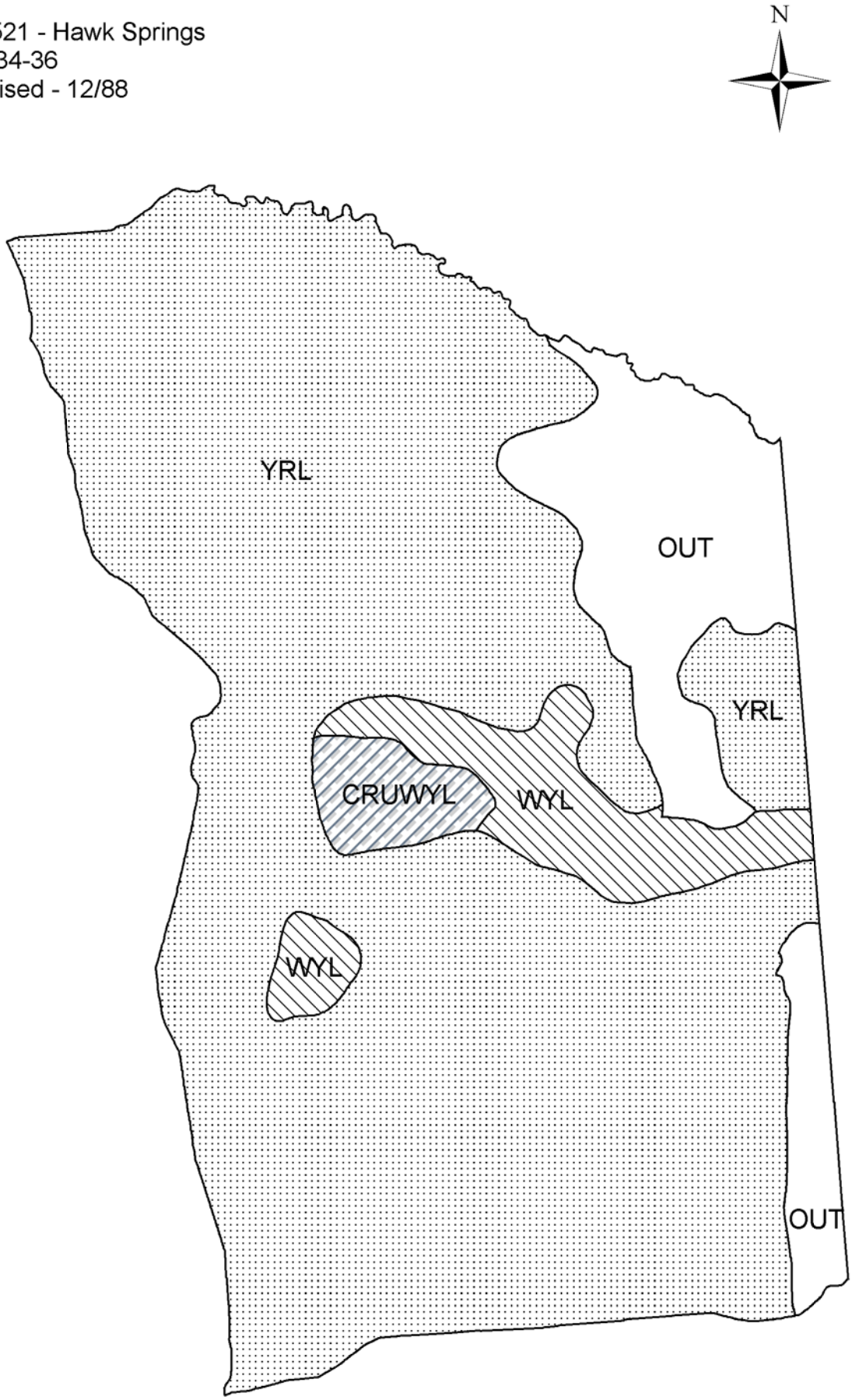


YR	SIM	OBS
02	7818	0
03	8495	8069
04	8996	0
05	9754	0
06	10552	0
07	11717	21000
08	13450	-----
09	10764	-----
10	9210	-----
11	7507	-----
12	5742	-----

AVERAGES

of Col.	9455	
of Pair	9555	4845

PH521 - Hawk Springs
HA 34-36
Revised - 12/88



2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR522 - MEADOWDALE

HUNT AREAS: 11-12 | PREPARED BY: MARTIN HICKS

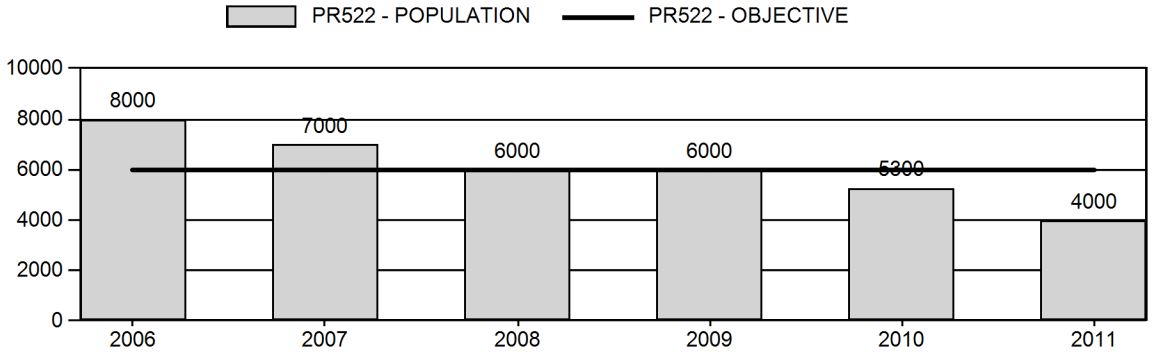
	2006 - 2010 Average	2011	2012 Proposed
Population:	6,460	4,000	3,500
Harvest:	730	518	430
Hunters:	751	518	440
Hunter Success:	97%	100%	98 %
Active Licenses:	855	592	480
Active License Percent:	85%	88%	90 %
Recreation Days:	2,499	1,398	1,150
Days Per Animal:	3.4	2.7	2.7
Males per 100 Females	42	28	
Juveniles per 100 Females	61	55	

Population Objective:	6,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-33.3%
Number of years population has been + or - objective in recent trend:	2
Model Date:	02/29/2012

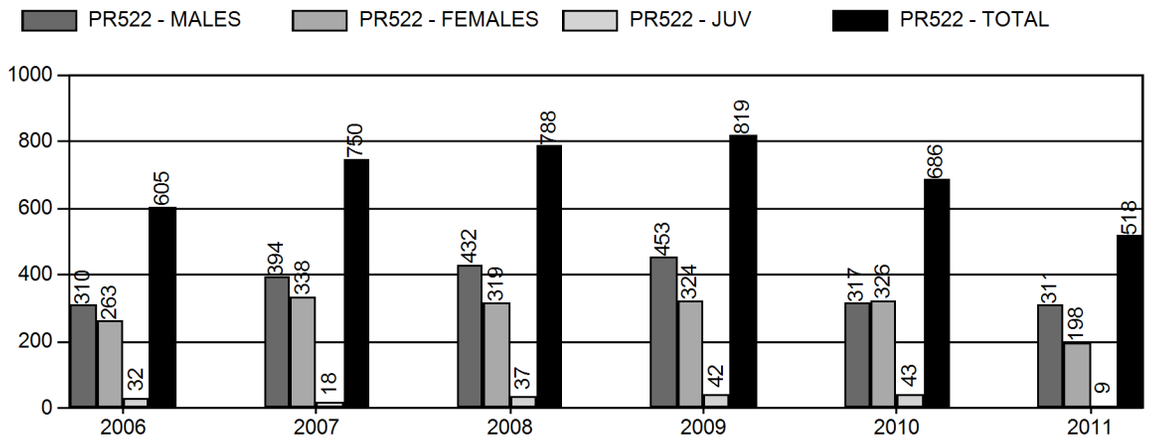
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	JCR Year	Proposed
Females ≥ 1 year old:	9.1%	8.4%
Males ≥ 1 year old:	28.6%	31.5%
Juveniles (< 1 year old):	.4%	.9%
Total:	11.4%	11.2%
Proposed change in post-season population:	-15%	-13%

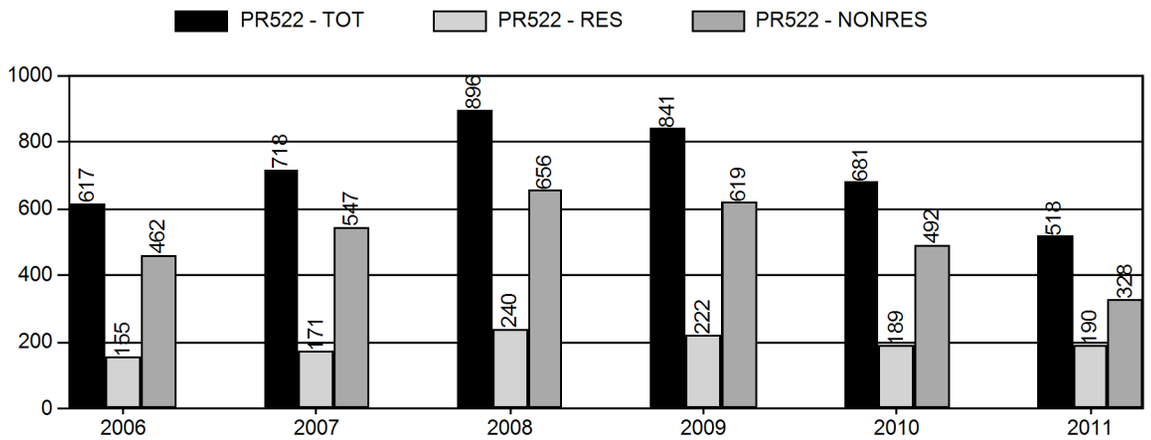
Population Size - Postseason



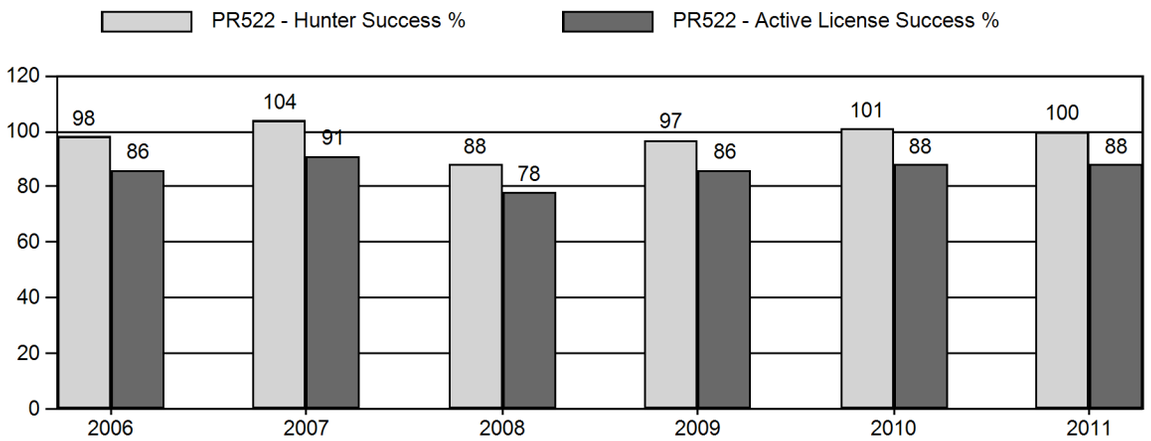
Harvest



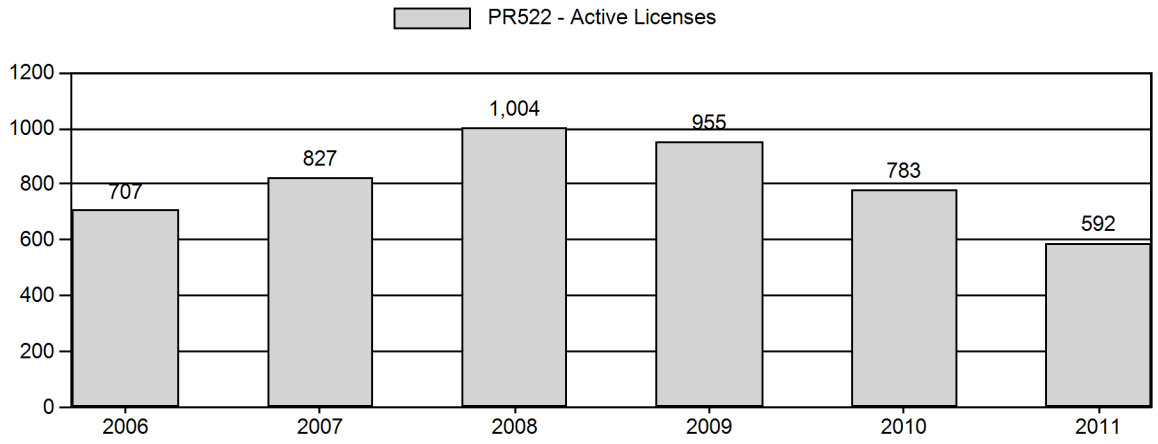
Number of Hunters



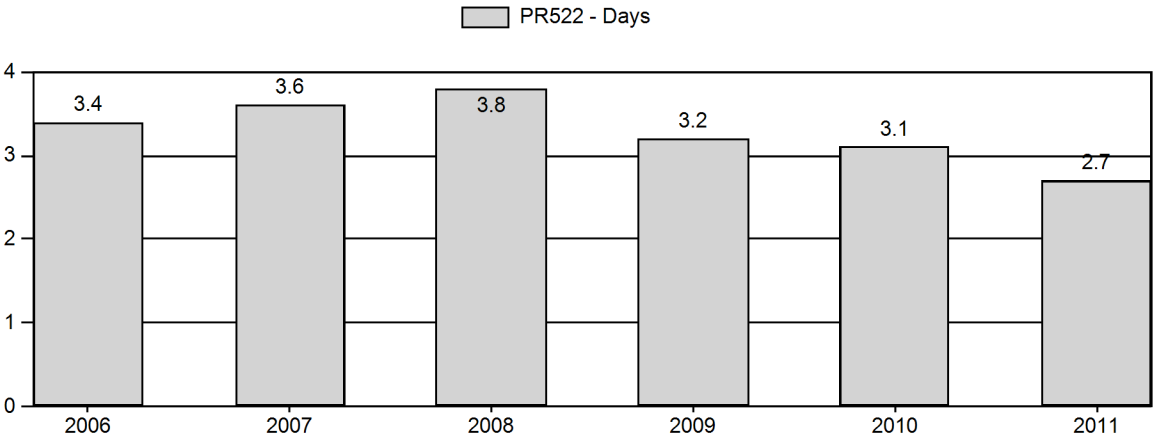
Harvest Success



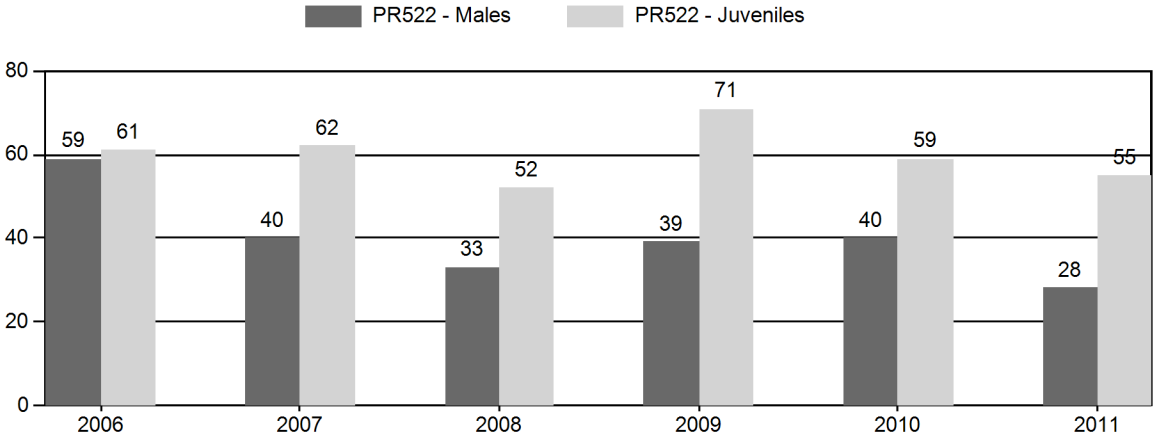
Active Licenses



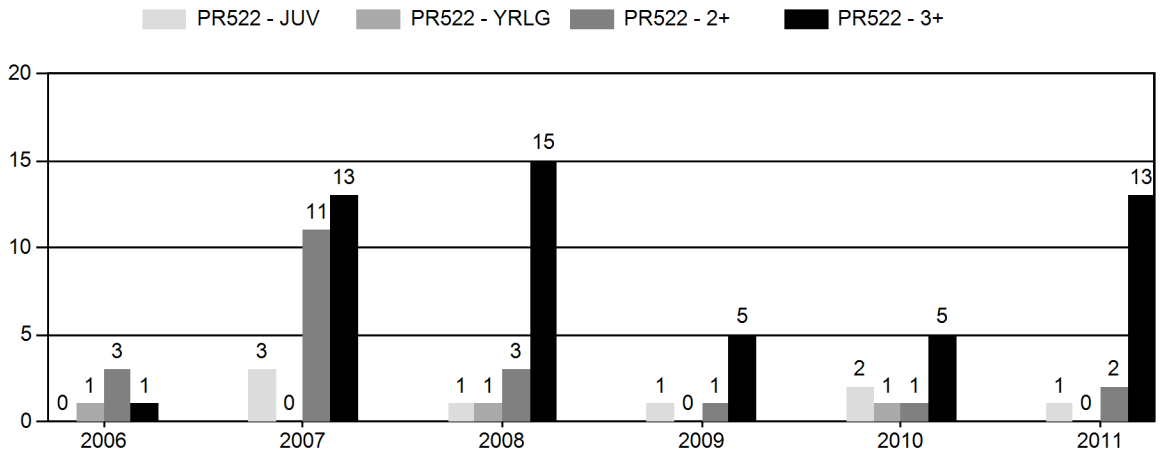
Days Per Animal Harvested



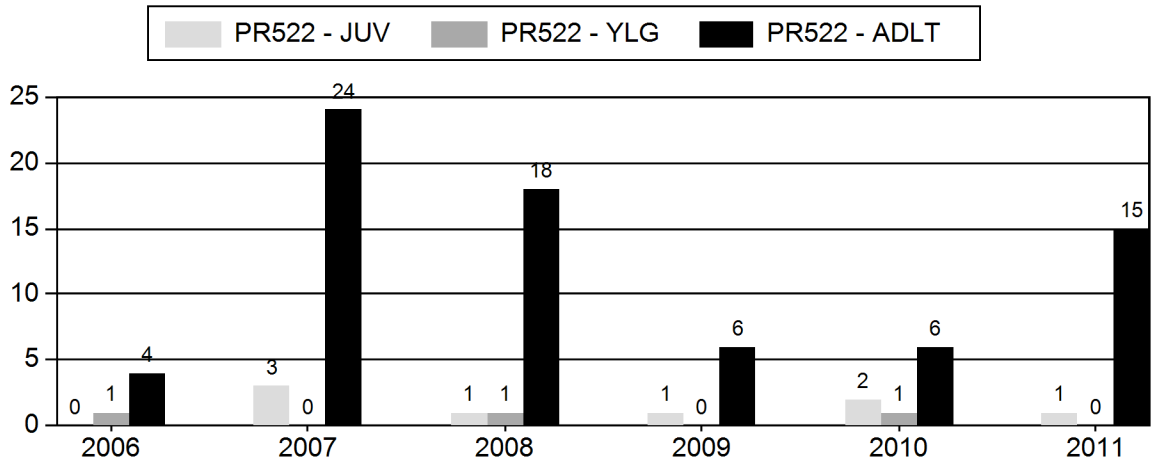
Preseason Animals per 100 Females



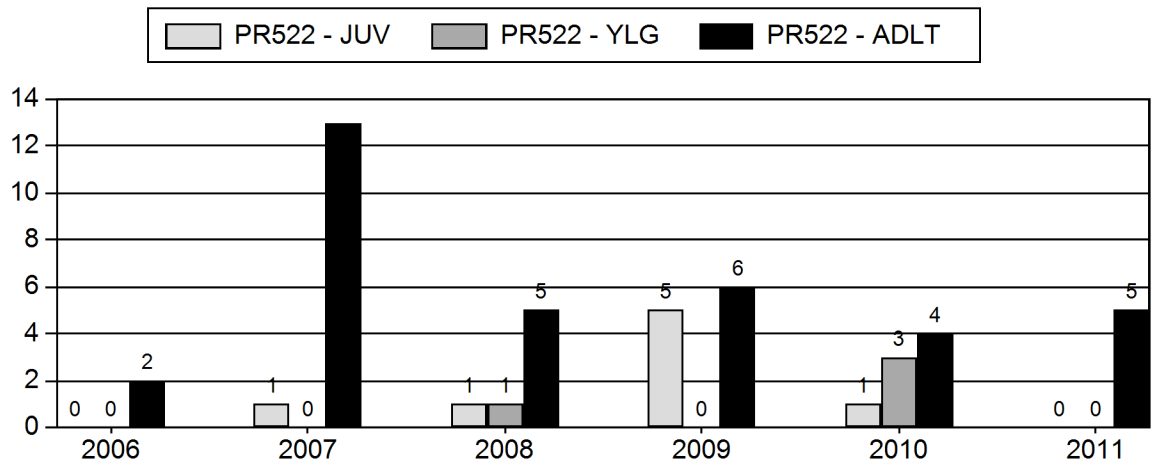
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2006 - 2011 Preseason Classification Summary

for Pronghorn Herd PR522 - MEADOWDALE

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2006	9,000	165	218	383	27%	648	45%	394	28%	1,425	1,222	25	34	59	± 4	61	± 5	38
2007	8,500	80	133	213	20%	533	50%	329	31%	1,075	1,000	15	25	40	± 0	62	± 0	44
2008	7,000	72	111	183	18%	562	54%	293	28%	1,038	1,544	13	20	33	± 4	52	± 6	39
2009	7,000	71	194	265	19%	684	48%	483	34%	1,432	1,744	10	28	39	± 4	71	± 6	51
2010	6,000	80	137	217	20%	543	50%	319	30%	1,079	1,404	15	25	40	± 0	59	± 0	42
2011	4,500	32	140	172	15%	612	55%	334	30%	1,118	1,426	5	23	28	± 3	55	± 5	43

2011 HUNTING SEASONS

PR522 - MEADOWDALE

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
11	12	ARCH		08/15 - 09/30	Refer to Section 3 of this Chapter
11		Type 1	200	10/01 - 10/15	Any
11		Type 1	200	10/16 - 10/31	Unused Area 11 Type 1 licenses valid in that portion of Area 11 in Niobrara County
11		Type 6	150	10/01 - 10/15	Reduced Price doe/fawn
11		Type 6	150	10/16 - 10/31	Unused Area 11 Type 6 licenses valid in that portion of Area 11 in Niobrara County
12		Type 1	200	10/01 - 10/15	Any
12		Type 1	200	10/16 - 10/31	Unused Area 12 Type 1 licenses valid in that portion of Area 12 in Converse and Niobrara Counties
12		Type 6	100	10/01 - 10/15	Reduced Price doe/fawn
12		Type 6	100	10/16 - 10/31	Unused Area 12 Type 6 licenses valid in that portion of Area 12 in Converse and Niobrara counties

Table 1. PH522 Harvest Data, 2011.

Area	Type	Active Lic/*	Buck	Doe	Fawn	Total	Success	Days/Harve	Days	Licenses Sold
2011										
11 SOUTH LUSK										
	Type 1	184	154	14	0	168	91.30%	2.3	386	200
	Type 6	131	0	111	0	111	84.70%	2.5	280	149
Pooled Total		295	154	125	0	279	94.60%	2.4	666	
Pooled Resident		146	89	41	0	130	89.00%	2.2	289	
Pooled Nonresident		149	65	84	0	149	100%	2.5	377	
12 SOUTH KELINE										
	Type 1	182	157	0	4	161	88.50%	2.7	428	199
	Type 6	95	0	73	5	78	82.10%	3.9	304	100
Pooled Total		226	157	73	9	239	105.80%	3.1	732	
Pooled Resident		44	27	4	4	35	79.50%	4.7	164	
Pooled Nonresident		182	130	69	5	204	112.10%	2.8	568	
2011 Hunt Area Total		521	311	198	9	518	99.40%	2.7	1398	648
2011 Herd Total		518	311	198	9	518	100%	2.7	1398	648

*Active Licenses

2006 - 2011 Harvest Age Structure

for Pronghorn Herd PR522 - MEADOWDALE

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2006	0	1	20%	3	1	20%	5	0	0	5	0	0	0%	1	1	50%	2	0	0	2	7
2007	3	0	0%	11	13	54%	27	0	0	27	1	0	0%	12	1	8%	14	0	0	14	41
2008	1	1	5%	3	15	79%	20	0	2	22	1	1	17%	0	5	83%	7	0	3	10	32
2009	1	0	0%	1	5	83%	7	0	0	7	5	0	0%	2	4	67%	11	0	0	11	18
2010	2	1	14%	1	5	71%	9	0	0	9	1	3	43%	1	3	43%	8	0	0	8	17
2011	1	0	0%	2	9	82%	12	4	0	16	0	0	0%	2	2	50%	4	1	0	5	21

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

MEADOWDALE PRONGHORN
(A522)
HUNT AREAS 11, 12
2012 HUNTING SEASONS

HUNT AREA	TYPE	OPENS	CLOSES	LIMITATIONS
11	1	OCT. 1 OCT. 16	OCT. 15 OCT. 31	L.Q.; ~~200~~ 150 licenses any antelope Unused Type 1 licenses valid in that portion of Area 11 in Niobrara County
	6	OCT. 1 OCT. 16	OCT. 15 OCT. 31	L.Q.; ~~150~~ 125 licenses doe or fawn Unused Area 11 Type 6 licenses valid in that portion of Area 11 in Niobrara County
12	1	OCT. 1 OCT. 16	OCT. 15 OCT. 31	L.Q.; ~~200~~ 150 licenses any antelope Unused Type 1 licenses valid in that portion of Area 12 in Converse and Niobrara County
	6	OCT. 1 OCT. 16	OCT. 15 OCT. 31	L.Q.; ~~100~~ 75 licenses doe or fawn Unused Area 12 Type 6 licenses valid in that portion of Area 12 in Converse and Niobrara County
ARCHERY				
11,12		AUG 15	SEPT. 30	Refer to Section 3 of this Chapter

Changes For 2012

- Decrease Area 11 Type 1 licenses from 200 to 150
- Decrease Area 11 Type 6 licenses from 150 to 125
- Decrease Area 12 Type 1 licenses from 200 to 150
- Decrease Area 12 Type 6 licenses from 100 to 75
- (There will be 1,250 Type 6 licenses valid for hunt areas 9, and those portions of 11 and 12 in Niobrara and Converse counties)

Hunt Area	License Type	Proposed Change	% Nonresident
11	1	- 50	42%
11	6	- 25	93%
12	1	- 50	71%
12	6	- 25	89%
Total		-150	

Management Evaluation

Population: The 2011 post-season population estimate was 4,000, putting the population 33% below the objective of 6,000. The population appears to have decreased as a result of increased harvest, below average fawn ratios and a decrease in adult male ratios. Previous season structures were designed to bring the population down and focus harvest on the northern portion of the herd unit where there are higher pronghorn densities.

Population simulations were anchored to juvenile and adult male ratios as well as the 2003 end-of-the-year line transect density estimate. Yearling male ratios were not aligned due to lack of confidence in the survey assuming yearling bucks were not separately classified from adult pronghorn or were confused with doe pronghorn.

The 2001 pre-season fawn ratios of 57 fawns: 100 does was slightly lower than the five-year average of 60 fawns: 100 does, which contributed to a decrease in population. Buck ratios in 2011 (32 bucks:100 does) also decreased compared to the five (35:100) and ten year (38:100) averages, also contributing to a decrease in the simulated population.

The winter of 2011/12 produced below average snow production and average to above average temperatures, most likely resulting in below average winter mortality.

However, the spring of 2012 has produced the lowest amount of precipitation in recent years. Based on the Wyoming Climate Web page (www.wrds.uwyo.edu/sco/data/climate_Summary_2012Mar.html) Southeast Wyoming had 0" of precipitation in March. Also based on the same website the Laramie River Basin was 64% of normal as of March 2012. Data for April, May and June were not available at the time of this report, but based on anecdotal observations there was little precipitation recorded during those months when the vegetative production is so crucial for juvenile production and survival. The summer of 2012 has also produced the highest amount of wildfire activity in recent history. At the time of this report there have been 5 wildfires that have burned an estimate of 117,500 acres.

The WGFD will change the way ungulate populations are estimated starting biological year 2012. POP II will be replaced by Spreadsheet Models that were developed by G. White and B. Lubow, of the Colorado Division of Wildlife. Based on input from T. Morrison of the Wyoming Cooperative Fish and Wildlife Research Unit, the Spreadsheet Model provides a more statistically rigorous way to estimate population sizes and to compare different models (Morrison, 2012).

2011 Season: The 2011 season was designed to decrease densities in the northern portion of the herd unit by having 1,250 Type 6 licenses valid in Hunt Area 9 and those portions of Hunt Areas 11 and 12 in Converse and Niobrara Counties where landowners continue to experience damage, while decreasing

the total Type 6 licenses for Hunt Areas 11 and 12 by 50 respectively since the population was 11% below the objective.

Doe/fawn harvest in 2011 decreased by 86% compared to 2010 harvest on Area 11 and 12 Type 6 licenses. Hunt Areas 9,11,12 Type 6 license harvest was 820 pronghorn in 2011. In 2010 the Hunt Area 9,11,12 Type 6 license was not available. Instead there were 400 Type 7 licenses that were valid in Hunt Area 9 and those portions of Hunt Areas 11 and 12 in Converse and Niobrara Counties. Harvest success was 88% with a total harvest of 253 doe/fawn pronghorn (only 324 licenses were active). Inferring doe/fawn harvest statistics by comparing 2010 Hunt Area 9,11,12 Type 7 licenses to 2011 Hunt Area 9,11,12 Type 6 licenses is difficult. Harvest most definitely increased from 2010 to 2011. However, harvest location is not possible to determine through the harvest survey due to the complex matter of breaking out hunt areas between herd units. However, landowners seem pleased with the license type and the ability to harvest does on both sides of U.S. Highway 18/20.

Buck harvest remained similar to 2010, but there are concerns with a decrease in ratios and a reduction in Type 1 licenses is scheduled for the 2012 season.

The 2011 season resulted in a total harvest of 518 pronghorn, which put the population at 4,000 pronghorn, 33% below the objective of 6,000 pronghorn.

2012 Season: The 2012 season is designed to try and stabilize the decreasing population trend, while still focusing harvest efforts in the northern third portion of the herd unit. A decrease in buck ratios and low fawn ratios have resulted in a decrease in population despite increased success and decreased effort.

There will be a decrease of 100 Type 1 licenses and 50 Type 6 licenses. The Hunt Area 9,11,12 Type 6 licenses (n=1,250) will be available for the 2012 season. This license type will again be valid in those portions of Hunt Areas 11 and 12 in Converse and Niobrara Counties. Given previous harvest statistics and average buck:100doe:fawn ratios, it is expected that the 2012 season will result in a harvest of 265 bucks, 155 does and 10 fawns for a total of harvest of 420 pronghorn, putting the 2012 post-hunt season population around 3,500 pronghorn. Further reductions in Type 6 licenses will be warranted in the future if the population continues to decline.

Literature Cited:

Guenzel, R.J. 2007. Procedures for Estimating Pronghorn Abundance In Wyoming Using Aerial Line Transect Sampling. Wyoming Game and Fish Department, Cheyenne. ____pp.

Morrison, T. 2012. User Guide: Spreadsheet Model for Ungulate Population Data, Wyoming Cooperative Fish and Wildlife Research Unit, 4.

Meadowdale Pronghorn Model (A522)
Data from 1986 to 2012 Simulation from 2002 to 2012

Age Class	Init Pop. Male	Prop. Female	Presn Male	Mort% Female	Postsn Mort% Male	Female	Effort Set 1 Male	Female	Effort Set 2 Male	Female
0	107.0	107.0	50.0	50.0	30.0	30.0	1.00	1.00	1.00	1.00
1	25.0	25.0	2.0	2.0	10.0	5.0	0.40	1.00	1.50	1.00
2	18.0	20.0	2.0	2.0	9.0	5.0	1.00	1.00	1.00	1.00
3	16.0	19.0	2.0	2.0	9.0	5.0	1.00	1.00	1.00	1.00
4	13.0	18.0	2.0	2.0	9.0	5.0	1.00	1.00	1.00	1.00
5	8.0	17.0	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
6	5.0	15.0	2.0	2.0	50.0	10.0	1.00	1.00	1.00	1.00
7	1.0	13.0	2.0	2.0	75.0	20.0	1.00	1.00	1.00	1.00
8	0.0	11.0	2.0	2.0	100.0	30.0	1.00	1.00	1.00	1.00
9	0.0	9.0	2.0	2.0	100.0	40.0	1.00	1.00	1.00	1.00
10	0.0	7.0	2.0	2.0	100.0	50.0	1.00	1.00	1.00	1.00
11	0.0	5.0	2.0	2.0	100.0	60.0	1.00	1.00	1.00	1.00
12	0.0	3.0	2.0	2.0	100.0	75.0	1.00	1.00	1.00	1.00
13	0.0	1.0	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 463.0 Estimated Sum = 13000 Subadults: Ages 0 to 0

Bio-Year	Preseason MSI	MSI Function is Linear Harvest // Des. Pop Size in NA Subadults#	Males#	Females#	Postseason MSI	Effort & Wound Set Used
1986	0.96	71	437	381	1.00	1
1987	0.93	31	274	152	1.00	1
1988	1.00	52	386	237	1.00	1
1989	1.00	72	401	355	1.00	1
1990	0.97	71	407	371	1.00	1
1991	1.02	90	532	501	1.00	1
1992	1.05	95	612	755	1.30	1
1993	1.43	26	436	311	1.00	1
1994	1.29	51	417	317	0.75	1
1995	1.29	32	396	184	0.80	1
1996	0.94	9	423	157	0.80	1
1997	1.30	33	422	198	1.30	1
1998	1.21	18	373	133	1.20	1
1999	1.09	24	405	70	1.17	1
2000	1.17	6	416	99	1.17	2
2001	1.09	14	359	159	1.20	2
2002	1.30	21	313	140	1.30	2
2003	1.14	32	290	160	1.20	2
2004	1.14	26	291	129	1.00	2
2005	1.18	25	295	140	1.00	2
2006	1.20	32	310	261	2.00	2
2007	1.23	35	360	310	2.00	2
2008	1.35	37	432	319	1.50	2
2009	1.09	42	453	324	1.50	2
2010	1.20	43	317	326	1.70	2
2011	1.26	5	311	198	1.80	2
2012	1.21	10	265	155	1.60	1

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	0.%	0.%	0.%	Yearling Male 0.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1987	0.0	180.0	0.0	
1988	0.0	180.0	0.0	
1989	0.0	180.0	0.0	
1990	0.0	180.0	0.0	
1991	0.0	180.0	0.0	
1992	0.0	180.0	0.0	
1993	0.0	180.0	0.0	
1994	0.0	180.0	0.0	
1995	0.0	180.0	0.0	
1996	0.0	180.0	0.0	
1997	0.0	180.0	0.0	
1998	0.0	180.0	0.0	
1999	0.0	180.0	0.0	
2000	0.0	180.0	0.0	
2001	0.0	180.0	0.0	
2002	0.0	180.0	0.0	
2003	0.0	180.0	0.0	
2004	0.0	180.0	0.0	
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	0.0	0.0	

Table 1. Population Size During Bio-Year for A522 2012 ten year.GN1 02/29/2012 11:07 am

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
2002	13000	8913	8439	6416	-3.0
2003	12609	8933	8451	6601	-1.3
2004	12446	8964	8518	7012	5.9
2005	13174	9373	8913	7344	4.9
2006	13818	9758	9155	6051	-14.3
2007	11848	8134	7429	5043	-15.9
2008	9965	6507	5719	4393	-12.4
2009	8726	6269	5450	3994	-10.8
2010	7782	5414	4728	3344	-13.8
2011	6704	4503	3989	2756	-15.7
2012	5650	3832	3359	2431	-57.0

Table 2. Preseason Natural Mortality for A522 2012 ten year.GN1 02/29/2012 11:07 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	3906	63	119	4087	31.4
2003	3530	53	93	3676	29.2
2004	3331	57	93	3482	28.0
2005	3636	64	101	3801	28.9
2006	3884	69	107	4061	29.4
2007	3565	57	92	3714	31.3
2008	3322	50	86	3458	34.7
2009	2362	34	62	2457	28.2
2010	2272	33	63	2368	30.4
2011	2117	28	56	2201	32.8
2012	1751	21	46	1818	32.2

Table 3. Harvest Mortality for A522 2012 ten year.GN1 02/29/2012 11:07 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	21	313	140	474	5.3
2003	32	290	160	482	5.4
2004	26	291	129	446	5.0
2005	25	295	140	460	4.9
2006	32	310	261	603	6.2
2007	35	360	310	705	8.7
2008	37	432	319	788	12.1
2009	42	453	324	819	13.1
2010	43	317	326	686	12.7
2011	5	311	198	514	11.4
2012	10	265	155	430	11.2

Table 4. Harvest Percentages for A522 2012 ten year.GN1 02/29/2012 11:07 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
2002	1.0	13.3	3.1	5.32	38.1
2003	1.2	12.7	4.0	5.40	35.8
2004	1.0	11.9	3.2	4.98	43.0
2005	1.0	11.1	3.3	4.91	41.4
2006	1.2	11.1	6.0	6.18	39.7
2007	1.6	15.9	8.5	8.67	29.8
2008	2.3	23.7	10.3	12.11	31.5
2009	2.1	29.8	11.7	13.07	36.4
2010	2.8	23.9	12.7	12.67	49.0
2011	0.4	28.6	9.1	11.41	41.7
2012	0.9	31.5	8.4	11.22	16.5

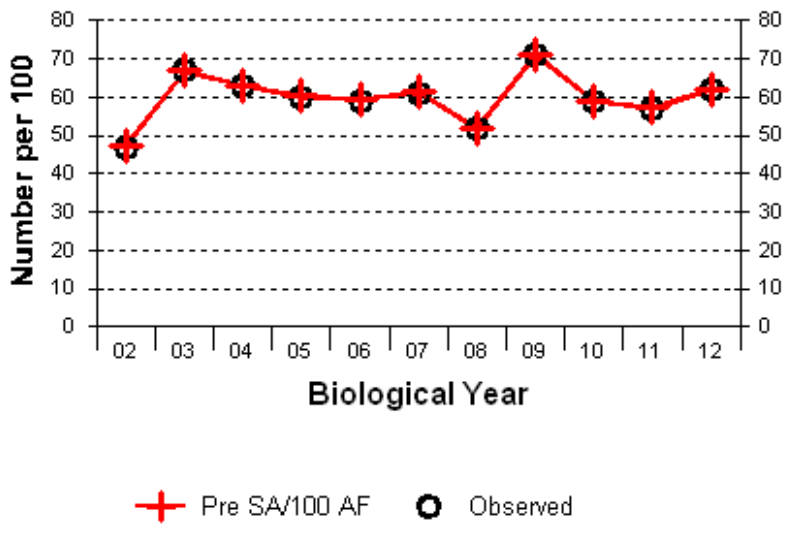
Table 5. Postseason Natural Mortality for A522 2012 ten year.GN1 02/29/2012 11:07 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	812	334	877	2023	24.0
2003	947	326	576	1849	21.9
2004	746	317	443	1506	17.7
2005	750	362	456	1568	17.6
2006	1535	686	883	3104	33.9
2007	1318	472	596	2386	32.1
2008	703	261	362	1326	23.2
2009	868	240	347	1455	26.7
2010	751	254	379	1384	29.3
2011	669	199	366	1233	30.9
2012	543	106	279	929	27.6

Table 6. Preseason Ratios for A522 2012 ten year.GN1 02/29/2012 11:07 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2002	47.2	37.4	15.3	52.8
2003	66.9	41.8	15.6	57.4
2004	62.9	40.9	20.6	61.5
2005	60.3	43.0	20.3	63.3
2006	59.3	44.7	19.6	64.2
2007	61.3	48.4	13.7	62.1
2008	51.8	45.1	13.8	58.9
2009	71.0	39.7	15.1	54.8
2010	58.9	31.5	20.1	51.6
2011	57.3	33.9	16.2	50.1
2012	61.9	30.6	15.0	45.6

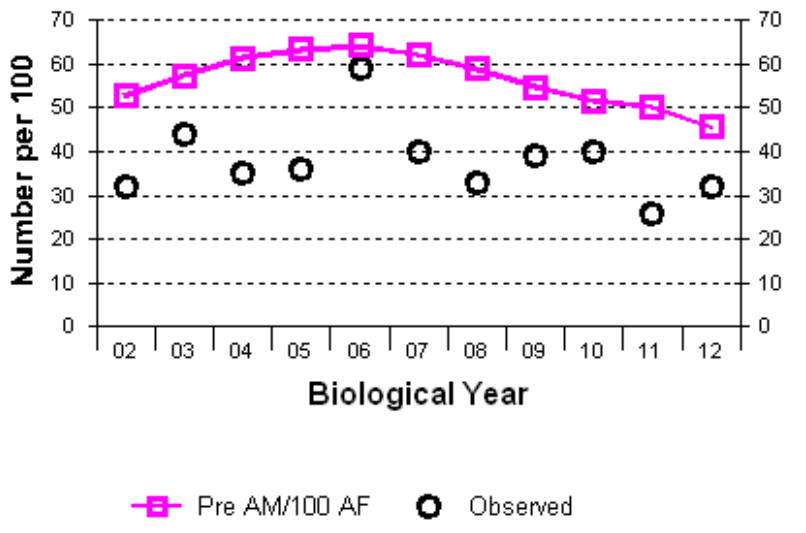
POP-II (V1.2.9) Graph 6. Preseason Ratios



522 2012 ten year.GN1, 02/29/2012 11:07 am, Correlation (R) = 1, GOF = 0.997

YR	SIM	OBS
02	47	47
03	67	67
04	63	63
05	60	60
06	59	59
07	61	61
08	52	52
09	71	71
10	59	59
11	57	57
12	62	62
	AVERAGES	
of Col.	60	
of Pair	60	60

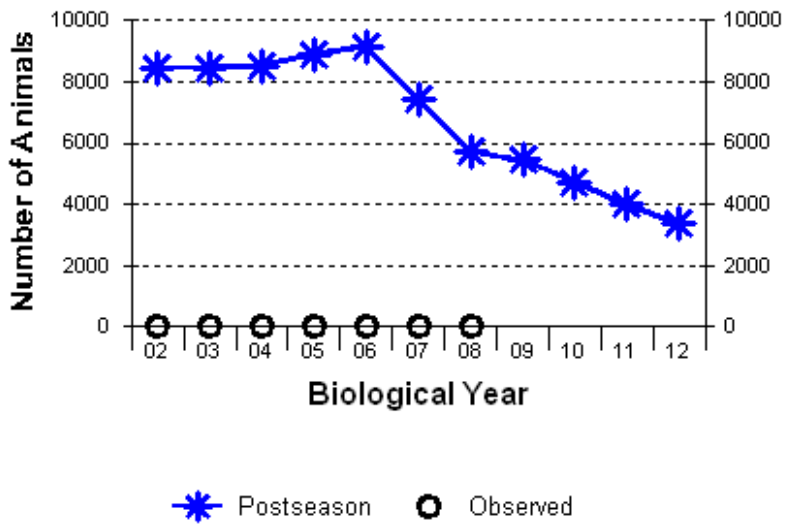
POP-II (V1.2.9) Graph 6. Preseason Ratios



2012 ten year.GN1, 02/29/2012 11:07 am, Correlation (R) = 0.558, GOF = 0.471

YR	SIM	OBS
02	53	32
03	57	44
04	61	35
05	63	36
06	64	59
07	62	40
08	59	33
09	55	39
10	52	40
11	50	26
12	46	32
	AVERAGES	
of Col.	57	
of Pair	57	38

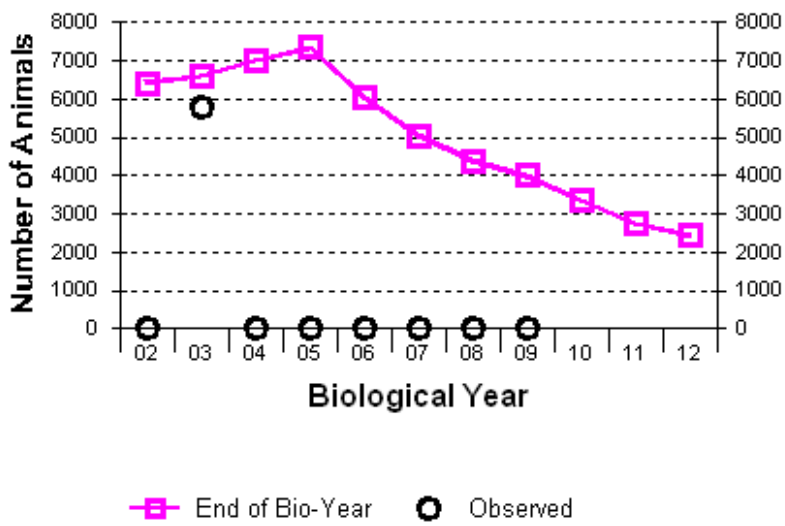
POP-II (V1.2.9) Graph 1. Population Size During Bio-Year



A522 2012 ten year.GN1, 02/29/2012 11:07 am

YR	SIM	OBS
02	8439	0
03	8451	0
04	8518	0
05	8913	0
06	9155	0
07	7429	0
08	5719	0
09	5450	-----
10	4728	-----
11	3989	-----
12	3359	-----
	AVERAGES	
of Col.	6741	
of Pair	8089	0

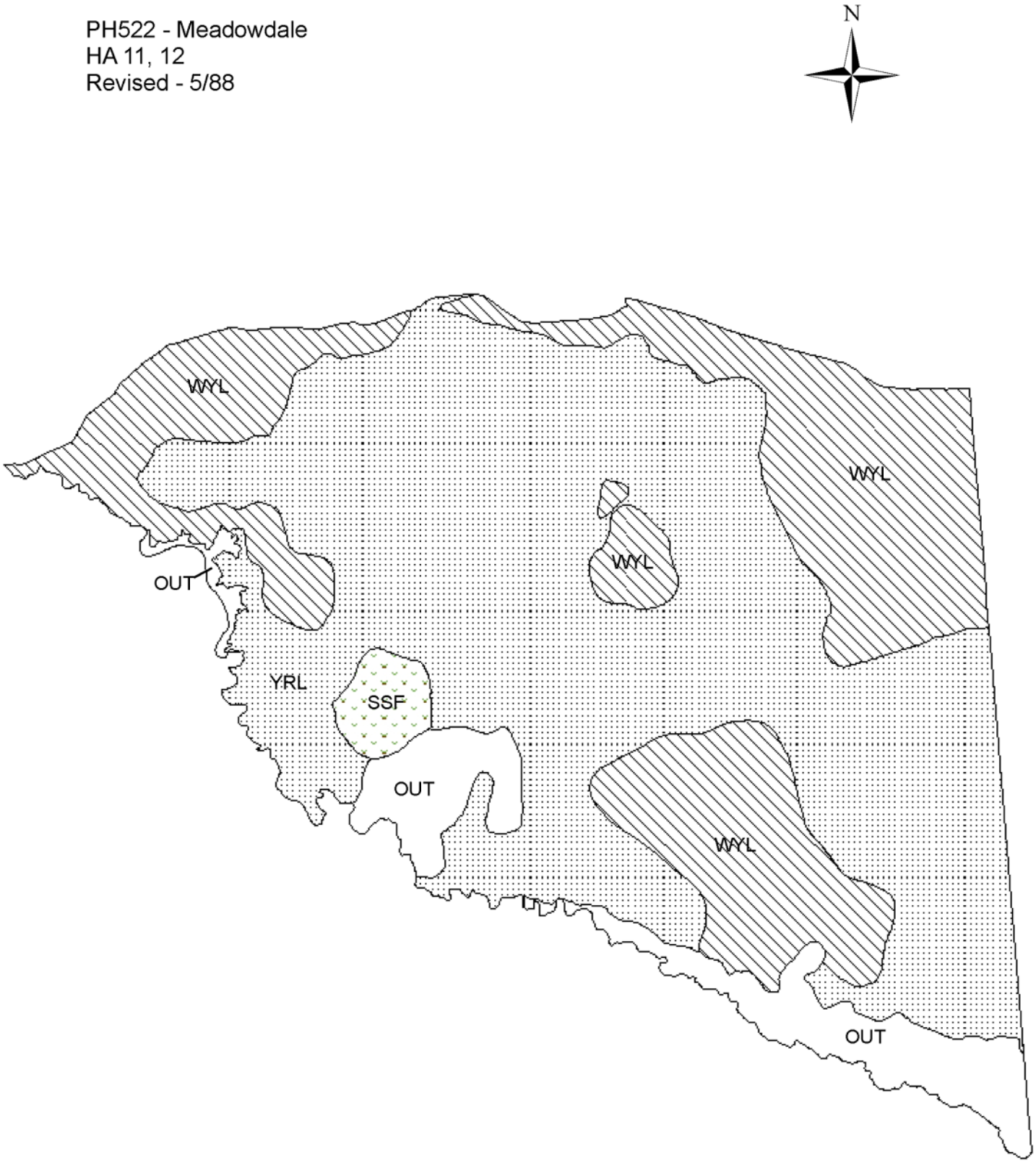
POP-II (V1.2.9) Graph 1. Population Size During Bio-Year



!012 ten year.GN1, 02/29/2012 11:07 am, Correlation (R) = 0.243, GOF = -6.596

YR	SIM	OBS
02	6416	0
03	6601	5795
04	7012	0
05	7344	0
06	6051	0
07	5043	0
08	4393	0
09	3994	0
10	3344	-----
11	2756	-----
12	2431	-----
	AVERAGES	
of Col.	5035	
of Pair	5857	724

PH522 - Meadowdale
HA 11, 12
Revised - 5/88



2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR523 - IRON MOUNTAIN

HUNT AREAS: 38-40, 104 | PREPARED BY: LEE KNOX

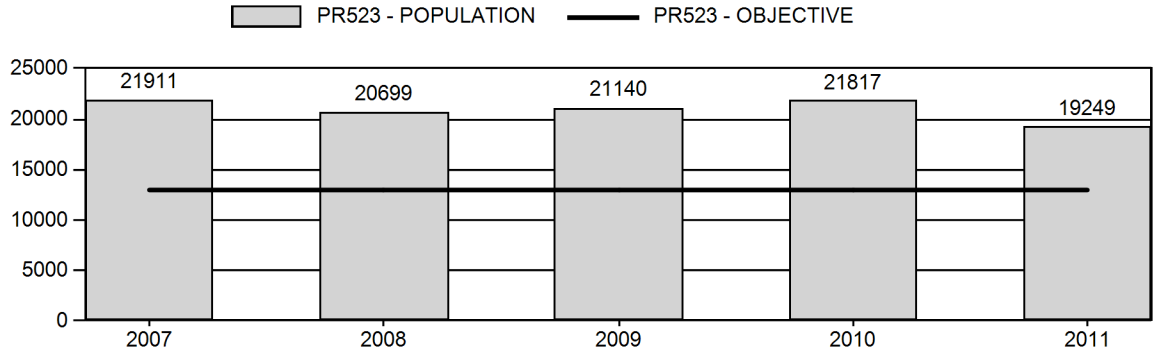
	2006 - 2010 Average	2011	2012 Proposed
Population:	21,950	19,249	19,717
Harvest:	1,628	1,650	1,700
Hunters:	1,720	1,737	1,800
Hunter Success:	95%	95%	94 %
Active Licenses:	1,970	2,006	2,002
Active License Percent:	83%	82%	85%
Recreation Days:	5,767	6,432	6,370
Days Per Animal:	3.5	3.9	3.7
Males per 100 Females	50	41	
Juveniles per 100 Females	61	42	

Population Objective:	13,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	48%
Number of years population has been + or - objective in recent trend:	11
Model Date:	2/22/2012

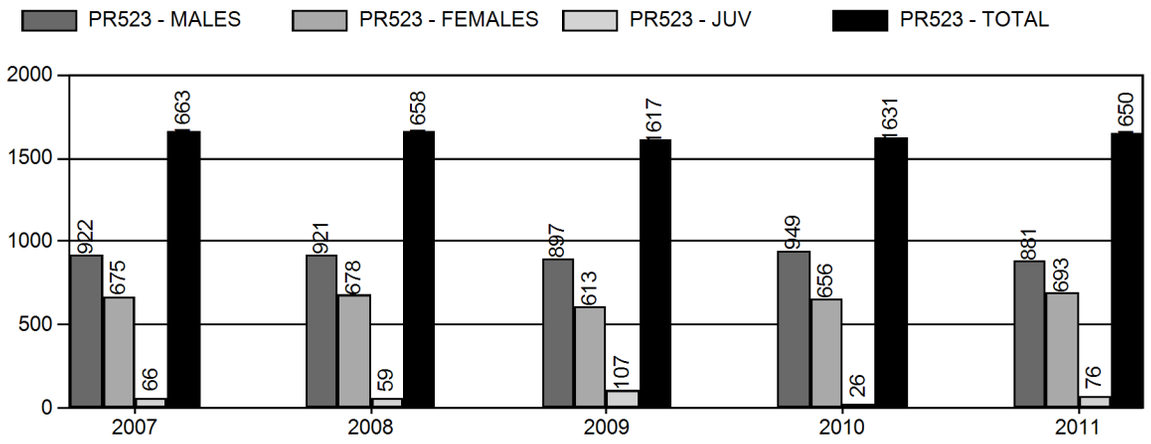
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	JCR Year	Proposed
Females ≥ 1 year old:	6.4%	6.5%
Males ≥ 1 year old:	16.5%	15.4%
Juveniles (< 1 year old):	0.4%	1.7%
Total:	7.08%	7.89%
Proposed change in post-season population:	3.4%	2.0%

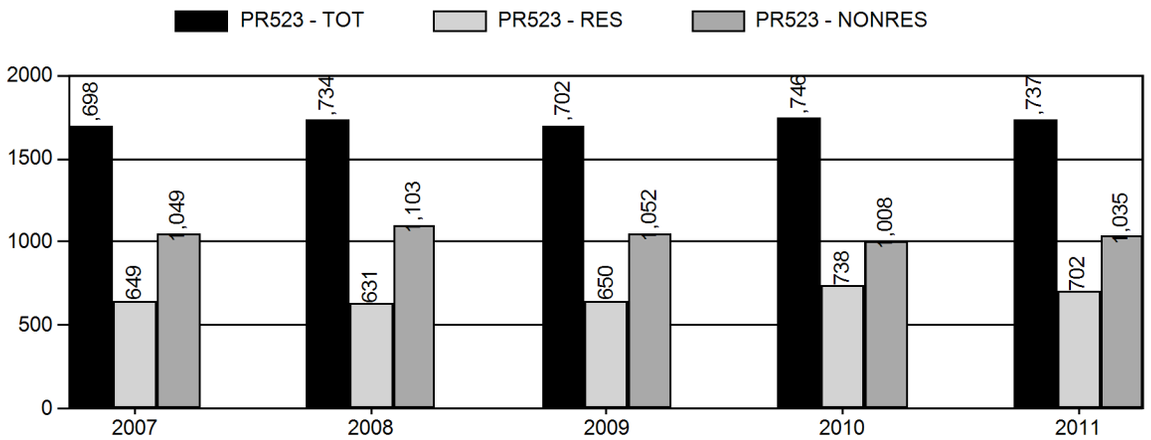
Population Size - Postseason



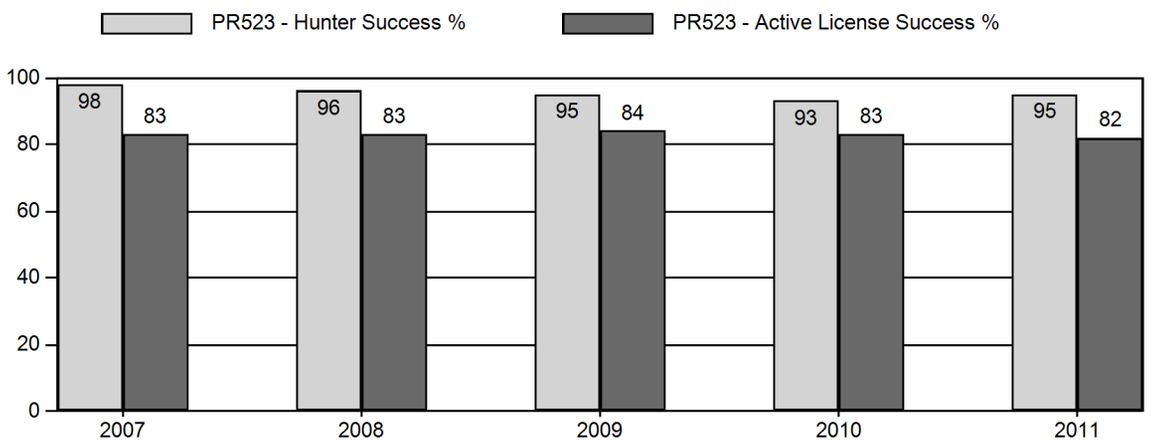
Harvest



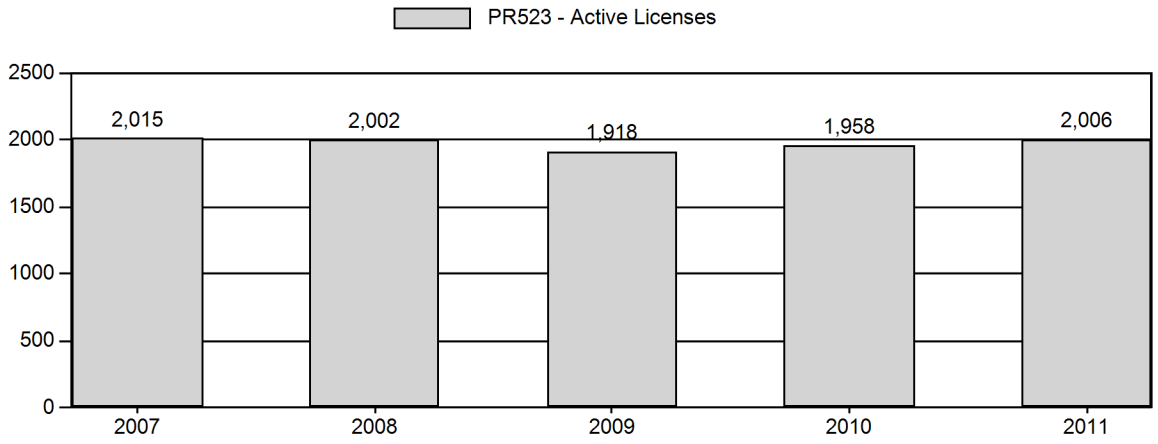
Number of Hunters



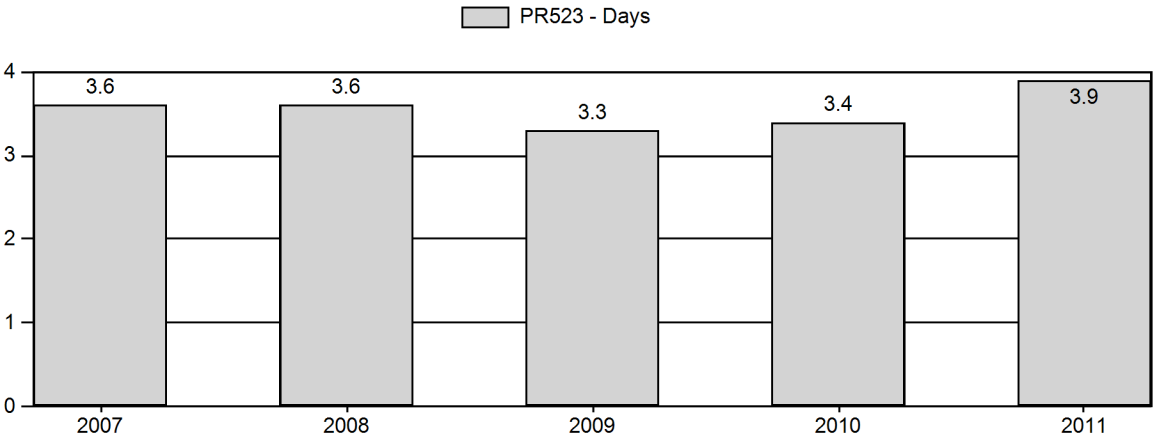
Harvest Success



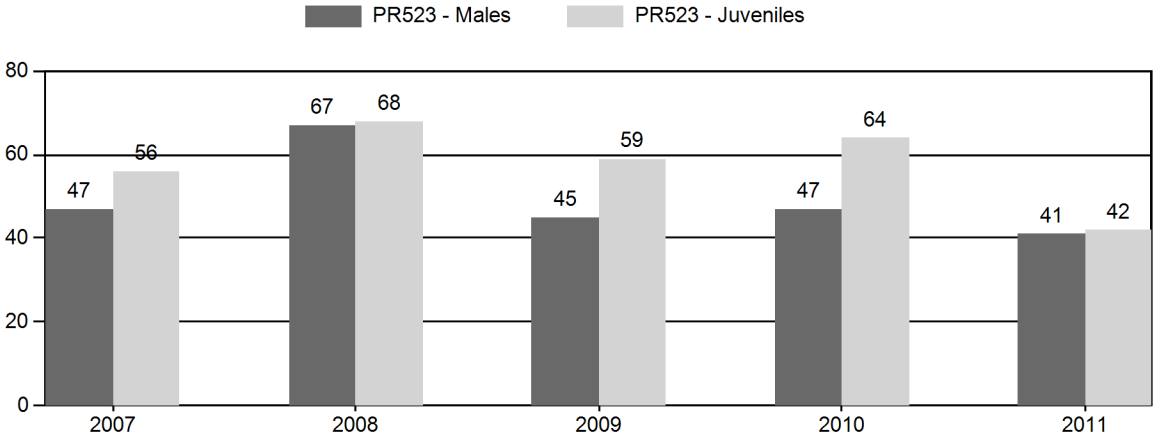
Active Licenses



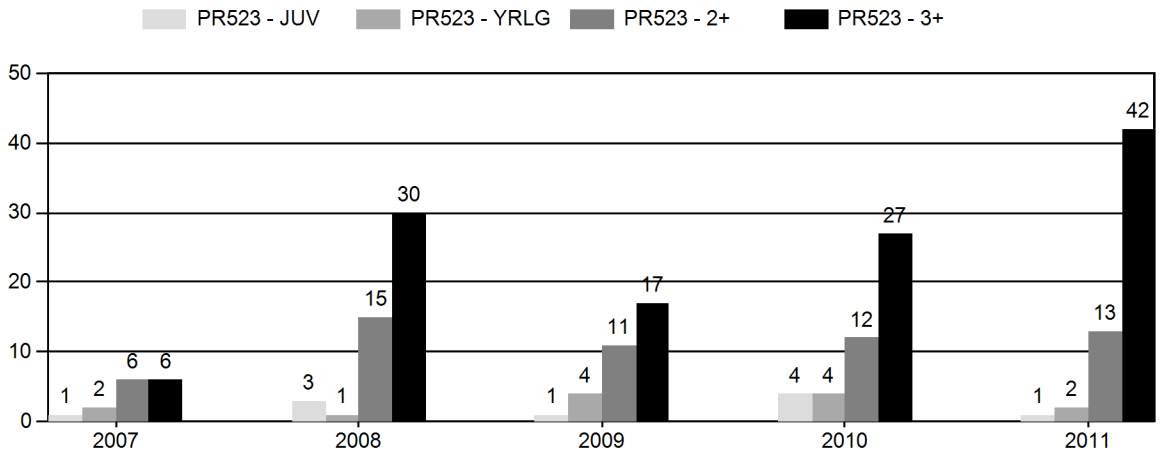
Days Per Animal Harvested



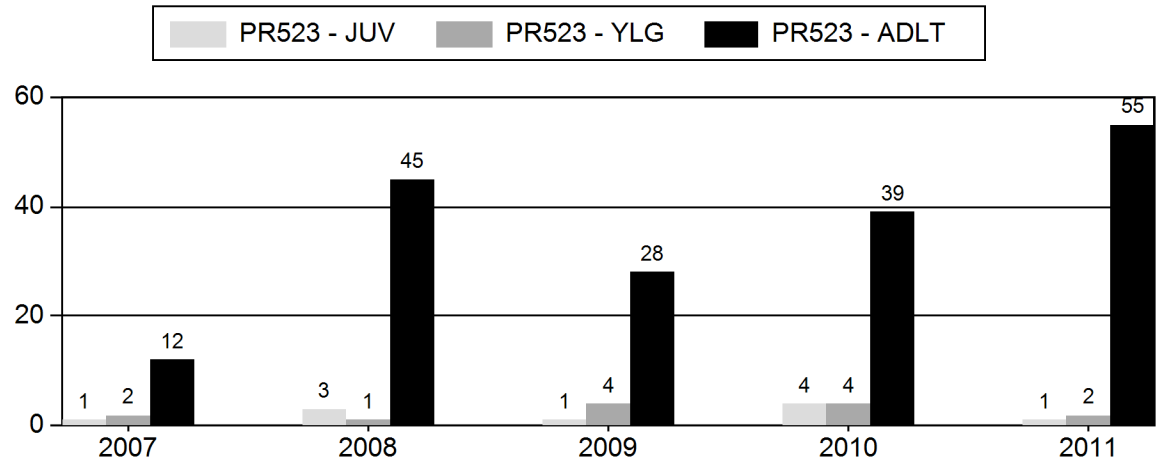
Preseason Animals per 100 Females



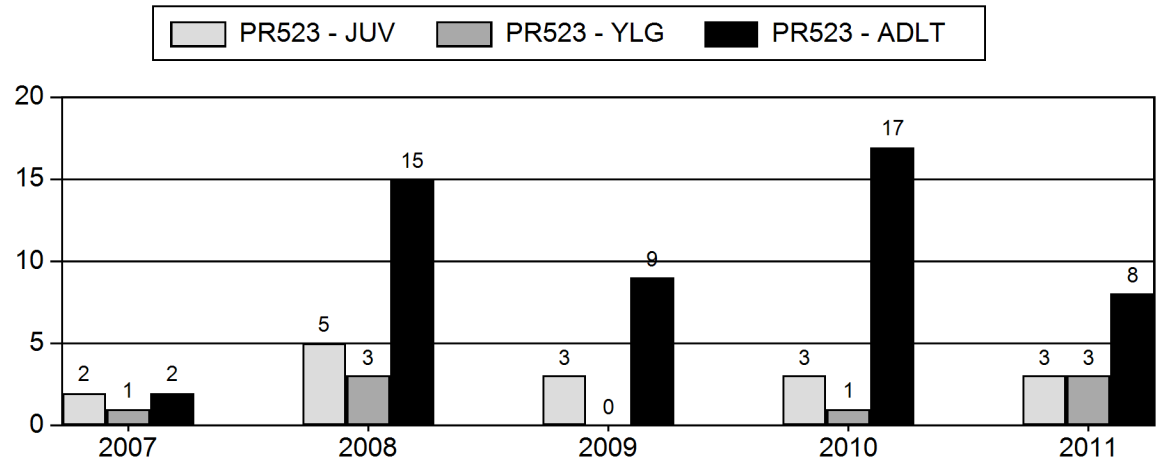
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2007 - 2011 Preseason Classification Summary

for Pronghorn Herd PR523 - IRON MOUNTAIN

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2007	23,743	127	266	393	23%	830	49%	464	28%	1,687	1,774	15	32	47	± 5	56	± 5	38
2008	22,530	136	249	542	28%	815	43%	556	29%	1,913	2,140	17	31	67	± 6	68	± 6	41
2009	22,920	160	259	419	22%	931	49%	550	29%	1,900	1,899	17	28	45	± 0	59	± 0	41
2010	23,611	182	370	552	22%	1,186	48%	755	30%	2,493	2,176	15	31	47	± 0	64	± 0	43
2011	21,080	51	89	140	23%	339	55%	141	23%	620	0	15	26	41	± 7	42	± 7	29

2011 HUNTING SEASONS

PR523 - IRON MOUNTAIN

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
38	39,40	ARCH		08/15 - 10/05	Refer to Section 3 of this Chapter
38		Type 1	550	10/05 - 10/31	Any
38		Type 6	600	10/05 - 10/31	Reduced Price doe/fawn
38		Type 6	600	11/01 - 12/31	Reduced Price doe/fawn
39		Type 1	300	10/05 - 10/31	Any
39		Type 6	100	10/05 - 10/31	Reduced Price doe/fawn
40		Type 1	200	10/05 - 10/31	Any
40		Type 6	150	10/05 - 10/31	Reduced Price doe/fawn
104		ARCH		08/15 - 10/20	Refer to Section 3 of this Chapter
104		Type 1	200	10/20 - 11/15	Any
104		Type 6	175	10/20 - 11/15	Reduced Price doe/fawn
104		Type 6	175	11/16 - 12/31	Reduced Price doe/fawn

Area	Type	Active Lic/ Htrs	Buck	Doe	Fawn	Total	Success	Days/ Harvest	Days	Licenses Sold
2011										
38 LITTLE BEAR CREEK										
	Type 1	468	397	17	0	414	88.50%	3.2	1340	547
	Type 6	550	0	409	25	434	78.90%	4.1	1780	600
Pooled Total		942 (1018)*	397	426	25	848	90.00% (83.3%)*	3.7	3120	
Pooled Resident		339	143	151	0	294	86.70%	3.9	1150	
Pooled Nonresident		603	254	275	25	554	91.90%	3.6	1970	
39 BLUEGRASS										
	Type 1	278	228	10	0	238	85.60%	3.8	914	300
	Type 6	82	0	63	6	69	84.10%	4.8	330	99
Pooled Total		331 (360)*	228	73	6	307	92.70% (85.3%)*	4.1	1244	
Pooled Resident		158	101	29	0	130	82.30%	5.2	672	
Pooled Nonresident		173	127	44	6	177	102.30%	3.2	572	
40 EAST LARAMIE										
	Type 1	188	170	0	6	176	93.60%	2.6	460	200
	Type 6	123	0	72	19	91	74.00%	5.6	513	150
Pooled Total		245 (311)*	170	72	25	267	109.00% (85.9%)*	3.6	973	
Pooled Resident		71	64	10	0	74	104.20%	4.1	303	
Pooled Nonresident		174	106	62	25	193	110.90%	3.5	670	
104 CROW CREEK										
	Type 1	154	86	17	3	106	68.80%	5.7	603	201
	Type 6	163	0	105	17	122	74.80%	4	492	175
Pooled Total		220 (317)*	86	122	20	228	103.60% (71.9%)*	4.8	1095	
Pooled Resident		133	36	57	11	104	78.20%	7.1	739	
Pooled Nonresident		87	50	65	9	124	142.50%	2.9	356	
2011 Hunt Area Total		1738 (2006)*	881	693	76	1650	94.90% (82.3%)*	3.9	6432	2272
2011 Herd Total		1737 (2006)*	881	693	76	1650	95.00% (82.3%)*	3.9	6432	2272

*Active Licenses

2007 - 2011 Harvest Age Structure

for Pronghorn Herd PR523 - IRON MOUNTAIN

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2007	1	2	14%	6	5	38%	14	1	0	15	2	1	33%	1	0	0%	4	1	0	5	20
2008	3	1	2%	15	29	64%	48	1	2	51	5	3	17%	4	10	59%	22	1	1	24	75
2009	1	4	12%	11	2	12%	18	15	2	35	3	0	0%	0	2	100%	5	7	2	14	49
2010	4	4	9%	12	9	36%	29	18	0	47	3	1	6%	3	2	33%	9	12	0	21	68
2011	1	2	4%	13	30	67%	46	12	4	62	3	3	27%	0	6	67%	12	2	0	14	76

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

IRON MOUNTAIN PRONGHORN
(PR523)
Hunt Areas 38, 39, 40, 104
Proposed 2012 Hunting Seasons

Hunt Area	Type	Dates of Opens	Season Closes	Limitations
38	1	Oct. 5	Oct. 31	Limited Quota; 550 licenses, any antelope
	6	Oct. 5	Oct. 31	Limited Quota; 600 licenses, doe or fawn
		Nov. 1	Dec. 31	Unused Area 38 Type 1 and Type 6 licenses valid in that portion of Area 38 north of the Horse Creek-Iron Mountain Road (Laramie County Road 106-2, Platte County Road 10, Wyoming Highway 211)
	7	Nov. 1	Dec. 31	Limited Quota; 100 licenses, doe or fawn valid in that portion of Area 38 North of the Horse Creek - Iron Mountain Road (Laramie County Road 106-2 –Platte County Road 10 – Wyoming Highway 211)
39	1	Oct. 5	Oct. 31	Limited Quota; 300 licenses, any antelope
	6	Oct. 5	Oct. 31	Limited Quota; 100 licenses, doe or fawn
40	1	Oct. 5	Oct. 31	Limited Quota; 200 licenses, any antelope
	6	Oct. 5	Oct. 31	Limited Quota; 150 licenses, doe or fawn
104	1	Oct. 20	Nov. 15	Limited Quota; 200 licenses, any antelope
	6	Oct. 20	Nov. 15	Limited Quota; 175 licenses, doe or fawn
		~~Nov. 16~~	~~Dec. 31~~	~~Unused Area 104 Type 6 Licenses valid in that portion of Area 104 off national forest~~
Archery 38,39,40,104		Aug. 15		Refer to Section 3 of this Chapter

SUMMARY OF PROPOSED CHANGES IN LICENSE NUMBER

Area	Type	Change from 2010
38	1	0
	6	0
	7	+100
39	1	0

	6	0
40	1 6	0 0
104	1 6	0 0
Herd Totals	**1 6 7**	**0 0 +100**

Changes for 2012

- Add Area 38 type 7, 100 licenses.
- Eliminate later season for Area 104 Type 6

Management Evaluation:

The Iron Mountain Pronghorn Herd is managed under recreational guidelines. Management for a population objective in the Iron Mountain Pronghorn Herd is difficult due to limited access to much of the area and too much pressure on accessible lands. Access limitations hinder our ability to reduce this herd toward objective. Efforts to increase harvest in accessible areas have resulted in reduced success and decreased hunt quality. Hunt Area 38 has received the greatest pressure due to access and the willingness of landowners to reduce the herd. A large portion of the population lives in the western part of the herd within Hunt Area 39 where access is highly restricted. A further complication is large segments of the population must migrate from the Laramie Basin through the Laramie Range to reach lower elevation winter ranges on the Wheatland flats where these pronghorn cause damage on private lands after the regular hunting season. The Area 38 type 6 was not addressing these concerns due to many nonresidents purchasing these licenses and only hunting with them during the regular season. Adding an Area 38 Type 7 valid only during the late season should increase harvest on that segment of the population as well as help address damage on some agricultural lands. Area 104 has had an increase in hunter effort as well as lost hunter access. Decreasing both Type 1 and Type 6 licenses by 25 each should alleviate these concerns. Season lengths in Hunt area 104 were lengthened in the past to address dry land crop damages. Today there are very little dry land crops and no damage, so we propose removing the late season hunt due to a lack of necessity or hunter interest. Assessing the status of this herd has been a challenge because pronghorn occupy habitats interspersed within some rugged portions of the Laramie Range that are difficult to survey. There have been questions about the reliability of some estimates and herd simulations.

<u>Population:</u> The postseason population estimate of 19,249 exceeds the population objective of 13,000. This herd receives lower management effort because of the lack of access to obtain desired harvests. Fawn:Doe ratios have declined the last 3 years and were at a 5 year low at 41:100 in 2011. Buck:doe ratios over the past 5 years have been relatively stable but in 2011 declined to 42:100 does. We predict the herd will increase slightly in 2012 with normal conditions.

Harvest: The 2011 season resulted in a harvest of 1,650 pronghorn with an overall success rate of 82%. Doe and fawn harvests have been substantially increased since the 2004 season and make up almost 50% of the harvest. We are approaching the upper threshold for hunter density, access and harvest in Areas 38 and 40 and current landowner attitudes do not favor placing more hunters in Areas 39 and 104.

Data Set: PR523_10.GN1 02/24/2012 09:55 am Page 1

Iron Mountain Pronghorn - 2011 Season Setting
Data from 1990 to 2012 Simulation from 1990 to 2012

Age Class	Init Pop. Male	Init Pop. Female	Prop. Presn Male	Prop. Presn Female	Mort% Male	Mort% Female	Postsn Mort% Male	Postsn Mort% Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	98.0	98.0	50.0	50.0	35.0	35.0	1.00	1.00	1.00	1.00		
1	25.0	25.0	2.0	2.0	10.0	3.0	1.00	1.00	1.00	1.00		
2	15.0	23.0	2.0	2.0	10.0	3.0	1.00	1.00	1.00	1.00		
3	10.0	21.0	2.0	2.0	10.0	3.0	1.00	1.00	3.00	1.00		
4	8.0	19.0	2.0	2.0	10.0	3.0	1.00	1.00	1.00	1.00		
5	5.0	17.0	2.0	2.0	10.0	3.0	1.00	1.00	1.00	1.00		
6	3.0	15.0	2.0	2.0	50.0	5.0	1.00	1.00	1.00	1.00		
7	1.0	13.0	2.0	2.0	75.0	10.0	1.00	1.00	1.00	1.00		
8	0.0	11.0	2.0	2.0	100.0	20.0	1.00	1.00	1.00	1.00		
9	0.0	9.0	2.0	2.0	100.0	30.0	1.00	1.00	1.00	1.00		
10	0.0	7.0	2.0	2.0	100.0	40.0	1.00	1.00	1.00	1.00		
11	0.0	5.0	2.0	2.0	100.0	50.0	1.00	1.00	1.00	1.00		
12	0.0	3.0	2.0	2.0	100.0	75.0	1.00	1.00	1.00	1.00		
13	0.0	1.0	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00		

Sum = 432.0 Estimated Sum = 34000 Subadults: Ages 0 to 0

Data Set: PR523_10.GN1 02/24/2012 09:55 am Page 2

MSI Function is Linear

Bio-Year	Preseason MSI	Harvest // Subadults#	Des. Pop Size in NA Males#	Des. Pop Size in NA Females#	Postseason MSI	Effort & Wound Set Used
1990	1.00	34	513	364	0.95	1
1991	1.12	51	571	362	0.95	1
1992	1.38	69	719	765	1.70	1
1993	1.60	105	660	694	1.00	1
1994	1.38	59	625	471	1.50	1
1995	1.47	52	451	322	1.30	1
1996	1.21	33	492	373	1.00	1
1997	1.14	49	705	518	0.90	1
1998	1.05	86	805	349	1.00	1
1999	1.17	76	909	551	1.50	1
2000	1.46	84	888	455	1.70	1
2001	1.48	73	874	491	1.50	1
2002	1.49	60	779	379	0.20	1
2003	1.34	68	736	415	0.20	1
2004	1.32	67	772	459	0.20	1
2005	1.30	68	705	645	1.40	1
2006	1.32	68	829	686	1.50	1
2007	1.30	67	921	677	1.50	1
2008	1.20	50	918	696	1.00	1
2009	1.21	110	895	614	1.10	1
2010	1.16	26	949	656	1.20	1
2011	1.45	75	880	709	1.00	1
2012	1.31	65	880	700	1.00	1

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1991	0.0	180.0	0.0	
1992	0.0	180.0	0.0	
1993	0.0	180.0	0.0	
1994	0.0	180.0	0.0	
1995	0.0	180.0	0.0	
1996	0.0	180.0	0.0	
1997	0.0	180.0	0.0	
1998	0.0	180.0	0.0	
1999	0.0	180.0	0.0	
2000	0.0	180.0	0.0	
2001	0.0	180.0	0.0	
2002	0.0	180.0	0.0	
2003	0.0	180.0	0.0	
2004	0.0	180.0	0.0	
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	180.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for PR523_10.GN1, 02/24/2012 09:55 am

Table 1. Population Size During Bio-Year for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
1990	34000	25916	24913	20475	20.1
1991	40826	28971	27888	22951	8.7
1992	44394	28965	27257	19748	-8.5
1993	40615	23290	21685	18629	-6.0
1994	38164	24171	22901	17140	-8.5
1995	34926	21350	20442	16206	-4.8
1996	33265	22552	21564	17539	2.5
1997	34092	24257	22858	18878	6.4
1998	36264	26740	25376	20439	7.6
1999	39008	27667	25977	18961	-3.7
2000	37551	23427	21857	16121	-10.6
2001	33574	20182	18600	14371	-10.2
2002	30144	17965	16625	16114	7.1
2003	32282	21018	19677	18959	13.8
2004	36745	24506	23078	22133	15.1
2005	42280	28609	27049	19784	-6.9
2006	39381	25925	24184	17957	-9.0
2007	35821	23743	21911	16360	-8.5
2008	32765	22530	20699	17052	0.6
2009	32954	22920	21140	17071	1.9
2010	33584	23611	21817	17044	-0.2
2011	33518	21080	19249	16206	-2.0
2012	32857	21526	19717	16249	-2.4

Table 2. Preseason Natural Mortality for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1990	7713	105	266	8084	23.8
1991	11397	148	311	11855	29.0
1992	14796	223	411	15429	34.8
1993	16693	218	414	17325	42.7
1994	13479	178	336	13993	36.7
1995	13073	172	332	13577	38.9
1996	10321	132	260	10713	32.2
1997	9435	141	259	9835	28.8
1998	9128	143	254	9524	26.3
1999	10862	175	303	11341	29.1
2000	13571	199	354	14124	37.6
2001	12915	161	317	13392	39.9
2002	11751	136	293	12180	40.4
2003	10832	142	290	11264	34.9
2004	11739	175	325	12239	33.3
2005	13096	212	363	13671	32.3
2006	12934	188	334	13456	34.2
2007	11612	168	299	12079	33.7
2008	9843	139	254	10236	31.2
2009	9621	148	265	10033	30.4
2010	9577	139	257	9973	29.7
2011	11944	171	324	12438	37.1
2012	10906	144	280	11331	34.5

Table 3. Harvest Mortality for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop

1990	34	513	364	911	3.5
1991	51	571	362	984	3.4
1992	69	719	765	1553	5.4
1993	105	660	694	1459	6.3
1994	59	625	471	1155	4.8
1995	52	451	322	825	3.9
1996	33	492	373	898	4.0
1997	49	705	518	1272	5.2
1998	86	805	349	1240	4.6
1999	76	909	551	1536	5.6
2000	84	888	455	1427	6.1
2001	73	874	491	1438	7.1
2002	60	779	379	1218	6.8
2003	68	736	415	1219	5.8
2004	67	772	459	1298	5.3
2005	68	705	645	1418	5.0
2006	68	829	686	1583	6.1
2007	67	921	677	1665	7.0
2008	50	918	696	1664	7.4
2009	110	895	614	1619	7.1
2010	26	949	656	1631	6.9
2011	75	880	709	1664	7.9
2012	65	880	700	1645	7.6

Table 4. Harvest Percentages for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
1990	0.4	9.9	2.8	3.52	37.3
1991	0.6	8.8	2.7	3.40	38.8
1992	1.0	9.2	5.3	5.36	36.8
1993	2.5	10.0	5.5	6.26	19.5
1994	1.0	10.0	4.0	4.78	20.4
1995	1.1	8.0	2.9	3.86	24.4
1996	0.5	9.2	3.6	3.98	23.2
1997	0.7	11.7	4.7	5.24	35.3
1998	1.0	12.1	3.0	4.64	35.6
1999	1.0	12.5	4.4	5.55	35.5
2000	1.7	13.4	3.9	6.09	26.5
2001	1.6	16.6	4.7	7.13	18.4
2002	1.5	17.7	4.0	6.78	23.3
2003	1.3	14.3	3.9	5.80	34.8
2004	1.1	12.0	3.8	5.30	36.9
2005	1.0	8.9	4.7	4.96	34.0
2006	1.0	12.0	5.6	6.11	25.0
2007	1.1	14.6	6.0	7.01	24.2
2008	0.8	16.3	6.7	7.39	25.4
2009	1.8	15.0	5.7	7.06	34.7
2010	0.4	16.2	6.1	6.91	31.6
2011	1.7	15.4	6.5	7.89	34.0
2012	1.1	16.4	6.7	7.64	26.2

Table 5. Postseason Natural Mortality for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1990	2552	558	1328	4439	17.8
1991	2959	732	1246	4937	17.7
1992	3910	1561	2038	7509	27.5
1993	1420	741	894	3055	14.1
1994	3145	1179	1436	5761	25.2
1995	2119	977	1141	4236	20.7

1996	2346	800	879	4025	18.7
1997	2225	868	886	3980	17.4
1998	2857	955	1125	4937	19.5
1999	4002	1283	1732	7016	27.0
2000	2931	1217	1587	5736	26.2
2001	2340	815	1074	4229	22.7
2002	277	104	130	511	3.1
2003	368	155	194	718	3.6
2004	418	223	304	945	4.1
2005	3419	1836	2011	7265	26.9
2006	3459	1115	1652	6227	25.7
2007	3244	975	1332	5551	25.3
2008	2277	642	727	3647	17.6
2009	2372	861	835	4068	19.2
2010	2901	935	937	4773	21.9
2011	1557	685	802	3043	15.8
2012	1986	627	855	3467	17.6

Table 6. Preseason Ratios for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	59.2	24.9	14.8	39.6
1991	66.0	29.2	18.5	47.6
1992	45.9	34.3	20.0	54.2
1993	33.4	42.5	10.3	52.8
1994	51.2	42.2	10.8	53.1
1995	43.0	39.0	12.6	51.6
1996	64.3	39.0	11.8	50.8
1997	64.0	35.1	19.1	54.2
1998	69.8	36.3	20.0	56.3
1999	60.8	37.1	20.5	57.6
2000	42.6	41.3	14.9	56.2
2001	43.7	41.4	9.3	50.8
2002	42.2	35.5	10.8	46.3
2003	50.7	31.9	17.0	48.9
2004	50.4	34.0	19.8	53.8
2005	51.8	38.5	19.9	58.4
2006	54.0	42.2	14.0	56.2
2007	55.9	42.7	13.6	56.3
2008	63.5	40.7	13.9	54.6
2009	58.8	36.4	19.3	55.7
2010	64.1	37.1	17.1	54.2
2011	41.8	34.8	18.0	52.8
2012	55.2	38.0	13.5	51.5

Table 7. Postseason Ratios for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	60.8	22.8	13.6	36.4
1991	67.6	27.1	17.2	44.3
1992	48.2	32.7	19.1	51.8
1993	34.5	40.3	9.8	50.1
1994	52.9	39.3	10.1	49.4
1995	43.9	36.8	11.9	48.7
1996	66.5	36.5	11.0	47.5
1997	67.0	32.2	17.6	49.8
1998	71.4	32.5	17.9	50.4
1999	63.2	33.7	18.5	52.2
2000	43.7	36.8	13.3	50.0
2001	45.3	35.7	8.0	43.8
2002	43.4	29.9	9.1	39.0

2003	52.2	28.1	15.0	43.1
2004	52.0	30.8	18.0	48.8
2005	54.1	36.7	18.9	55.6
2006	56.9	39.0	13.0	52.0
2007	59.2	38.4	12.2	50.6
2008	68.1	36.1	12.3	48.4
2009	61.5	32.5	17.2	49.7
2010	68.5	32.7	15.1	47.8
2011	44.2	31.2	16.1	47.3
2012	58.8	33.6	12.0	45.6

Table 8. End of Year Ratios for PR523_10.GN1 02/24/2012 09:55 am

Bio-Year	Subadults /100 Adlts	Subadults /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	33.4	45.3	13.7	35.8
1991	34.9	49.9	17.2	42.8
1992	15.6	23.0	18.6	47.4
1993	16.5	24.3	9.5	47.4
1994	19.9	28.8	9.8	44.7
1995	18.6	26.8	11.6	44.2
1996	33.0	47.4	10.9	43.4
1997	34.5	50.1	17.5	45.4
1998	35.1	51.4	17.9	46.7
1999	23.6	35.1	18.4	48.5
2000	14.1	20.6	12.8	45.7
2001	17.3	24.2	7.7	39.8
2002	29.6	41.0	9.0	38.4
2003	34.8	49.5	15.0	42.4
2004	33.5	49.6	18.1	48.1
2005	21.9	32.7	19.3	49.0
2006	21.1	31.5	12.9	49.4
2007	21.9	32.2	11.9	47.3
2008	33.0	47.9	12.0	45.1
2009	28.5	41.3	16.7	44.8
2010	30.7	43.8	14.6	42.5
2011	21.7	31.3	15.7	43.9
2012	29.4	41.9	11.8	42.9

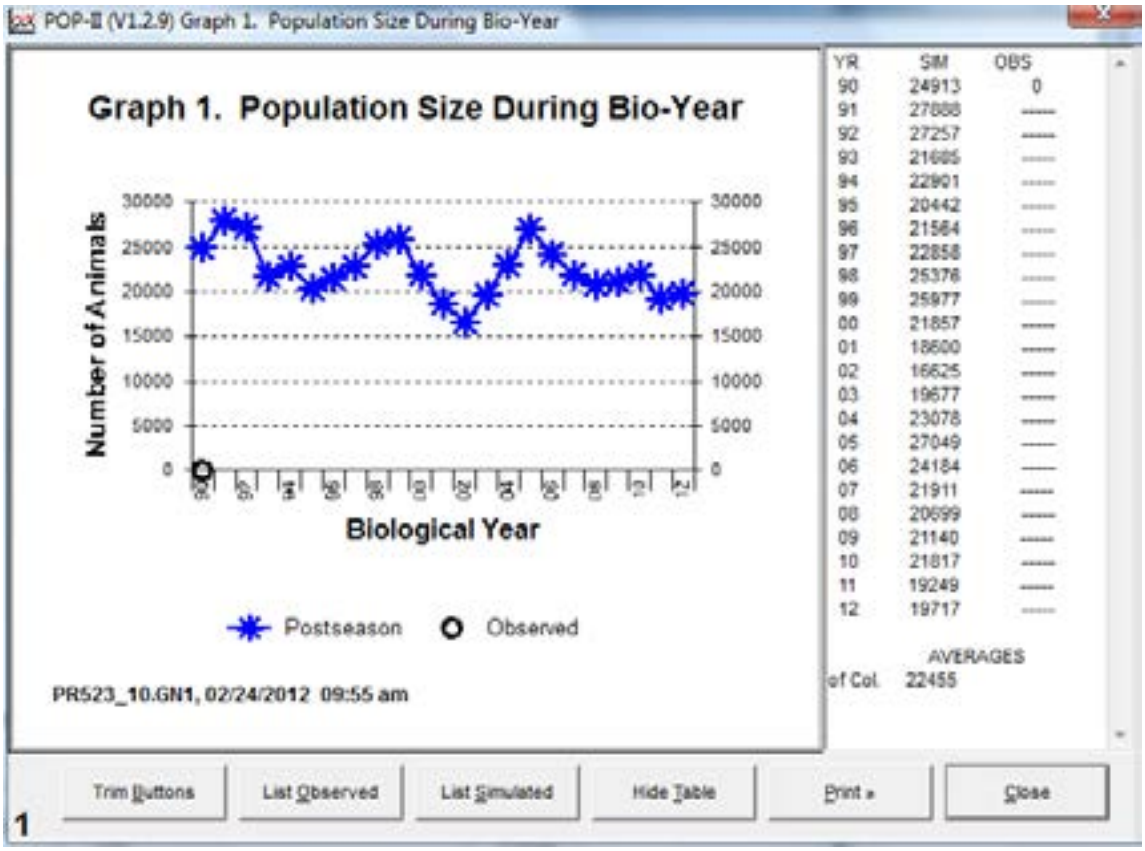
Table 9. Reproduction at Start of Bio-Year for PR523_10.GN1 02/24/2012 09:55 am

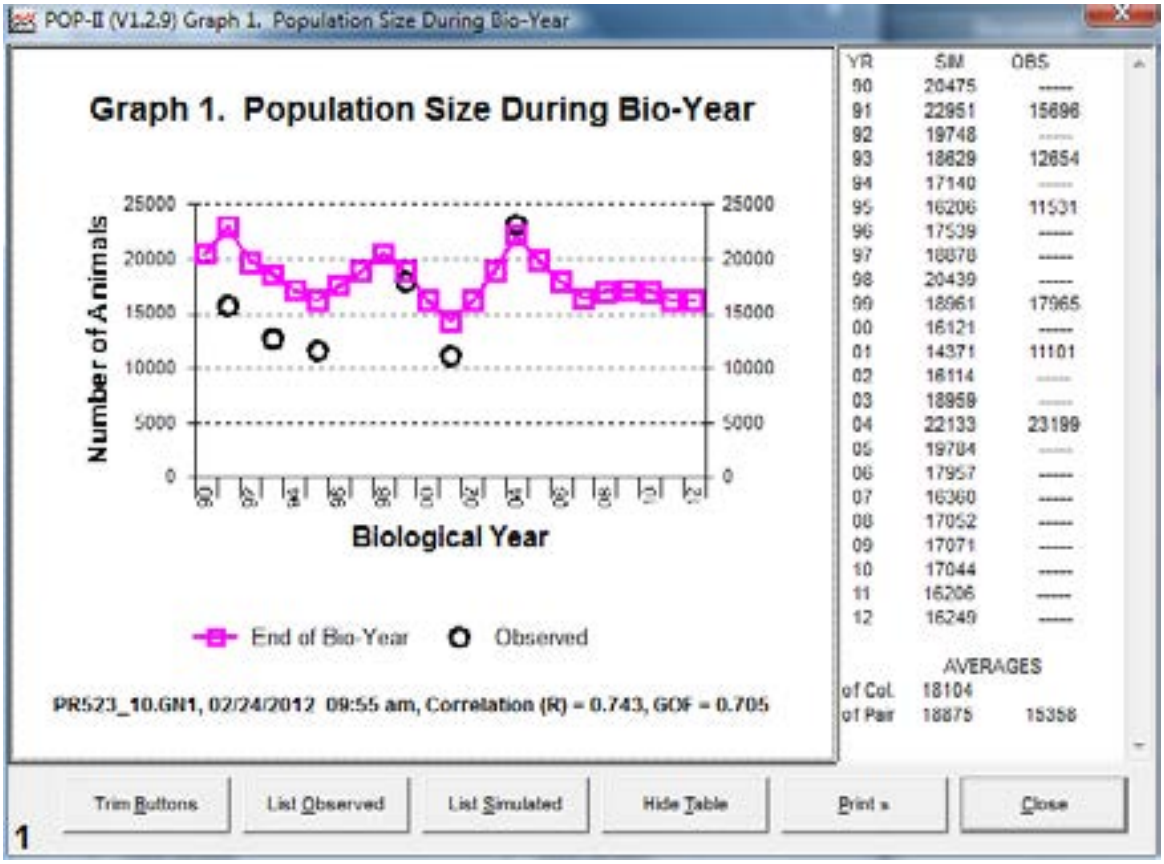
Bio-Year	Young / 100 AF 1 +	Sub-Ad. / 100 AF 1 +	Total Young	Total Sub-Adult	Total Females 1 +
1990	116	116	15426	15426	13301
1991	147	147	20351	20351	13868
1992	144	144	21443	21443	14883
1993	161	161	20867	20867	12923
1994	160	160	19535	19535	12171
1995	157	157	17786	17786	11304
1996	159	159	17059	17059	10746
1997	146	146	16553	16553	11374
1998	144	144	17386	17386	12078
1999	143	143	18568	18568	12969
2000	153	153	18590	18590	12138
2001	163	163	17453	17453	10694
2002	161	161	15774	15774	9822
2003	149	149	16168	16168	10822
2004	144	144	17786	17786	12327
2005	144	144	20147	20147	13971
2006	155	155	19597	19597	12666
2007	155	155	17864	17864	11489
2008	155	155	16405	16405	10581

2009	145	145	15902	15902	10949
2010	149	149	16512	16512	11068
2011	148	148	16474	16474	11155
2012	156	156	16651	16651	10696

Table A. Intra-Annual Natural Survival(%) for PR523_10.GN1 02/24/2012 09:55 am

Bio-Years	Sub Adults	Adult Males	Adult Females	Overall Survival
1990-1991	65.25	85.91	87.48	80.34
1991-1992	64.91	85.03	88.03	80.03
1992-1993	39.20	75.39	82.33	70.13
1993-1994	63.21	84.98	89.84	83.54
1994-1995	46.10	76.59	84.74	72.65
1995-1996	53.18	79.14	87.10	77.36
1996-1997	63.52	81.39	89.19	79.48
1997-1998	67.06	81.71	89.67	80.86
1998-1999	63.48	81.51	88.06	78.66
1999-2000	46.11	77.30	83.14	70.86
2000-2001	39.30	76.13	83.39	71.58
2001-2002	46.08	78.65	86.43	74.96
2002-2003	90.51	94.48	95.93	94.33
2003-2004	90.54	93.87	95.48	93.81
2004-2005	90.58	93.53	94.82	93.41
2005-2006	49.65	72.45	82.18	71.21
2006-2007	46.27	79.35	83.50	72.32
2007-2008	46.36	79.60	85.16	72.87
2008-2009	63.43	84.04	90.16	80.39
2009-2010	60.07	80.76	89.53	78.88
2010-2011	56.32	78.27	88.08	75.86
2011-2012	63.30	83.34	89.61	81.98


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
Postseason
Observed
PR523_10.GN1, 02/24/2012 09:55 am
YR SIM OBS
90 24913 0
91 27888 -----
92 27257 -----
93 21685 -----
94 22901 -----
95 20442 -----
96 21564 -----
97 22858 -----
98 25376 -----
99 25977 -----
00 21857 -----
01 18600 -----
02 16625 -----
03 19677 -----
04 23078 -----
05 27049 -----
06 24184 -----
07 21911 -----
08 20699 -----
09 21140 -----
10 21817 -----
11 19249 -----
12 19717 -----
AVERAGES
of Col. 22455
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
Close
1


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
End of Bio-Year
Observed
PR523_10.GN1, 02/24/2012 09:55 am, Correlation (R) = 0.743, GOF = 0.705
YR SIM OBS
90 20475 -----
91 22951 15696
92 19748 -----
93 18629 12654
94 17140 -----
95 16206 11531
96 17539 -----
97 18878 -----
98 20439 -----
99 18961 17965
00 16121 -----
01 14371 11101
02 16114 -----
03 18959 -----
04 22133 23199
05 19704 -----
06 17957 -----
07 16360 -----
08 17052 -----
09 17071 -----
10 17044 -----
11 16206 -----
12 16249 -----
AVERAGES
of Col. 18104
of Pair 18875 15358
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List Simulated
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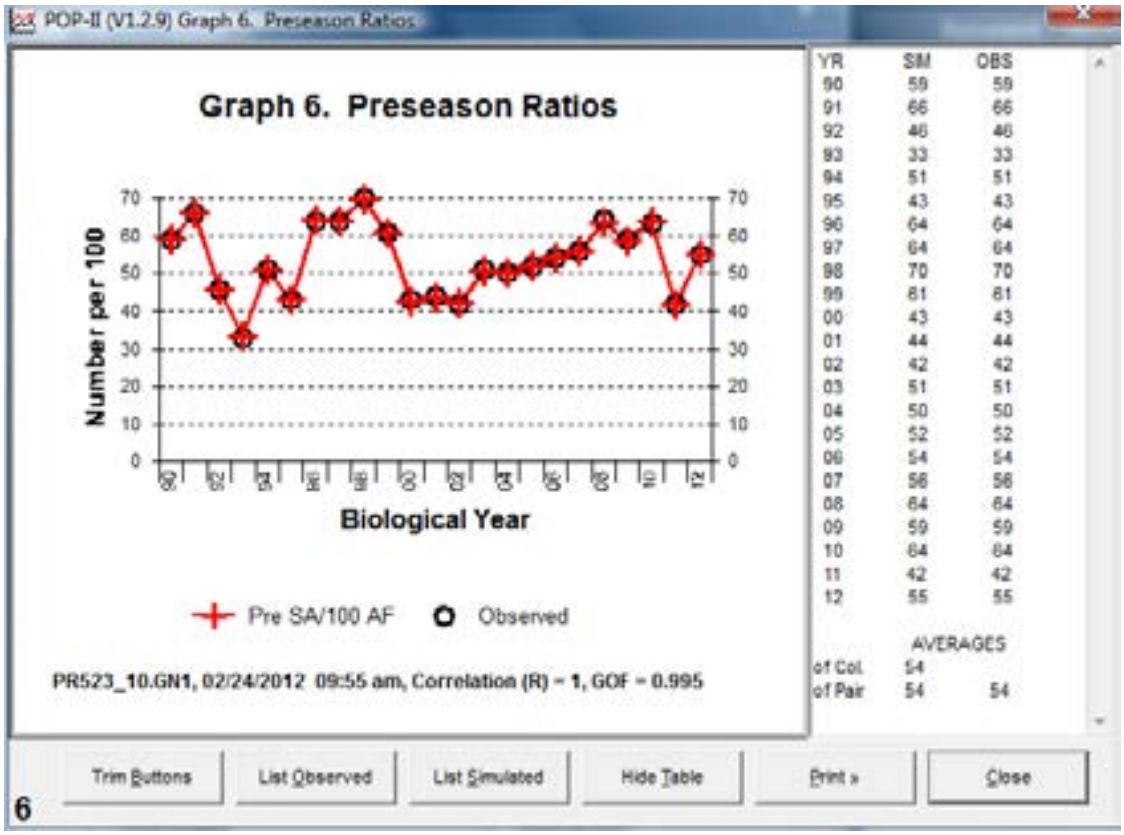
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre SA/100 AF
Observed
PR523_10.GN1, 02/24/2012 09:55 am, Correlation (R) = 1, GOF = 0.995
YR SIM OBS
90 59 59
91 66 66
92 46 46
93 33 33
94 51 51
95 43 43
96 64 64
97 64 64
98 70 70
99 81 81
00 43 43
01 44 44
02 42 42
03 51 51
04 50 50
05 52 52
06 54 54
07 56 56
08 64 64
09 59 59
10 64 64
11 42 42
12 55 55
AVERAGES
of Col. 54
of Pair 54 54
Trim Buttons
List Observed
List Simulated
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Close
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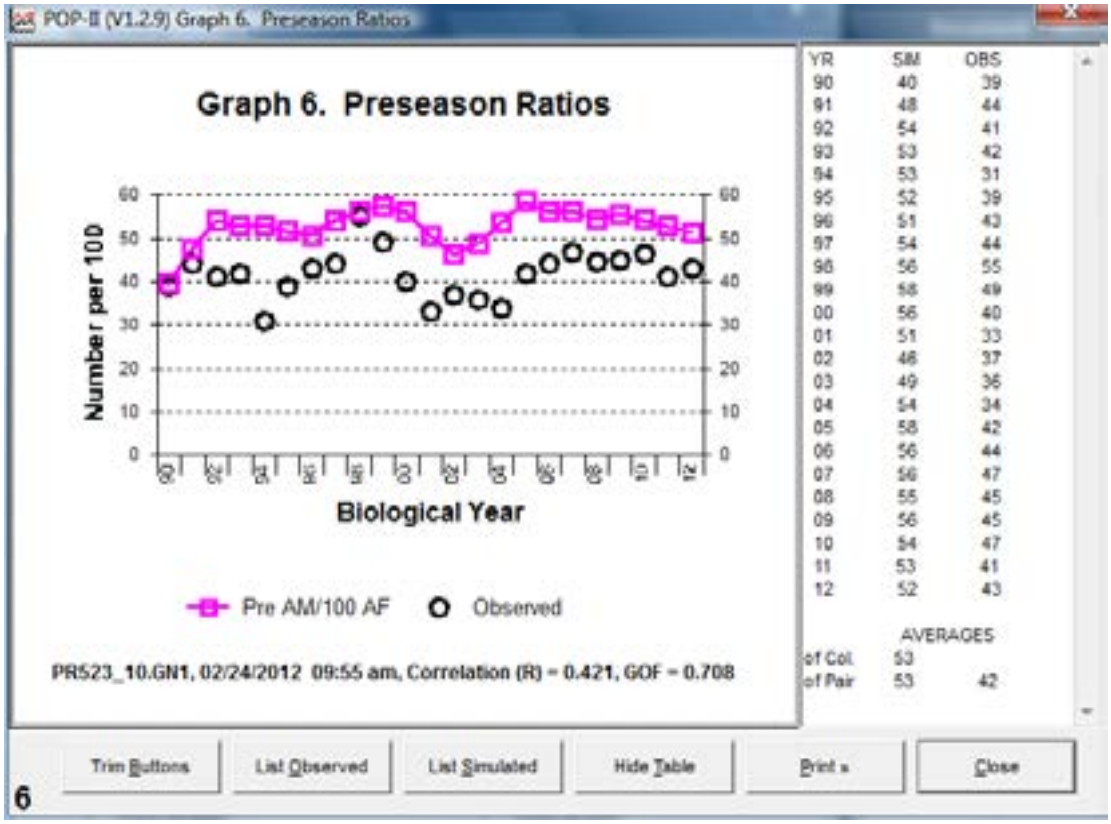
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre AM/100 AF
Observed
PR523_10.GN1, 02/24/2012 09:55 am, Correlation (R) = 0.421, GOF = 0.708
YR SIM OBS
90 40 39
91 48 44
92 54 41
93 53 42
94 53 31
95 52 39
96 51 43
97 54 44
98 56 55
99 58 49
00 56 40
01 51 33
02 46 37
03 49 36
04 54 34
05 58 42
06 56 44
07 56 47
08 55 45
09 56 45
10 54 47
11 53 41
12 52 43
AVERAGES
of Col. 53
of Pair 53 42
Trim Buttons
List Observed
List Simulated
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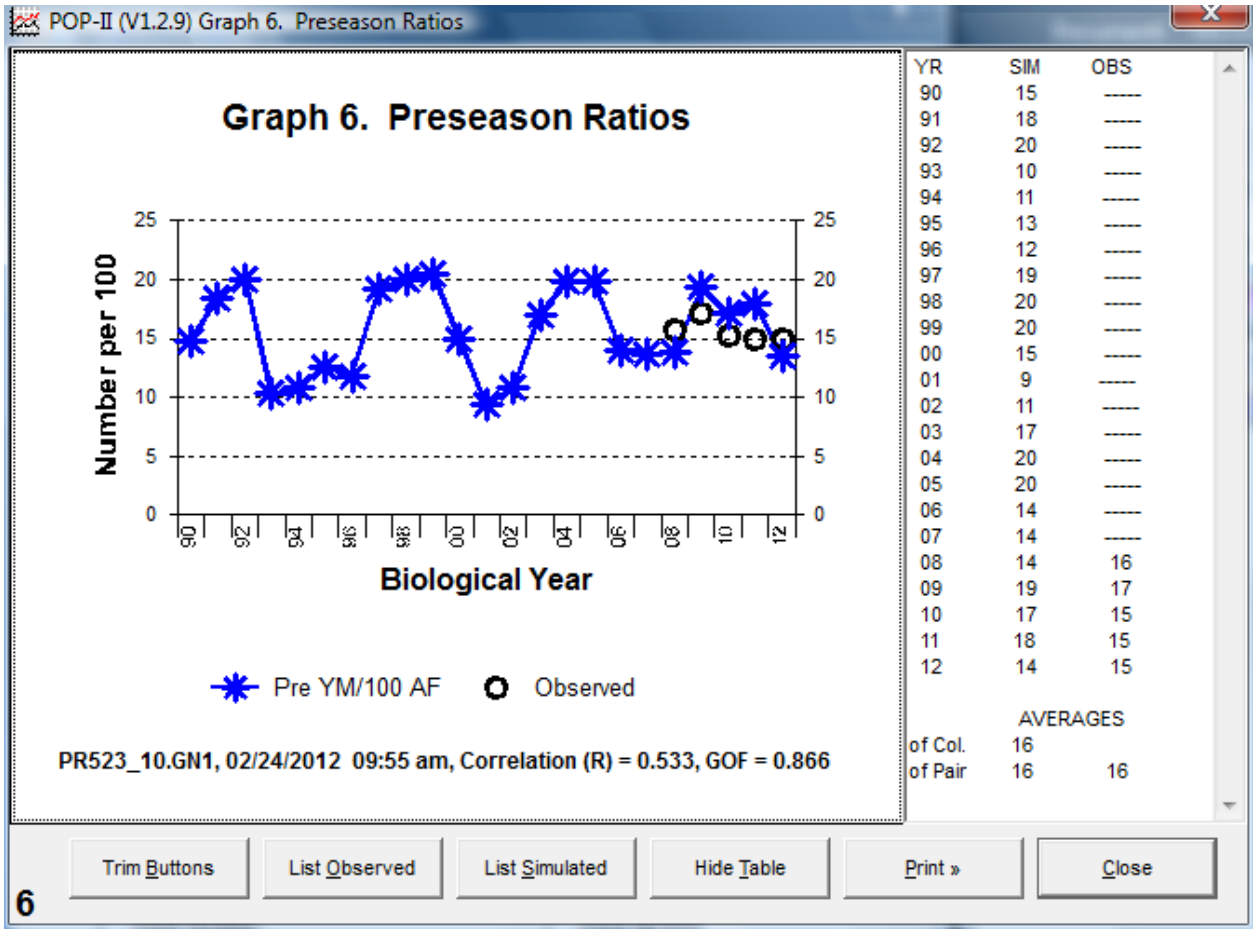
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre YM/100 AF
Observed
PR523_10.GN1, 02/24/2012 09:55 am, Correlation (R) = 0.533, GOF = 0.866
YR SIM OBS
90 15 -----
91 18 -----
92 20 -----
93 10 -----
94 11 -----
95 13 -----
96 12 -----
97 19 -----
98 20 -----
99 20 -----
00 15 -----
01 9 -----
02 11 -----
03 17 -----
04 20 -----
05 20 -----
06 14 -----
07 14 -----
08 14 16
09 19 17
10 17 15
11 18 15
12 14 15
AVERAGES
of Col. 16
of Pair 16 16
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
Close
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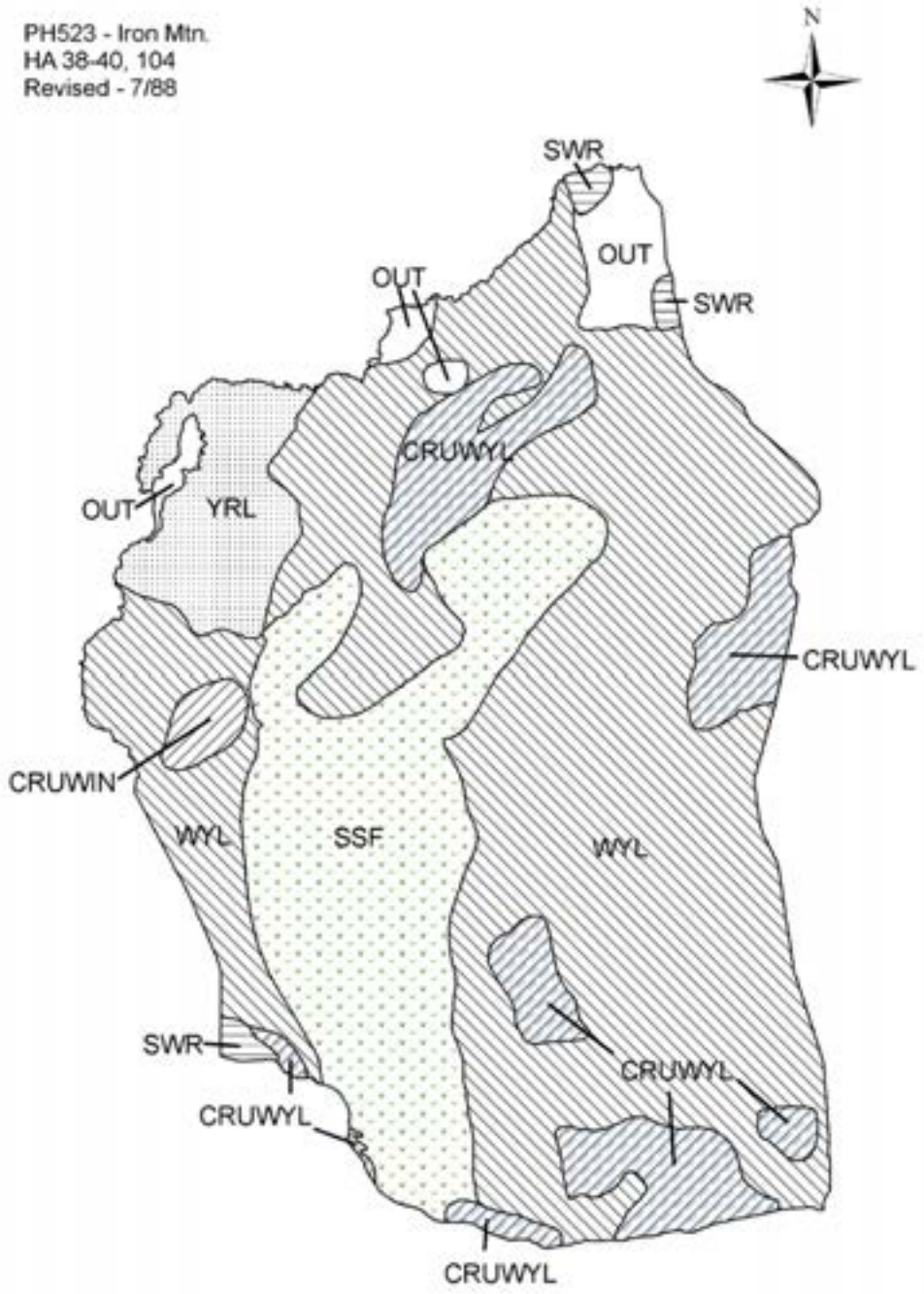
PH523 - Iron Mtn.
HA 38-40, 104
Revised - 7/88
N
SWR
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OUT
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CRUWYL
OUT
YRL
CRUWYL
CRUWIN
WYL
SSF
WYL
SWR
CRUWYL
CRUWYL
CRUWYL

2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR524 - DWYER

HUNT AREAS: 103 | PREPARED BY: MARTIN HICKS

	2006 - 2010 Average	2011	2012 Proposed
Population:	4,480	5,000	4,000
Harvest:	471	493	570
Hunters:	502	475	600
Hunter Success:	94%	104%	95 %
Active Licenses:	575	574	650
Active License Percent:	82%	86%	88 %
Recreation Days:	1,837	1,715	1,800
Days Per Animal:	3.9	3.5	3.2
Males per 100 Females	53	33	
Juveniles per 100 Females	48	53	

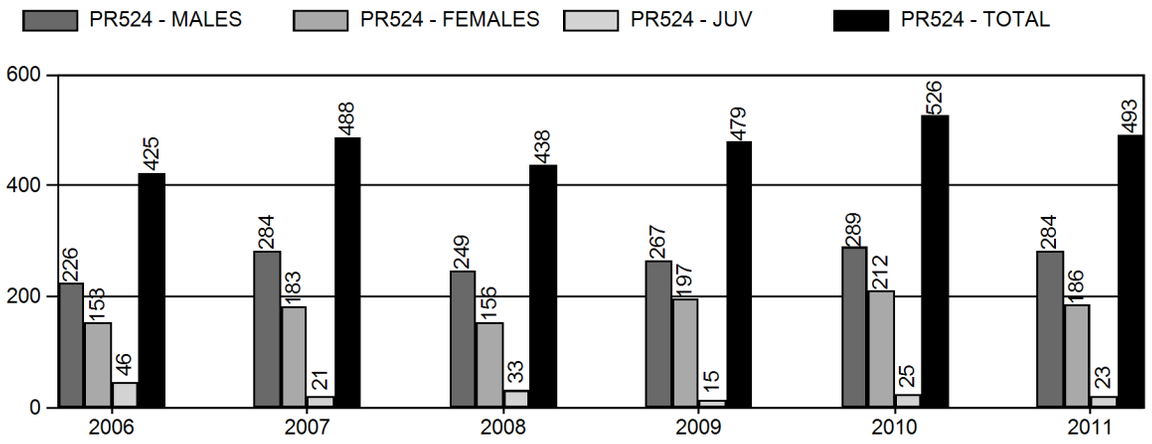
Population Objective:	4,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	25%
Number of years population has been + or - objective in recent trend:	2
Model Date:	02/29/2012

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

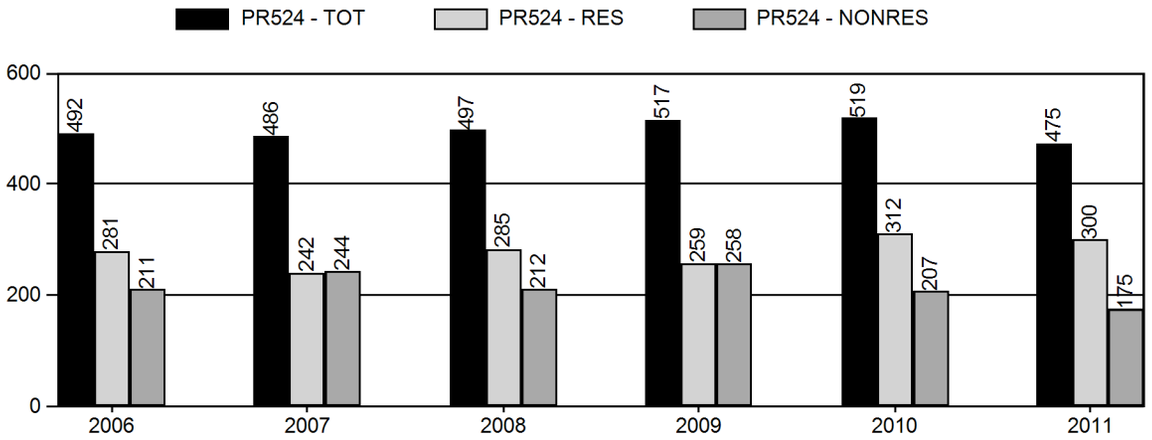
	JCR Year	Proposed
Females ≥ 1 year old:	7.3%	11.8%
Males ≥ 1 year old:	18.6%	22%
Juveniles (< 1 year old):	1.6%	2.8%
Total:	8.9%	12.5%
Proposed change in post-season population:	-17%	-20%

Population Size - Postseason

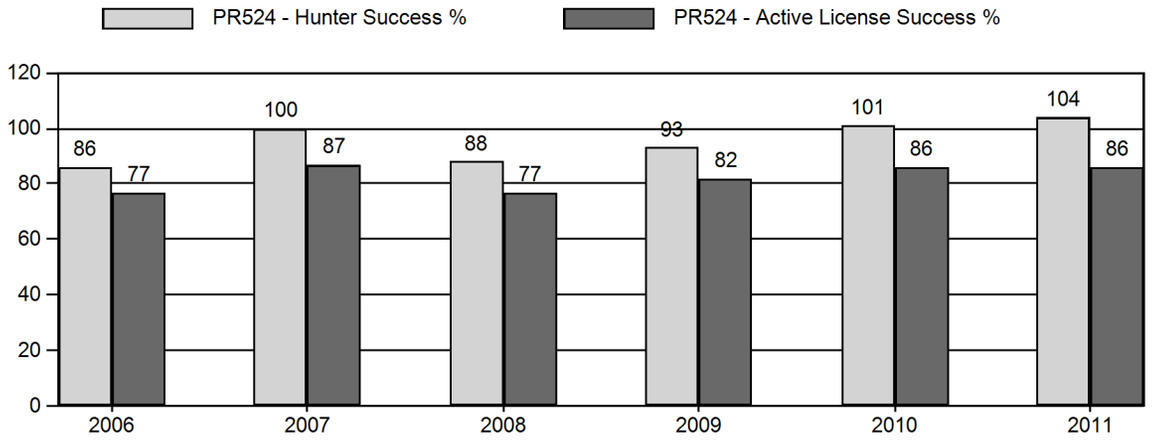
Harvest



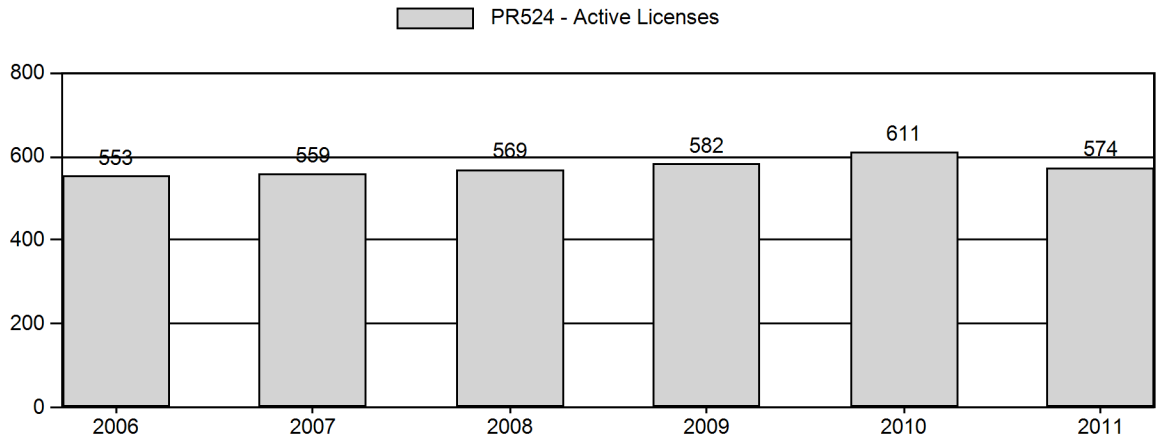
Number of Hunters



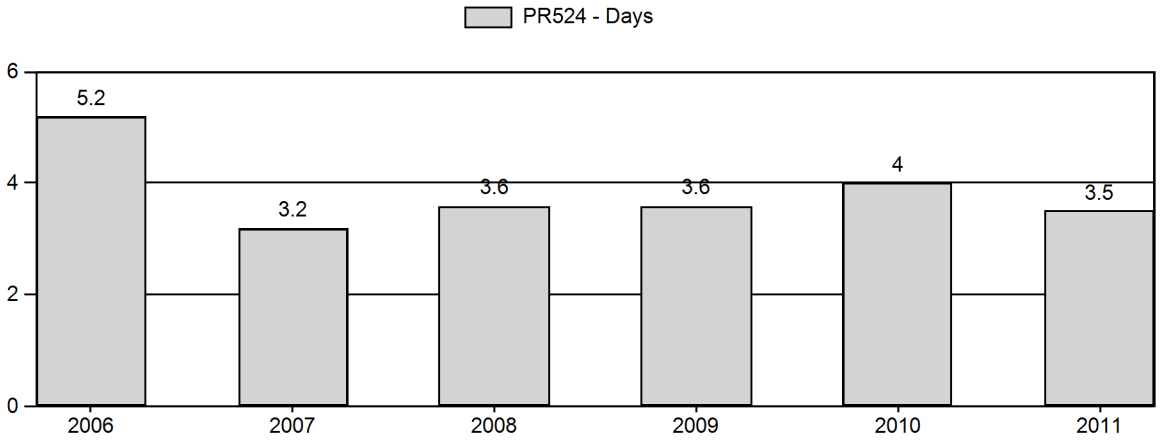
Harvest Success



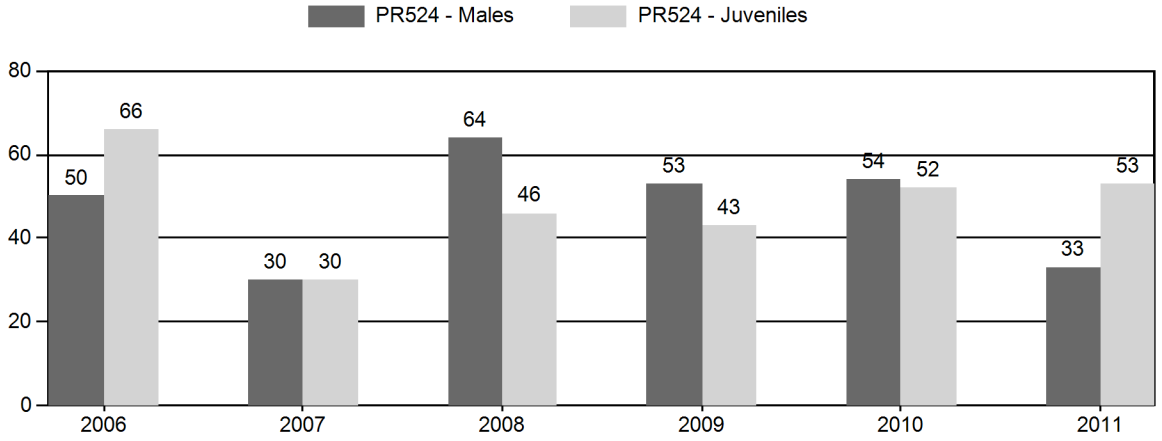
Active Licenses



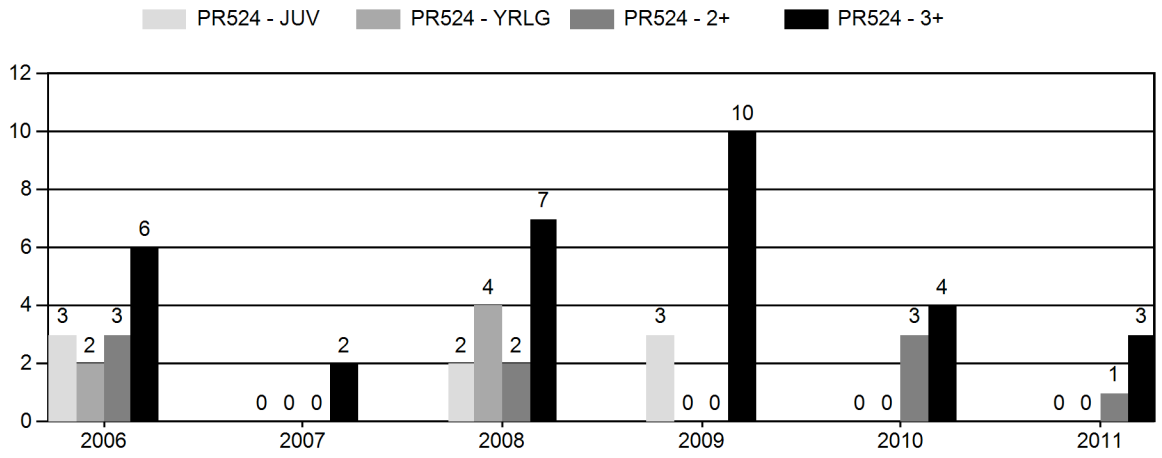
Days Per Animal Harvested



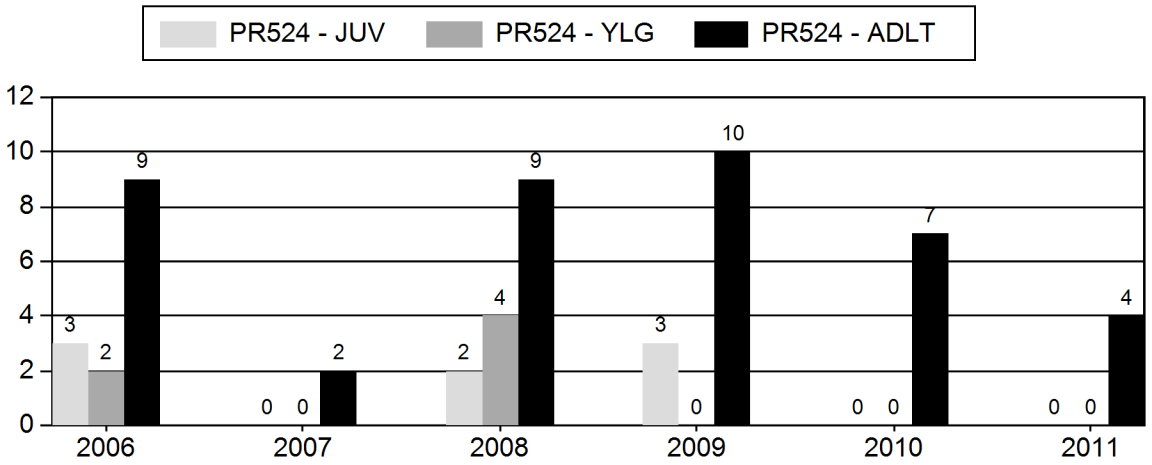
Preseason Animals per 100 Females



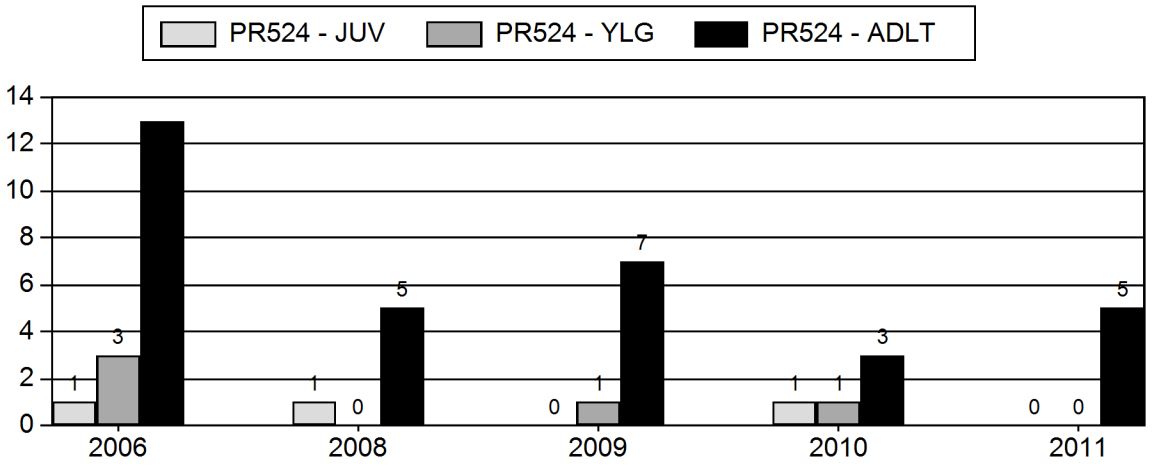
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2006 - 2011 Preseason Classification Summary

for Pronghorn Herd PR524 - DWYER

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2006	5,000	63	111	174	23%	345	46%	226	30%	745	650	18	32	50	± 0	66	± 0	44
2007	5,000	32	51	83	19%	281	63%	84	19%	448	650	11	18	30	± 0	30	± 0	23
2008	5,000	102	258	360	31%	560	47%	259	22%	1,179	984	18	46	64	± 6	46	± 5	28
2009	5,000	60	123	183	27%	345	51%	147	22%	675	1,036	17	36	53	± 0	43	± 0	28
2010	4,900	78	113	191	26%	356	49%	185	25%	732	807	22	32	54	± 0	52	± 0	34
2011	5,500	56	115	171	18%	512	54%	271	28%	954	1,345	11	22	33	± 4	53	± 6	40

2011 HUNTING SEASONS

PR524 - DWYER

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
103		ARCH		08/15 - 10/04	Refer to Section 3 of this Chapter
103		Type 1	375	10/05 - 10/31	Any
103		Type 6	100	10/05 - 10/31	Reduced Price doe/fawn
103		Type 6	100	11/01 - 11/30	Unused Area 103 Type 6 licenses valid in that portion of Area 103 north of the Ridge Road (Converse County Road 6, Platte County Road 135)
103		Type 7	175	10/05 - 10/31	Limited Quota; 175 licenses doe or fawn valid in that portion of Area 103 south of Cottonwood Creek

Table 1. PH524 Harvest Data, 2011.

Area	Type	Active Lic/*	Buck	Doe	Fawn	Total	Success	Days/Harve	Days	Licenses Sold
2011										
103 DWYER										
	Type 1	321	284	0	0	284	88.50%	2.8	800	374
	Type 6	90	0	65	8	73	81.10%	3.4	245	100
	Type 7	163	0	121	15	136	83.40%	4.9	670	175
Pooled Total		475	284	186	23	493	103.80%	3.5	1715	
Pooled Resident		300	210	95	5	310	103.30%	3.1	958	
Pooled Nonresident		175	74	91	18	183	104.60%	4.1	757	
2011 Hunt Area Total		475	284	186	23	493	103.80%	3.5	1715	649
2011 Herd Total		475	284	186	23	493	103.80%	3.5	1715	649

*Active Licenses

2006 - 2011 Harvest Age Structure

for Pronghorn Herd PR524 - DWYER

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2006	3	2	18%	3	6	55%	14	0	0	14	1	3	19%	1	12	75%	17	0	6	23	37
2007	0	0	0%	0	2	100%	2	0	0	2	0	0	0%	0	0	0%	0	0	0	0	2
2008	2	4	31%	2	7	54%	15	0	0	15	1	0	0%	2	3	60%	6	0	0	6	21
2009	3	0	0%	0	8	100%	11	2	4	17	0	1	12%	2	0	0%	3	5	1	9	26
2010	0	0	0%	3	2	40%	5	2	0	7	1	1	25%	1	0	0%	3	2	2	7	14
2011	0	0	0%	1	0	0%	1	3	0	4	0	0	0%	1	1	50%	2	3	0	5	9

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

DWYER PRONGHORN (A524)
HUNT AREA 103
2012 HUNTING SEASONS

HUNT AREA	TYPE	OPENS	CLOSES	LIMITATIONS
103	1	OCT. 5	OCT. 31	L.Q.; 375 licenses any antelope
	6	OCT. 5	OCT. 31	L.Q.; ~~100~~ 150 licenses doe or fawn
		NOV. 1	~~NOV. 30~~ DEC. 31	Unused Area 103 Type 6 licenses valid in that portion of Area 103 ~~north of the Ridge Road (Converse County Road 6, Platte County Road 135)~~ north of Horseshoe Creek
	7	OCT. 5	OCT. 31	L.Q.; ~~175~~ 225 licenses doe or fawn valid in that portion of Area 103 south of Cottonwood Creek.
ARCHERY				
103		AUG 15	OCT. 4	Refer to Section 3 of this Chapter

CHANGES FOR 2012

- Increase Hunt Area 103 Type 6 licenses from 100 to 150
- Increase Hunt Area 103 Type 7 licenses from 175 to 225
- Increase the Season Length for the Type 6 licenses by 31 days
- Expand the boundary for the late season Type 6 licenses to include that portion of Hunt Area 103 north of Horseshoe Creek.

Hunt Area	License Type	Proposed Change
103	6	+50
103	7	+50

Management Evaluation

Population: The 2011 post-season population was 5,000 pronghorn, 25% over the objective of 4,000. Seasons have been adjusted to try and bring the population towards the objective with an increase in Type 6 and 7 licenses and season length for the Type 6 licenses.

The population was anchored to adult buck ratios, fawn ratios and the 2004 end-of-the year line transect estimate. Yearling male ratios were not aligned due to lack of confidence in the survey assuming yearling bucks were not separately classified from adult pronghorn or were confused with doe pronghorn.

The population increased as increased buck and fawn ratios outstripped the harvest.

The winter of 2011/12 produced below average snow production and average to above average temperatures, most likely resulting in below average winter mortality.

However, the spring of 2012 produced the lowest amount of precipitation in recent years. Based on the Wyoming Climate Web page (www.wrds.uwyo.edu/sco/data/climate_Summary_2012Mar.html) Southeast Wyoming had 0" of precipitation in March. Also based on the same website the Laramie River Basin was 64% of normal as of March 2012. Data for April, May and June were not available at the time of this report, but based on anecdotal observations there was little precipitation recorded during those months when the vegetative production so crucial to juvenile production and survival. The summer of 2012 has also produced the highest amount of wildfire activity in recent history. At the time of this report there have been 4 wildfires that have burned an estimate of 110,000 acres.

The WGFD will change the way ungulate populations are estimated starting biological year 2012. POP II will be replaced by Spreadsheet Models that were developed by G. White and B. Lubow, of the Colorado Division of Wildlife. Based on input from T. Morrison of the Wyoming Cooperative Fish and Wildlife Research Unit, the Spreadsheet Model provides a more statistically rigorous way to estimate population sizes and to compare different models (Morrison, 2012).

2011 Season: The 2011 season was designed to stabilize the population around the objective of 4,000 pronghorn, while increasing Type 1 licenses to take advantage of increased buck ratios. Type 6 will remain the same at 100 but the season length was increased by moving the closing date from November 15 to November 30. Type 7 licenses were decreased from 200 to 175. Given predicted harvest and buck:100doe:fawn ratios it was assumed this would maintain the population. However, above average fawn ratios in 2010 and 2011 coupled with above average buck ratios from 2008-2010 resulted in an increase in the population. The 2011 season resulted in a harvest of 284 bucks, 186 does and 23 fawns for a total harvest of 493 pronghorn, which was a decrease when compared to the 2010 season of 526 pronghorn.

2012 Season: The 2012 season is designed to decrease the population by increasing the Type 6 licenses by 50 and increasing the season length by 31 days. The Type 7 license increased from 175 to 225. Due to an observed decrease in buck ratios in 2011 the Type 1 licenses will remain the same at 375. Given previous harvest statistics it is predicted the 2012 season will result in a harvest of 280 bucks, 260 does, and 30 fawns for a total harvest of 570 pronghorn, which should decrease the population and move it closer to the objective of 4,000 pronghorn.

Literature Cited:

Guenzel, R.J. 2007. Procedures for Estimating Pronghorn Abundance In Wyoming Using Aerial Line Transect Sampling. Wyoming Game and Fish Department, Cheyenne. ____pp.

Morrison, T. 2012. User Guide: Spreadsheet Model for Ungulate Population Data, Wyoming Cooperative Fish and Wildlife Research Unit, 4.

Dwyer - standard modeling parameters
Data from 1990 to 2012 Simulation from 2002 to 2012

Age Class	Init Pop. Male	Prop. Female	Presn Male	Mort% Female	Postsn Mort% Male	Female	Effort Set 1 Male	Female	Effort Set 2 Male	Female
0	56.5	56.5	50.0	50.0	30.0	30.0	1.00	1.00	1.00	1.00
1	9.9	21.2	2.0	2.0	6.0	3.0	0.10	1.00	1.45	1.00
2	7.9	16.9	2.0	2.0	6.0	3.0	1.00	1.00	1.00	1.00
3	6.3	13.5	2.0	2.0	6.0	3.0	1.00	1.00	1.00	1.00
4	5.1	10.8	2.0	2.0	6.0	3.0	1.00	1.00	1.00	1.00
5	4.1	8.7	2.0	2.0	7.0	3.0	1.00	1.00	1.00	1.00
6	3.2	6.9	2.0	2.0	9.0	5.0	1.00	1.00	1.00	1.00
7	2.6	5.5	2.0	2.0	25.0	10.0	1.00	1.00	1.00	1.00
8	2.1	4.4	2.0	2.0	50.0	20.0	1.00	1.00	1.00	1.00
9	1.7	3.6	2.0	2.0	100.0	30.0	1.00	1.00	1.00	1.00
10	1.3	2.8	2.0	2.0	100.0	40.0	1.00	1.00	1.00	1.00
11	1.1	2.3	2.0	2.0	100.0	50.0	1.00	1.00	1.00	1.00
12	0.8	1.8	2.0	2.0	100.0	75.0	1.00	1.00	1.00	1.00
13	0.7	1.5	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 259.7 Estimated Sum = 9500 Subadults: Ages 0 to 0

Data Set: A5242012 ten year new.GN1 02/29/2012 12:32 pm Page 2

MSI Function is Linear

Bio-Year	Preseason MSI	Harvest // Des. Pop Size in NA Subadults#	Males#	Females#	Postseason MSI	Effort & Wound Set Used
1990	1.00	6	132	45	1.10	1
1991	1.26	8	149	88	1.00	1
1992	1.37	11	142	128	1.00	1
1993	1.70	0	118	23	1.00	1
1994	1.40	6	290	80	1.00	1
1995	1.59	6	288	116	1.00	1
1996	1.42	10	281	137	1.00	1
1997	1.51	0	271	200	1.00	1
1998	1.50	16	276	143	1.10	2
1999	1.49	39	276	173	1.00	1
2000	1.15	20	272	170	0.70	1
2001	1.19	13	262	152	0.70	1
2002	1.40	14	310	140	0.70	2
2003	1.53	25	284	177	0.70	1
2004	1.52	17	313	175	1.10	2
2005	1.53	23	281	166	1.00	1
2006	1.19	46	229	154	1.20	2
2007	1.61	21	284	183	0.60	1
2008	1.45	33	249	156	0.95	1
2009	1.46	15	267	197	0.80	1
2010	1.33	25	289	212	2.00	1
2011	1.35	23	284	186	2.00	2
2012	1.40	30	280	260	2.00	2

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1991	0.0	180.0	0.0	
1992	0.0	180.0	0.0	
1993	0.0	180.0	0.0	
1994	0.0	180.0	0.0	
1995	0.0	180.0	0.0	
1996	0.0	180.0	0.0	
1997	0.0	180.0	0.0	
1998	0.0	180.0	0.0	
1999	0.0	180.0	0.0	
2000	0.0	180.0	0.0	
2001	0.0	180.0	0.0	
2002	0.0	180.0	0.0	
2003	0.0	180.0	0.0	
2004	0.0	180.0	0.0	
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	0.0	0.0	

Table 1. Population Size During Bio-Year for A5242012 ten year new.GN1 02/29/2012 12:32 pm

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
2002	9500	6456	5946	5233	14.6
2003	10889	6402	5867	5261	-0.4
2004	10845	6441	5885	4981	-4.3
2005	10373	6096	5579	4841	-3.1
2006	10048	6834	6363	5177	1.0
2007	10149	5980	5443	5048	2.1
2008	10358	6362	5880	5066	-2.9
2009	10057	6266	5739	5074	-0.9
2010	9965	6577	5999	4186	-16.5
2011	8321	5417	4874	3535	-14.7
2012	7101	4505	3878	2836	-60.1

Table 2. Preseason Natural Mortality for A5242012 ten year new.GN1 02/29/2012 12:32 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	2894	48	102	3044	32.0
2003	4327	49	111	4487	41.2
2004	4244	50	110	4404	40.6
2005	4125	47	105	4277	41.2
2006	3098	36	79	3213	32.0
2007	4002	57	110	4169	41.1
2008	3850	50	97	3996	38.6
2009	3643	52	96	3791	37.7
2010	3253	49	86	3388	34.0
2011	2791	42	71	2904	34.9
2012	2496	36	63	2595	36.5

Table 3. Harvest Mortality for A5242012 ten year new.GN1 02/29/2012 12:32 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	14	310	140	464	7.2
2003	25	284	177	486	7.6
2004	17	313	175	505	7.8
2005	23	281	166	470	7.7
2006	46	229	154	429	6.3
2007	21	284	183	488	8.2
2008	33	249	156	438	6.9
2009	15	267	197	479	7.6
2010	25	289	212	526	8.0
2011	23	284	186	493	9.1
2012	30	280	260	570	12.7

Table 4. Harvest Percentages for A5242012 ten year new.GN1 02/29/2012 12:32 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
2002	1.1	18.6	3.9	7.19	28.0
2003	1.9	18.2	5.0	7.59	4.1
2004	1.3	19.6	5.0	7.84	39.7
2005	1.8	18.8	5.0	7.71	3.9
2006	2.2	15.5	4.7	6.28	36.9
2007	2.2	16.7	5.5	8.16	5.7
2008	2.3	15.0	4.8	6.88	2.9
2009	1.1	15.4	6.2	7.64	3.8
2010	1.5	16.0	6.8	8.00	3.6
2011	1.7	18.6	7.3	9.10	27.3
2012	2.8	22.3	11.9	12.65	27.1

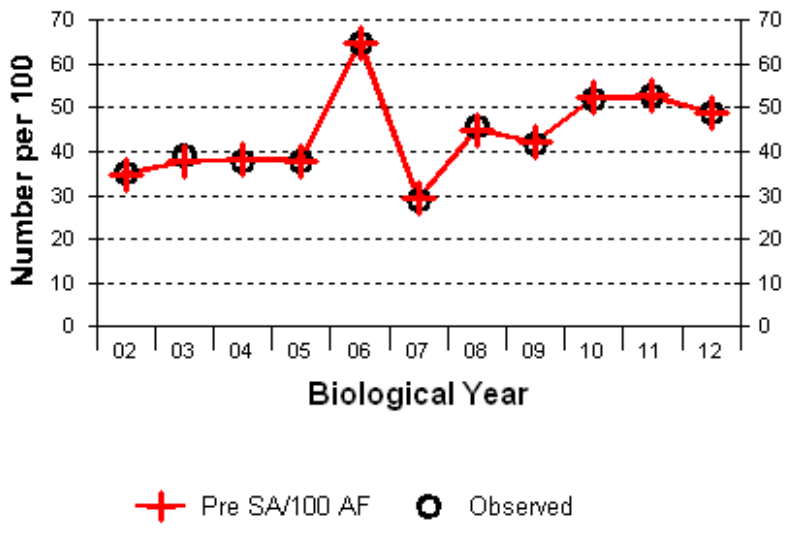
Table 5. Postseason Natural Mortality for A5242012 ten year new.GN1 02/29/2012 12:32 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2002	257	200	256	713	12.0
2003	273	116	218	607	10.3
2004	436	150	318	904	15.4
2005	373	107	258	738	13.2
2006	741	128	316	1186	18.6
2007	170	66	159	395	7.3
2008	406	111	297	814	13.8
2009	319	94	252	665	11.6
2010	967	239	607	1813	30.2
2011	791	186	363	1340	27.5
2012	622	151	269	1042	26.9

Table 6. Preseason Ratios for A5242012 ten year new.GN1 02/29/2012 12:32 pm

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2002	34.9	36.9	9.9	46.8
2003	37.8	31.0	13.3	44.3
2004	38.2	31.2	14.2	45.5
2005	38.0	32.0	12.9	44.9
2006	64.9	32.4	13.1	45.5
2007	29.3	32.1	19.3	51.3
2008	45.1	39.6	11.6	51.2
2009	42.3	38.9	15.5	54.4
2010	52.2	41.7	15.7	57.4
2011	52.7	47.5	12.3	59.8
2012	49.0	45.7	11.7	57.5

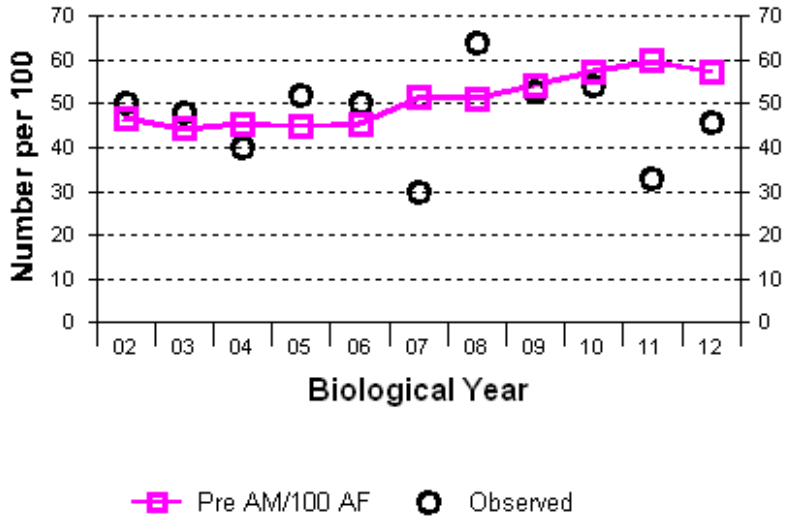
POP-II (V1.2.9) Graph 6. Preseason Ratios



ten year new.GN1, 02/29/2012 12:32 pm, Correlation (R) = 0.999, GOF = 0.989

YR	SIM	OBS
02	35	35
03	38	39
04	38	38
05	38	38
06	65	65
07	29	29
08	45	46
09	42	42
10	52	52
11	53	53
12	49	49
	AVERAGES	
of Col.	44	
of Pair	44	44

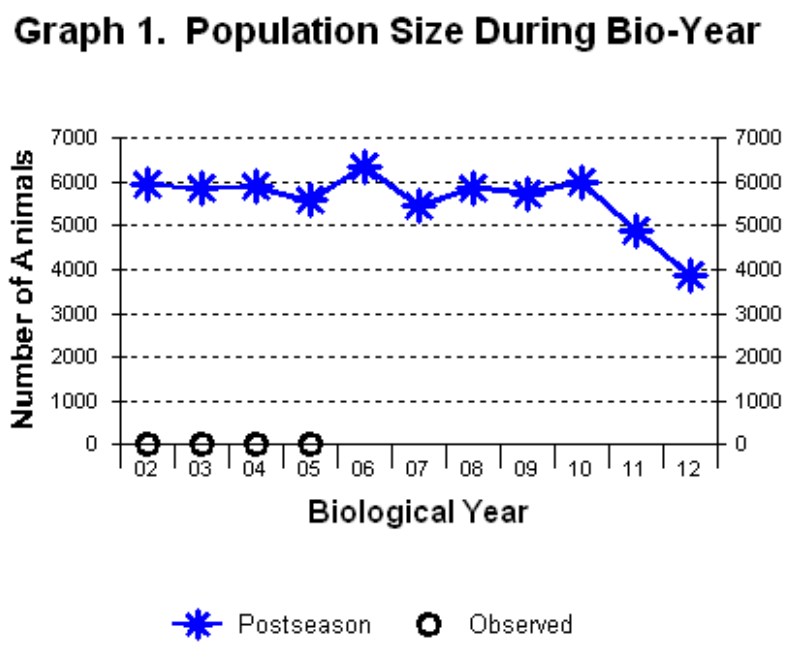
POP-II (V1.2.9) Graph 6. Preseason Ratios



ten year new.GN1, 02/29/2012 12:32 pm, Correlation (R) = -0.167, GOF = 0.744

YR	SIM	OBS
02	47	50
03	44	48
04	45	40
05	45	52
06	46	50
07	51	30
08	51	64
09	54	53
10	57	54
11	60	33
12	57	46
	AVERAGES	
of Col.	51	
of Pair	51	47

POP-II (V1.2.9) Graph 1. Population Size During Bio-Year

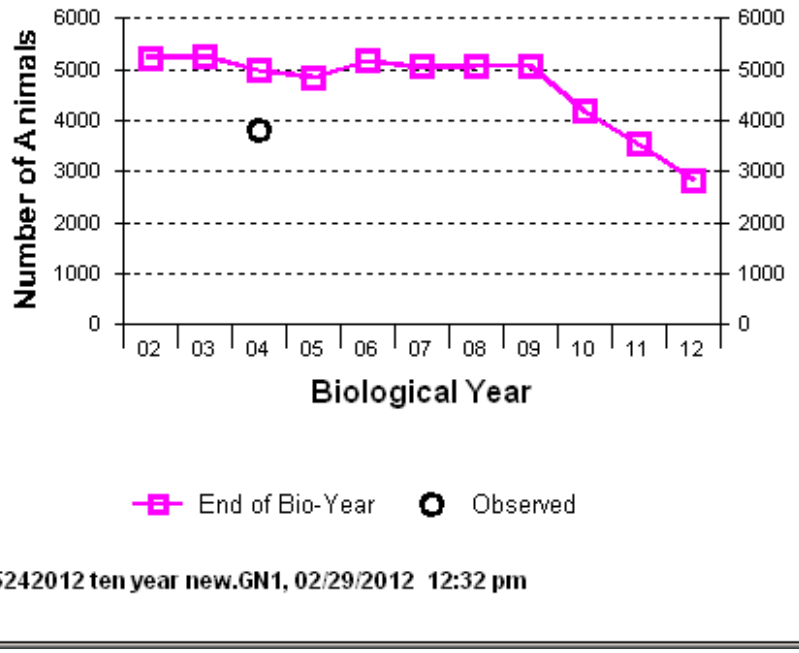


YR	SIM	OBS
02	5946	0
03	5867	0
04	5885	0
05	5579	0
06	6363	-----
07	5443	-----
08	5880	-----
09	5739	-----
10	5999	-----
11	4874	-----
12	3878	-----

AVERAGES

of Col.	5587	
of Pair	5819	0

POP-II (V1.2.9) Graph 1. Population Size During Bio-Year

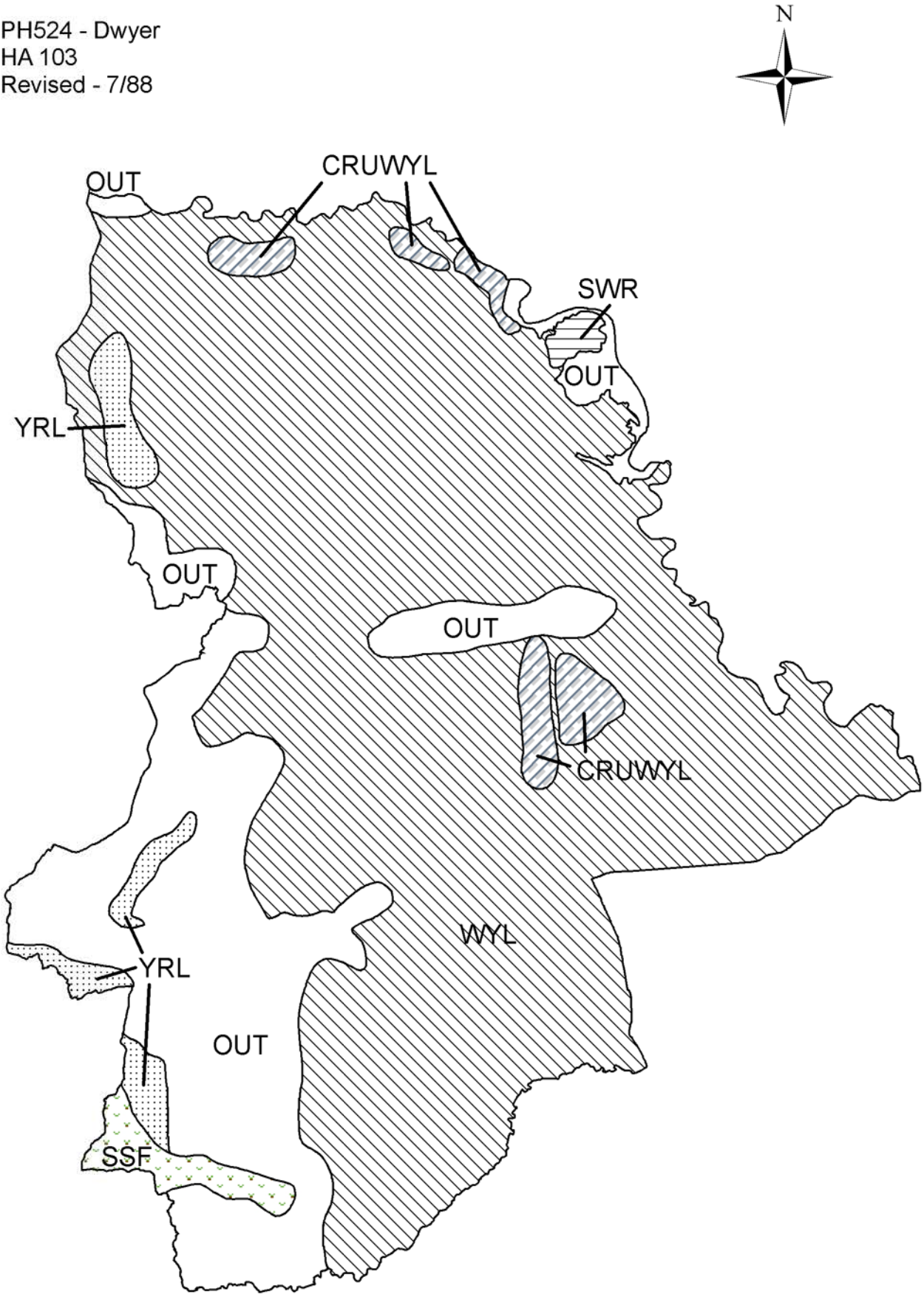


YR	SIM	OBS
02	5233	-----
03	5261	-----
04	4981	3812
05	4841	-----
06	5177	-----
07	5048	-----
08	5066	-----
09	5074	-----
10	4186	-----
11	3535	-----
12	2836	-----

AVERAGES

of Col.	4658

PH524 - Dwyer
HA 103
Revised - 7/88



2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR525 - MEDICINE BOW

HUNT AREAS: 30-32, 41-42, 46-48 | PREPARED BY: LEE KNOX

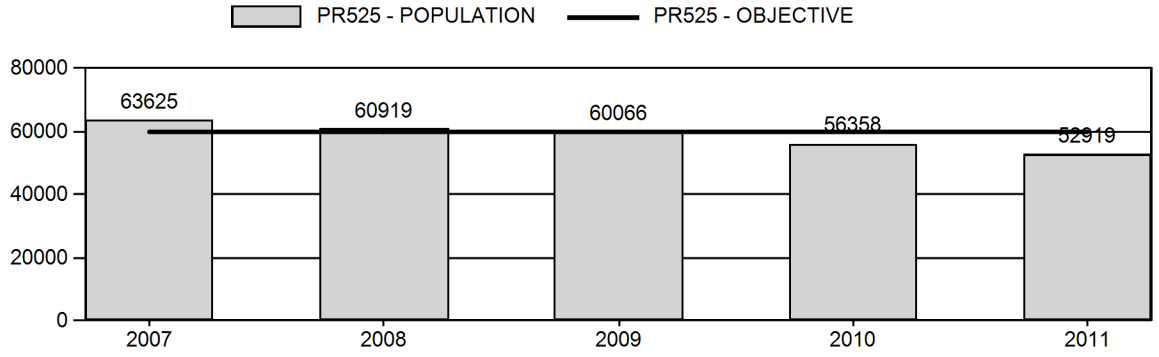
	2006 - 2010 Average	2011	2012 Proposed
Population:	60,942	52,919	52,597
Harvest:	7,214	7,239	7,000
Hunters:	7,688	8,034	7,500
Hunter Success:	94%	90%	93%
Active Licenses:	8,490	8,833	7,800
Active License Percent:	85%	82%	90 %
Recreation Days:	23,701	26,698	26,000
Days Per Animal:	3.3	3.7	3.7
Males per 100 Females	47	58	
Juveniles per 100 Females	64	59	

Population Objective:	60,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-11.8%
Number of years population has been + or - objective in recent trend:	3
Model Date:	3/1/2012

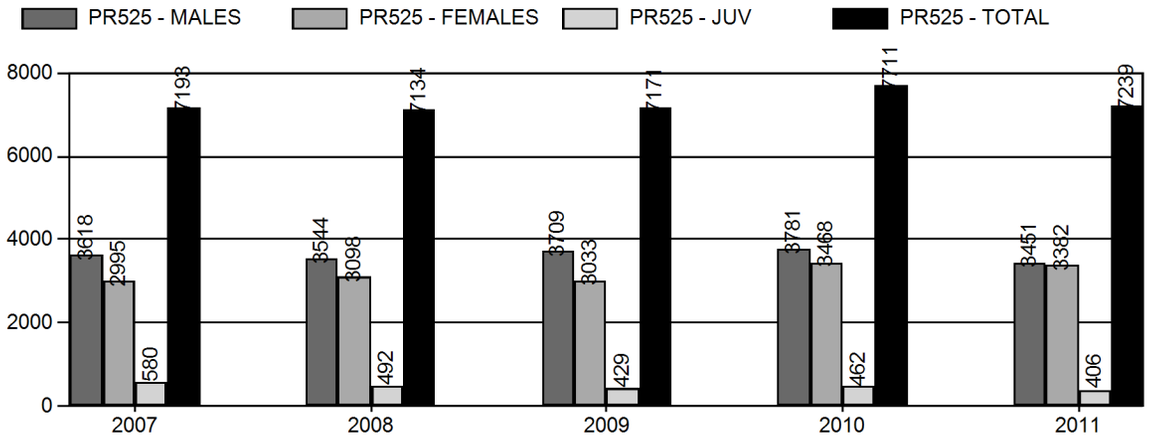
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	JCR Year	Proposed
Females ≥ 1 year old:	11.3%	11.8%
Males ≥ 1 year old:	23.4%	20.9%
Juveniles (< 1 year old):	2.4%	2.0%
Total:	11.87%	10.51%
Proposed change in post-season population:	-4.0%	-1.4%

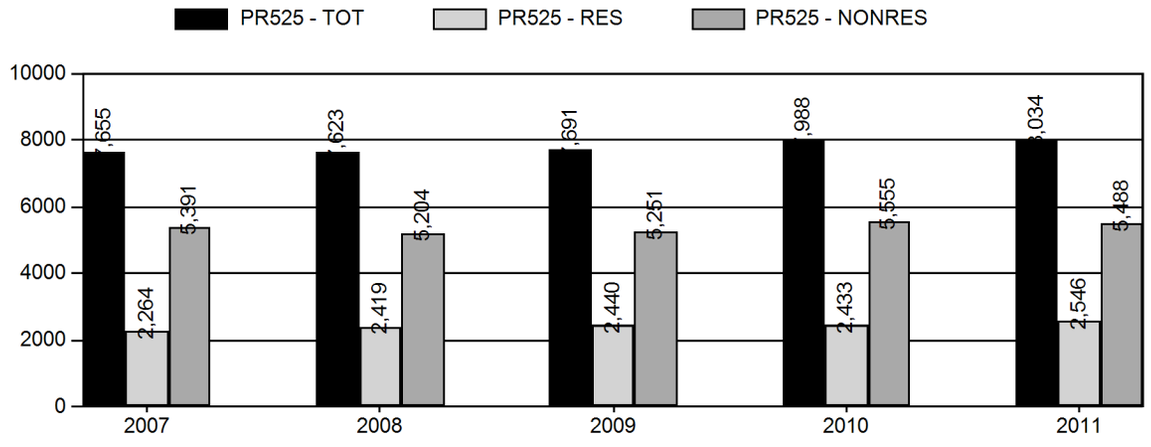
Population Size - Postseason



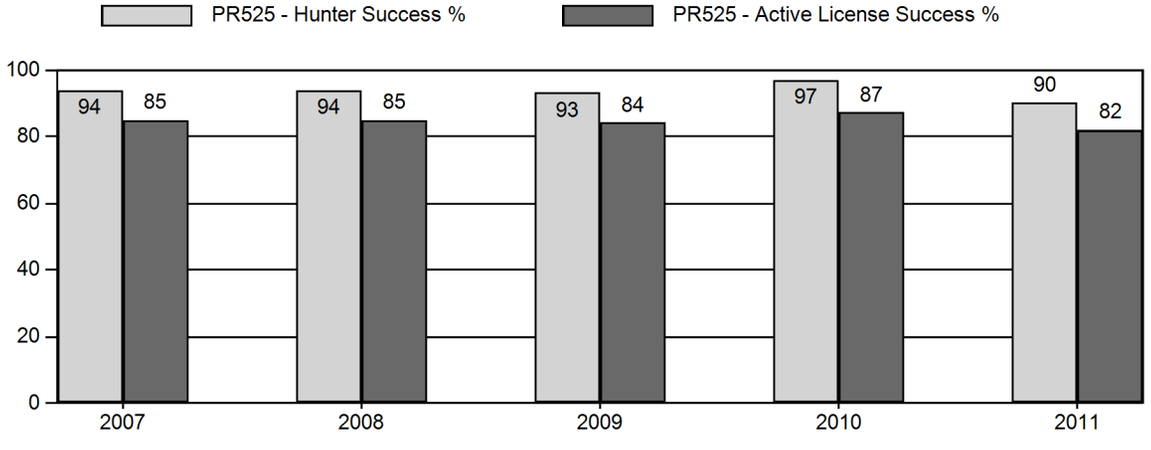
Harvest



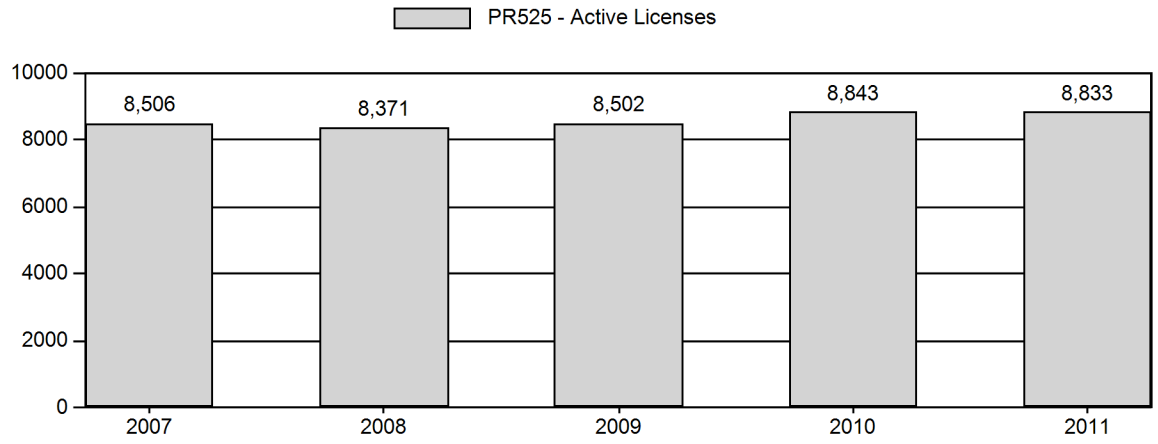
Number of Hunters



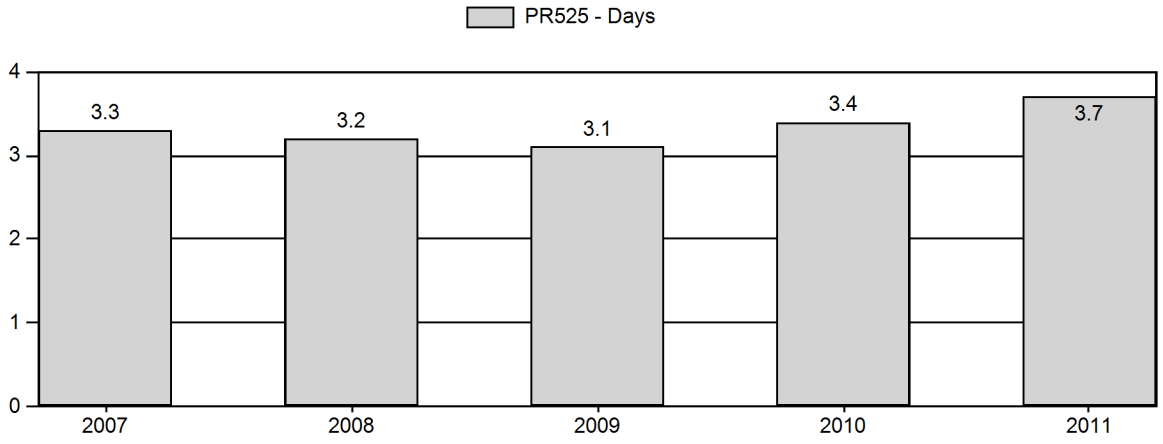
Harvest Success



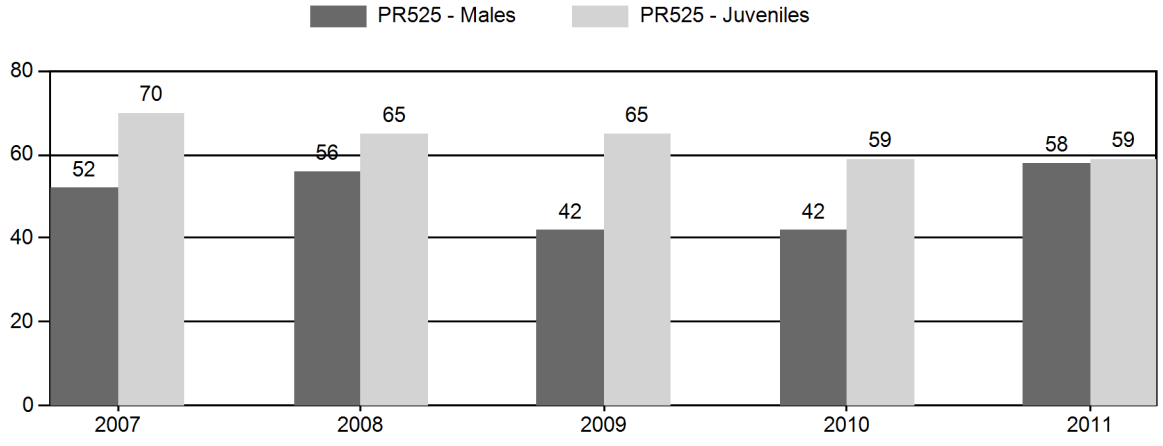
Active Licenses



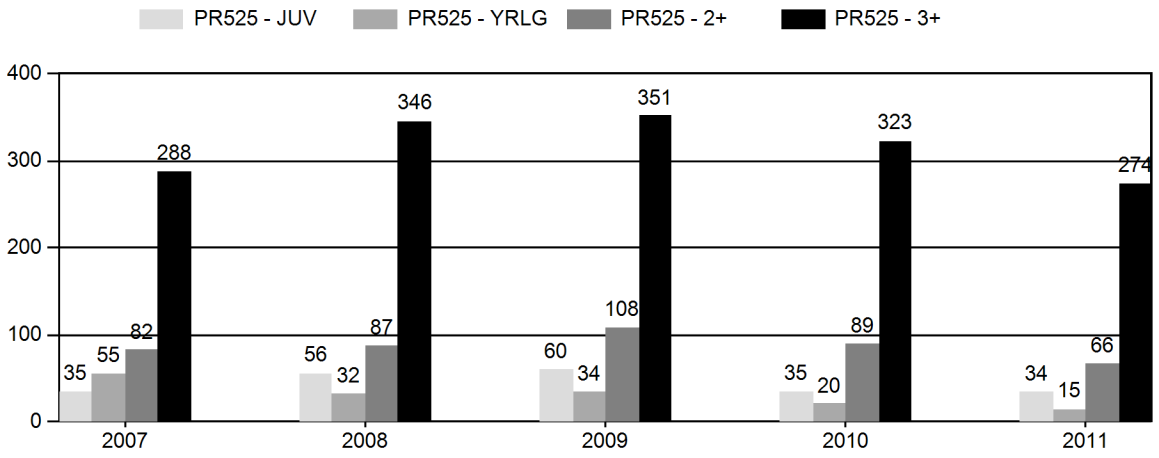
Days Per Animal Harvested



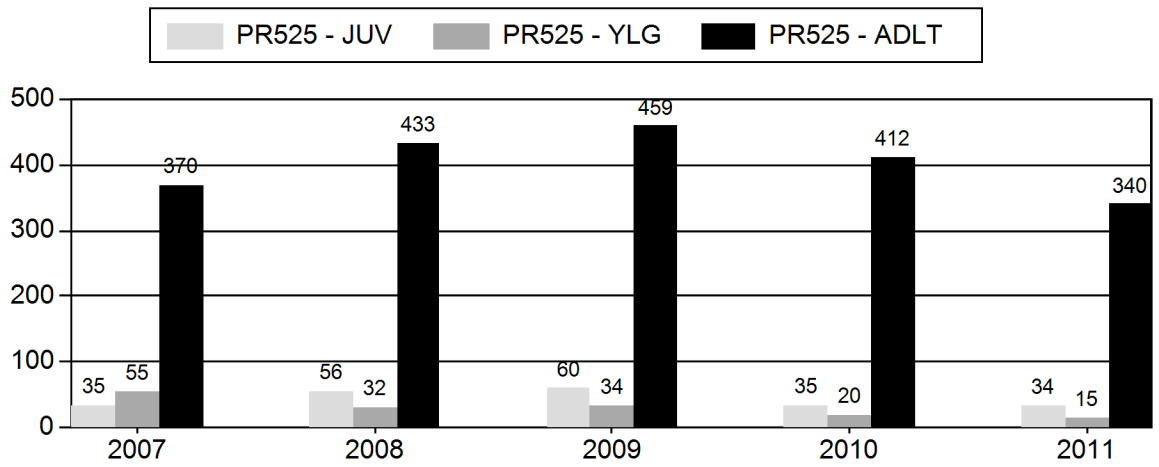
Preseason Animals per 100 Females



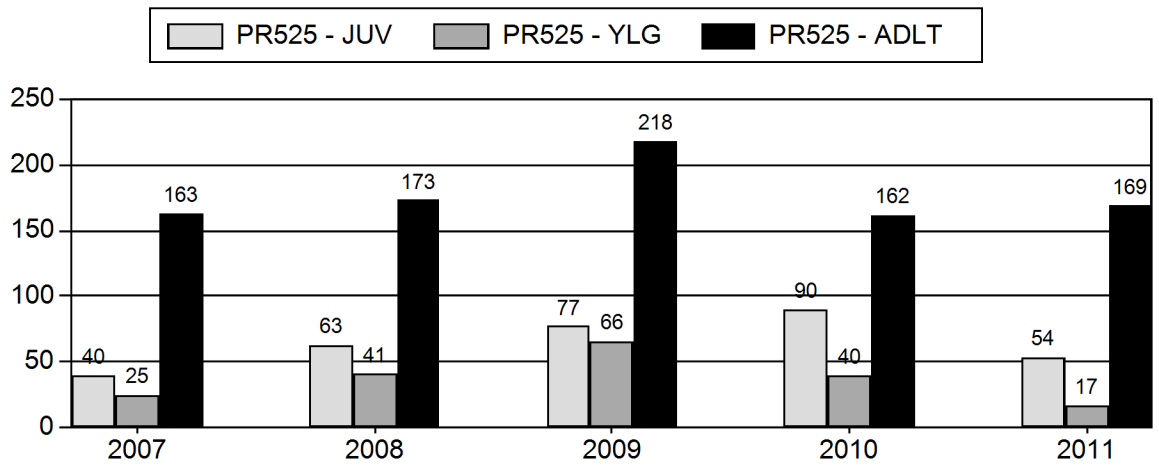
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2007 - 2011 Preseason Classification Summary

for Pronghorn Herd PR525 - MEDICINE BOW

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2007	71,539	579	805	1,384	24%	2,643	45%	1,849	31%	5,876	2,752	22	30	52	± 3	70	± 3	46
2008	68,748	427	906	1,333	25%	2,383	45%	1,547	29%	5,263	2,469	18	38	56	± 3	65	± 3	42
2009	67,963	451	940	1,391	20%	3,290	48%	2,149	31%	6,830	2,289	14	29	42	± 0	65	± 0	46
2010	64,840	446	840	1,286	21%	3,072	50%	1,809	29%	6,167	1,978	15	27	42	± 0	59	± 0	42
2011	60,868	299	994	1,293	27%	2,222	46%	1,306	27%	4,821	2,104	13	45	58	± 3	59	± 3	

2011 HUNTING SEASONS

PR525 - MEDICINE BOW

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
30		ARCH		08/15 - 10/09	Refer to Section 3 of this Chapter
30		Type 1	1000	10/10 - 10/31	Any
30		Type 6	1100	10/10 - 10/31	Reduced Price doe/fawn
31	32,41,42,46,47,48,	ARCH		08/15 - 09/25	Refer to Section 3 of this Chapter
31		Type 1	450	09/25 - 10/31	Any
31		Type 6	400	09/25 - 10/31	Reduced Price doe/fawn
32		Type 1	500	09/25 - 10/31	Any
32		Type 6	400	09/25 - 10/31	Reduced Price doe/fawn
41		Type 1	50	09/25 - 10/31	Any
41		Type 6	50	09/25 - 10/31	Reduced Price doe/fawn
42		Type 1	650	09/25 - 10/31	Any
42		Type 6	300	09/25 - 10/31	Reduced Price doe/fawn
42		Type 7	200	10/05 - 10/31	Reduced Price doe/fawn
46		Type 1	225	09/25 - 10/31	Any
46		Type 2	225	10/05 - 10/31	Any
46		Type 6	300	09/25 - 10/31	Reduced Price doe/fawn
46		Type 7	250	10/05 - 10/31	Reduced Price doe/fawn
47		Type 1	1000	09/25 - 10/31	Any
47		Type 2	350	10/05 - 10/31	Any
47		Type 6	700	09/25 - 10/31	Reduced Price doe/fawn
47		Type 7	400	10/05 - 10/31	Reduced Price doe/fawn
48		Type 1	300	09/25 - 10/31	Any
48		Type 2	200	10/05 - 10/31	Any
48		Type 6	375	09/25 - 10/31	Reduced Price doe/fawn
48		Type 7	375	10/05 - 10/31	Reduced Price doe/fawn

Area	Type	Active Lic/ Htrs	Buck	Doe	Fawn	Total	Success	Days/ Harvest	Days	Licenses Sold
2011										
30 LA PRELE										
	Type 1	902	610	35	17	662	73.40%	4.4	2896	997
	Type 6	945	0	675	99	774	81.90%	4.2	3260	1080
Pooled Total		1768 (1847)*	610	710	116	1436	81.20% (77.7%)*	4.3	6156	
Pooled Resident		410	172	52	52	276	67.30%	4.8	1316	
Pooled Nonresident		1358	438	658	64	1160	85.40%	4.2	4840	
31 HAT SIX										
	Type 1	423	270	35	0	305	72.10%	5.6	1700	448
	Type 6	364	0	304	21	325	89.30%	4.4	1428	396
Pooled Total		708 (787)*	270	339	21	630	89.00% (80.1%)*	5	3128	
Pooled Resident		166	70	17	7	94	56.60%	11.3	1063	
Pooled Nonresident		542	200	322	14	536	98.90%	3.9	2065	
32 BATES CREEK										
	Type 1	460	337	9	0	346	75.20%	6	2088	501
	Type 6	355	0	246	61	307	86.50%	3.6	1115	400
Pooled Total		778 (815)*	337	255	61	653	83.90% (80.1%)*	4.9	3203	
Pooled Resident		229	116	17	8	141	61.60%	10	1406	
Pooled Nonresident		549	221	238	53	512	93.30%	3.5	1797	
41 LARAMIE PEAK										
	Type 1	40	29	0	0	29	72.50%	3.3	97	51
	Type 6	42	0	20	3	23	54.80%	4.6	106	50
Pooled Total		66 (82)*	29	20	3	52	78.80% (63.4%)*	3.9	203	
Pooled Resident		31	19	0	0	19	61.30%	4.7	90	
Pooled Nonresident		35	10	20	3	33	94.30%	3.4	113	
42 LARAMIE PLAINS										
	Type 1	609	510	9	0	519	85.20%	3	1567	651
	Type 6	268	0	180	26	206	76.90%	3.8	785	299
	Type 7	137	0	112	7	119	86.90%	3.6	427	196
Pooled Total		873 (1014)*	510	301	33	844	96.70% (83.2%)*	3.3	2779	
Pooled Resident		144	48	25	0	73	50.70%	3	216	
Pooled Nonresident		729	462	276	33	771	105.80%	3.3	2563	
46 KYLE										
	Type 1	210	152	5	0	157	74.80%	3.1	491	228
	Type 2	209	187	6	0	193	92.30%	3.3	633	226
	Type 6	257	0	166	37	203	79.00%	2.6	535	299
	Type 7	232	0	186	23	209	90.10%	3.3	700	250
Pooled Total		776 (908)*	339	363	60	762	98.20% (83.9%)*	3.1	2359	

Pooled Resident		201	121	44	6	171	85.10%		3.1	530	
Pooled Nonresident		575	218	319	54	591	102.80%		3.1	1829	
47 SHIRLEY BASIN											
	Type 1	926	709	43	0	752	81.20%		2.8	2085	1004
	Type 2	338	246	37	0	283	83.70%		3.6	1013	350
	Type 6	629	0	488	45	533	84.70%		2.9	1521	698
	Type 7	356	0	267	38	305	85.70%		3.1	942	400
Pooled Total		2150 (2249)*	955	835	83	1873	87.10%	(83.3%)*	3	5561	
Pooled Resident		1101	633	263	0	896	81.40%		3.1	2740	
Pooled Nonresident		1049	322	572	83	977	93.10%		2.9	2821	
48 LEO-HANNA											
	Type 1	270	224	15	0	239	88.50%		2.8	680	302
	Type 2	195	177	7	0	184	94.40%		3.2	596	203
	Type 6	333	0	294	11	305	91.60%		2.3	697	376
	Type 7	333	0	243	18	261	78.40%		5.1	1336	375
Pooled Total		985 (1131)*	401	559	29	989	100.40%	(87.4%)*	3.3	3309	
Pooled Resident		272	191	71	0	262	96.30%		2.9	771	
Pooled Nonresident		713	210	488	29	727	102.00%		3.5	2538	
2011 Hunt Area Total		8104 (8833)*	3451	3382	406	7239	89.30%	(82.0%)*	3.7	26698	9780
2011 Herd Total		8034 (8833)*	3451	3382	406	7239	90.10%	(82.0%)*	3.7	26698	9780

*Active Licenses

2007 - 2011 Harvest Age Structure

for Pronghorn Herd PR525 - MEDICINE BOW

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2007	35	55	13%	82	267	66%	439	21	1	461	40	25	13%	22	106	69%	193	35	0	228	689
2008	56	32	7%	87	328	73%	503	18	19	540	63	41	19%	34	131	64%	269	8	110	387	927
2009	60	34	7%	108	162	53%	364	189	22	575	77	66	23%	45	88	44%	276	85	132	493	1,068
2010	35	20	5%	89	127	54%	271	196	34	501	90	40	20%	42	66	45%	238	54	109	401	902
2011	34	15	4%	66	209	72%	324	65	23	412	54	17	9%	38	93	63%	202	38	73	313	725

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

MEDICINE BOW PRONGHORN
(PR525)
Hunt Areas 30, 31, 32, 41, 42, 46, 47, 48
2012 Hunting Seasons

Hunt Area	Type	Dates of Opens	Season Closes	Limitations
30	1	Oct. 10	Oct. 31	Limited quota; **800** licenses any antelope
	6	Oct. 10	Oct. 31	Limited quota; **800** licenses doe or fawn
31	1	Sept. 25	Oct. 31	Limited quota; ~~450~~ **350** licenses any antelope
	6	Sept. 25	Oct. 31	Limited quota; 400 licenses doe or fawn
32	1	Sept. 25	Oct. 31	Limited quota; ~~500~~ **400** licenses any antelope
	6	Sept. 25	Oct. 31	Limited quota; 400 licenses doe or fawn
41	1	Sept. 25	Oct. 31	Limited quota; 50 licenses any antelope
	6	Sept. 25	Oct. 31	Limited quota; 50 licenses doe or fawn
42	1	Sept. 25	Oct. 31	Limited quota; 650 licenses any antelope
	6	Sept. 25	Oct. 31	Limited quota; ~~300~~ **250** licenses doe or fawn
	7	Oct. 5	Oct. 31	Limited quota; ~~200~~ **150** licenses doe or fawn
46	1	Sept. 25	Oct. 31	Limited quota; 225 licenses any antelope
	2	Oct. 5	Oct. 31	Limited quota; 225 licenses any antelope
	6	Sept. 25	Oct. 31	Limited quota; 300 licenses doe or fawn
	7	Oct. 5	Oct. 31	Limited quota; 250 licenses doe or fawn
47	1	Sept. 25	Oct. 31	Limited quota; ~~1,000~~ **900** licenses any antelope
	2	Oct. 5	Oct. 31	Limited quota; ~~350~~ **300** licenses any
	6	Sept. 25	Oct. 31	Limited quota; ~~700~~ **650** licenses doe or fawn
	7	Oct. 5	Oct. 31	Limited quota; ~~400~~ **350** licenses doe or fawn
48	1	Sept. 25	Oct. 31	Limited quota; 300 licenses any antelope
	2	Oct. 5	Oct. 31	Limited quota; 200 licenses any antelope
	6	Sept. 25	Oct. 31	Limited quota; 375 licenses doe or fawn
	7	Oct. 5	Oct. 31	Limited quota; 375 licenses doe or
Archery				
30,31,32,41, 42,46,47,48		Aug. 15		Refer to Section 3 of this Chapter

SUMMARY OF CHANGES BY LICENSE NUMBER

Area	Type	Change from 2010
30	1	-200
	6	-300
31	1	-100
	6	0
32	1	-100
	6	0
41	1	0
	6	0
42	1	0
	6	-50
	7	-50
46	1	0
	2	0
	6	0
	7	0
47	1	-100
	2	-50
	6	-50
	7	-50
48	1	0
	2	0
	6	0
	7	0
Herd Totals	**1 & 2**	**-550**
	6 & 7	**-500**

Changes for 2012

- decrease Area 30 Type 1s by 200 and Type 6's by 300
- decrease Area 31 Type 1s by 100
- decrease Area 32 Type 1s by 100
- decrease Area 42 Type 6s and Type 7s by 50 each
- decrease Area 47 Type 1s by 100 and Type 2s, Type 6s and Type 7s by 50 each

Management Evaluation*:*

The Medicine Bow Herd Unit is under recreational management. Habitat conditions in the Medicine Bow Herd have warranted a reduction in population size below objective level. Our

harvest strategy has been to stabilize and then reduce the herd. It appears we started driving the population below the objective of 60,000 in 2010 and have continued to do so with the 2011 post season population estimate at 52,919. If we continue this harvest pressure we may drive the population near 10,000 below objective. There is also concern that we have impacted buck availability and quality. We are losing a HMA and we already lost some access in other areas because of wind farm restrictions. Therefore we are decreasing harvest throughout the herd unit. Hunt Area 47 has seen a decrease in buck quality but over all hunter success and harvest has been good. Hunt Area 47 is the largest hunt area in the herd unit and we will slowly decrease Hunt Area 47 license Types until the population levels out. We will be losing significant hunter access in Hunt Area 30 and therefore decreasing both type 1s and 6s. We propose decreasing Type 1s by 100 each in Area 32 and 31 due to hunter success declining from 88% to 75% and 95% to 72% respectively.

Population: The goal of population management for the Medicine Bow Pronghorn Herd is to reduce pronghorn numbers in order to address habitat concerns. The Medicine Bow Pronghorn Herd had been above or at the objective of 60,000 from 2004 through 2009. We brought the population below objective in 2010 and have continued to bring it down with the 2011 post season population estimate at 52,919. Herd unit buck:doe ratios are at 58:100 and at a 5 year low. The observed fawn:doe ratio has remained low the last 2 years at 59:100. Fawn:doe ratios were 65:100 in 2008 and 2009.

Harvest: Since 1998, harvests have more than tripled from 2,176 to over 7,700. Some 8,000 hunters participated in the 2011 hunt which is an increase of just over 300 from 2010. Success decreased from 87% in 2010 to 82% in 2011. Total harvest decreased from 7700 in 2010 to 7200 in 2011. With the decreases in quotas we hope to bring harvest success near the 5 year average of 94% and stabilize the population near 53,000.

Data Set: PR525_11.gn1 03/03/2012 09:37 am Page 1

MEDICINE BOW PRONGHORN - 2011 Seasons Model
Data from 1989 to 2012 Simulation from 1989 to 2012

Age Class	Init Pop. Male	Init Pop. Female	Presn Male	Mort% Female	Postsn Mort% Male	Postsn Mort% Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	7800.0	7800.0	50.0	50.0	45.0	35.0	1.00	1.00	1.00	1.00
1	2200.0	2984.0	2.0	2.0	5.0	5.0	1.00	1.00	0.20	1.00
2	1800.0	2611.0	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
3	1543.0	1803.0	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
4	1000.0	1472.0	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
5	300.0	500.0	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
6	300.0	1200.0	2.0	2.0	15.0	5.0	1.00	1.00	1.00	1.00
7	70.0	951.0	2.0	2.0	25.0	10.0	1.00	1.00	1.00	1.00
8	20.0	648.0	2.0	2.0	35.0	15.0	1.00	1.00	1.00	1.00
9	5.0	493.0	2.0	2.0	50.0	20.0	1.00	1.00	1.00	1.00
10	3.0	311.0	2.0	2.0	70.0	25.0	1.00	1.00	1.00	1.00
11	1.0	249.0	2.0	2.0	80.0	50.0	1.00	1.00	1.00	1.00
12	0.0	163.0	2.0	2.0	98.0	75.0	1.00	1.00	1.00	1.00
13	0.0	78.0	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 36305.0 Estimated Sum = 84000 Subadults: Ages 0 to 0

Data Set: PR525_11.gn1 03/03/2012 09:37 am Page 2

MSI Function is Linear

Bio-Year	Preseason MSI	Harvest // Des. Pop Size in NA Subadults#	Males#	Females#	Postseason MSI	Effort & Wound Set Used
1989	0.80	475	2837	2695	1.00	1
1990	0.62	520	2970	2697	1.00	1
1991	0.75	737	4232	3964	1.00	1
1992	0.95	901	5188	6032	2.00	1
1993	1.30	512	3679	3959	1.00	1
1994	1.07	281	2315	1847	1.00	2
1995	1.13	134	1755	960	1.00	2
1996	0.85	73	1574	489	0.80	1
1997	1.05	104	1869	782	1.00	2
1998	0.96	37	1703	436	1.75	2
1999	1.07	95	2005	658	1.20	2
2000	0.93	112	2595	849	1.30	2
2001	1.02	158	2304	889	1.20	1
2002	1.00	145	2600	1100	0.55	2
2003	0.87	296	3119	1930	0.60	2
2004	0.90	434	3358	2045	1.00	2
2005	0.90	422	3320	2397	1.30	1
2006	0.98	374	3088	2615	1.20	1
2007	0.85	584	3643	2967	1.20	1
2008	0.91	478	3553	3086	1.10	1
2009	0.91	435	3729	3015	1.10	1
2010	1.02	462	3781	3468	1.15	1
2011	1.03	410	3450	3366	1.00	1
2012	0.98	350	3000	2900	1.00	1

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1990	0.0	145.0	0.0	
1991	0.0	145.0	0.0	
1992	0.0	145.0	0.0	
1993	0.0	145.0	0.0	
1994	0.0	145.0	0.0	
1995	0.0	145.0	0.0	
1996	0.0	145.0	0.0	
1997	0.0	145.0	0.0	
1998	0.0	145.0	0.0	
1999	0.0	145.0	0.0	
2000	0.0	145.0	0.0	
2001	0.0	145.0	0.0	
2002	0.0	145.0	0.0	
2003	0.0	145.0	0.0	
2004	0.0	145.0	0.0	
2005	0.0	145.0	0.0	
2006	0.0	145.0	0.0	
2007	0.0	145.0	0.0	
2008	0.0	145.0	0.0	
2009	0.0	145.0	0.0	
2010	0.0	145.0	0.0	
2011	0.0	145.0	0.0	
2012	0.0	145.0	0.0	
2013	0.0	145.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for PR525_11.gn1, 03/03/2012 09:37 am

Table 1. Population Size During Bio-Year for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
1989	84000	68796	62188	50452	3.5
1990	86954	75013	68207	55042	7.1
1991	93119	78015	68188	55592	1.8
1992	94774	75106	61773	39793	-22.8
1993	73200	50451	41486	34811	-13.9
1994	63010	47178	42291	34808	-1.2
1995	62228	45949	42815	35553	3.1
1996	64169	51403	49053	41548	12.3
1997	72074	55175	52145	43022	6.3
1998	76623	59669	57275	38924	-6.8
1999	71445	53213	50179	39504	-0.1
2000	71353	55808	51897	39235	-0.3
2001	71121	54059	50372	39406	1.1
2002	71896	54863	50634	45441	11.4
2003	80078	64220	58341	51550	11.6
2004	89353	71414	64993	52910	4.4
2005	93250	74144	67391	51128	-2.5
2006	90932	70426	63742	50064	-2.2
2007	88892	71539	63625	49264	-2.5
2008	86659	68748	60919	48654	-1.1
2009	85708	67963	60066	47845	-1.4
2010	84521	64840	56358	44657	-5.4
2011	79979	60868	52919	43212	-4.0
2012	76755	59472	52597	42863	-1.4

Table 2. Preseason Natural Mortality for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1989	14438	268	498	15204	18.1
1990	11316	228	397	11941	13.7
1991	14279	312	514	15105	16.2
1992	18611	401	655	19667	20.8
1993	21714	359	675	22749	31.1
1994	15087	251	494	15832	25.1
1995	15492	265	521	16279	26.2
1996	12162	204	401	12766	19.9
1997	16026	307	566	16899	23.4
1998	16129	291	535	16955	22.1
1999	17399	281	552	18232	25.5
2000	14810	245	490	15544	21.8
2001	16262	258	543	17062	24.0
2002	16245	250	538	17033	23.7
2003	15067	262	529	15857	19.8
2004	17011	322	606	17939	20.1
2005	18153	333	620	19105	20.5
2006	19504	348	654	20506	22.6
2007	16502	298	553	17353	19.5
2008	17015	313	584	17911	20.7
2009	16859	309	576	17745	20.7
2010	18705	336	640	19681	23.3
2011	18191	311	609	19111	23.9
2012	16436	287	560	17283	22.5

Table 3. Harvest Mortality for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1989	475	2837	2695	6007	8.7
1990	520	2970	2697	6187	8.2
1991	737	4232	3964	8933	11.5
1992	901	5188	6032	12121	16.1
1993	512	3679	3959	8150	16.2
1994	281	2315	1847	4443	9.4
1995	134	1755	960	2849	6.2
1996	73	1574	489	2136	4.2
1997	104	1869	782	2755	5.0
1998	37	1703	436	2176	3.6
1999	95	2005	658	2758	5.2
2000	112	2595	849	3556	6.4
2001	158	2304	889	3351	6.2
2002	145	2600	1100	3845	7.0
2003	296	3119	1930	5345	8.3
2004	434	3358	2045	5837	8.2
2005	422	3320	2397	6139	8.3
2006	374	3088	2615	6077	8.6
2007	584	3643	2967	7194	10.1
2008	478	3553	3086	7117	10.4
2009	435	3729	3015	7179	10.6
2010	462	3781	3468	7711	11.9
2011	410	3450	3366	7226	11.9
2012	350	3000	2900	6250	10.5

Table 4. Harvest Percentages for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
1989	2.2	17.2	8.8	8.73	30.4
1990	2.1	16.3	8.5	8.25	31.6
1991	3.1	20.7	11.7	11.45	32.6
1992	4.4	25.1	17.8	16.14	30.0
1993	4.4	27.3	15.6	16.15	7.1
1994	2.1	20.1	8.2	9.42	6.6
1995	1.1	15.3	4.3	6.20	7.9
1996	0.4	13.4	2.1	4.16	27.0
1997	0.7	13.1	3.0	4.99	10.1
1998	0.2	11.4	1.6	3.65	6.6
1999	0.6	15.6	2.6	5.18	3.2
2000	0.7	20.1	3.3	6.37	6.6
2001	1.0	18.6	3.4	6.20	27.8
2002	0.9	21.2	4.2	7.01	7.3
2003	1.5	21.1	6.5	8.32	11.8
2004	2.1	19.1	6.2	8.17	11.5
2005	1.9	18.3	7.1	8.28	30.2
2006	1.8	17.7	8.0	8.63	25.4
2007	2.6	21.2	9.3	10.06	26.1
2008	2.3	21.1	9.8	10.35	29.0
2009	2.2	22.3	9.7	10.56	29.5
2010	2.6	23.4	11.3	11.89	30.2
2011	2.4	23.4	11.6	11.87	27.9
2012	2.0	20.9	10.4	10.51	31.3

Table 5. Postseason Natural Mortality for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1989	8454	770	2513	11736	18.9
1990	9846	901	2418	13165	19.3

1991	9195	1037	2364	12596	18.5
1992	15663	2154	4163	21980	35.6
1993	4452	726	1498	6675	16.1
1994	5121	733	1629	7484	17.7
1995	4712	790	1759	7262	17.0
1996	5240	693	1573	7505	15.3
1997	5754	1021	2348	9122	17.5
1998	12202	1744	4405	18352	32.0
1999	7209	901	2566	10675	21.3
2000	8796	959	2906	12662	24.4
2001	7416	878	2672	10966	21.8
2002	3539	401	1253	5192	10.3
2003	4619	514	1659	6791	11.6
2004	8126	961	2996	12083	18.6
2005	11296	1252	3716	16263	24.1
2006	9547	1068	3062	13677	21.5
2007	10408	1015	2938	14362	22.6
2008	8736	984	2545	12265	20.1
2009	8675	1073	2473	12221	20.3
2010	8033	1127	2541	11701	20.8
2011	6672	903	2132	9707	18.3
2012	6689	894	2151	9734	18.5

Table 6. Preseason Ratios for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1989	70.7	37.5	16.3	53.8
1990	79.6	39.3	18.1	57.5
1991	70.5	40.9	19.8	60.7
1992	60.8	42.8	18.3	61.2
1993	46.2	49.4	3.8	53.2
1994	58.1	37.7	13.3	50.9
1995	52.9	35.6	15.3	50.9
1996	71.0	37.1	13.7	50.9
1997	55.0	34.7	19.4	54.2
1998	64.0	40.3	14.2	54.5
1999	59.9	43.7	7.2	50.8
2000	66.0	37.0	13.1	50.1
2001	60.0	34.3	13.2	47.5
2002	61.7	33.3	13.2	46.6
2003	65.6	29.6	19.9	49.6
2004	62.9	32.2	20.9	53.1
2005	65.6	37.5	16.2	53.7
2006	62.0	39.7	13.5	53.2
2007	69.8	39.8	14.1	53.8
2008	64.7	38.0	15.5	53.6
2009	65.0	37.8	15.8	53.7
2010	58.5	36.7	15.9	52.6
2011	59.1	36.7	14.2	51.0
2012	61.1	35.3	16.1	51.3

Table 7. Postseason Ratios for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1989	76.3	33.6	14.7	48.3
1990	85.8	35.6	16.4	52.0
1991	78.2	36.3	17.5	53.8
1992	72.0	38.6	16.5	55.1
1993	53.1	41.7	3.2	44.9
1994	62.3	29.8	13.8	43.6
1995	54.8	29.1	15.3	44.4

1996	72.4	32.4	12.0	44.4
1997	56.4	28.7	19.3	48.0
1998	65.0	34.5	14.0	48.5
1999	61.2	36.2	7.1	43.3
2000	67.9	27.6	12.9	40.5
2001	61.6	28.3	10.9	39.2
2002	64.0	24.4	13.0	37.4
2003	69.4	21.0	20.0	41.0
2004	65.9	24.0	21.0	45.0
2005	69.7	32.5	14.1	46.5
2006	66.7	35.0	11.9	47.0
2007	75.5	34.0	12.0	46.0
2008	70.7	32.7	13.4	46.1
2009	71.0	31.9	13.4	45.3
2010	64.9	31.1	13.5	44.6
2011	66.0	31.3	12.1	43.4
2012	67.4	30.7	14.0	44.6

Table 8. End of Year Ratios for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Subadults /100 Adlts	Subadults /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1989	33.6	50.4	15.3	50.0
1990	36.7	56.2	17.0	53.4
1991	33.0	51.0	18.1	54.7
1992	10.9	17.0	17.5	55.7
1993	23.7	34.3	3.3	44.7
1994	28.3	40.6	14.2	43.4
1995	24.8	35.8	15.8	44.3
1996	36.6	52.9	12.4	44.5
1997	25.1	37.2	20.2	48.4
1998	15.5	23.3	15.3	50.2
1999	24.6	35.6	7.5	44.3
2000	26.1	36.9	13.6	41.5
2001	25.6	35.9	11.5	40.0
2002	38.1	52.5	13.3	37.7
2003	39.6	56.1	20.6	41.6
2004	29.9	43.8	22.1	46.4
2005	25.6	38.0	14.9	48.3
2006	26.0	38.6	12.5	48.3
2007	29.7	43.7	12.6	47.3
2008	29.6	43.5	13.9	46.9
2009	30.0	43.7	13.9	45.5
2010	26.8	38.7	14.0	44.6
2011	30.1	43.3	12.6	43.5
2012	30.6	44.3	14.5	44.9

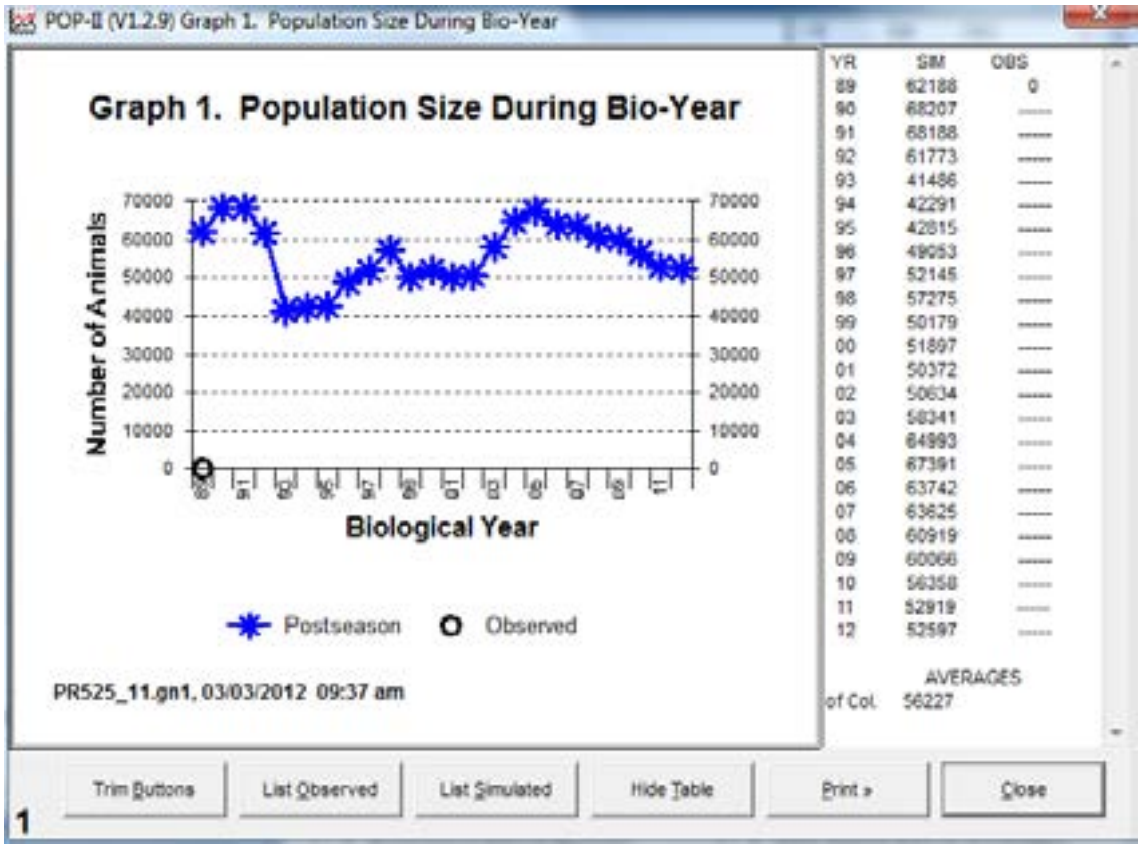
Table 9. Reproduction at Start of Bio-Year for PR525_11.gn1 03/03/2012 09:37 am

Bio-Year	Young / 100 AF 1 +	Sub-Ad. / 100 AF 1 +	Total Young	Total Sub-Adult	Total Females 1 +
1989	116	116	36094	36094	31150
1990	114	114	36502	36502	32043
1991	111	111	38077	38077	34260
1992	114	114	39181	39181	34492
1993	129	129	33407	33407	25976
1994	122	122	28199	28199	23065
1995	119	119	27420	27420	23072
1996	121	121	28616	28616	23564
1997	113	113	30526	30526	26947
1998	121	121	33601	33601	27848
1999	126	126	32522	32522	25806

2000	121	121	31849	31849	26320
2001	120	120	31886	31886	26600
2002	121	121	32490	32490	26887
2003	114	114	34636	34636	30382
2004	112	112	37803	37803	33673
2005	117	117	40340	40340	34423
2006	119	119	39804	39804	33370
2007	119	119	38827	38827	32545
2008	117	117	37395	37395	32078
2009	117	117	37054	37054	31660
2010	117	117	36676	36676	31356
2011	119	119	35323	35323	29577
2012	117	117	33543	33543	28554

Table A. Intra-Annual Natural Survival(%) for PR525_11.gn1 03/03/2012 09:37 am

Bio-Years	Sub Adults	Adult Males	Adult Females	Overall Survival
1989-1990	59.26	93.07	89.80	80.12
1990-1991	59.10	92.55	90.19	79.49
1991-1992	58.86	91.67	90.21	79.98
1992-1993	19.48	83.41	82.49	62.74
1993-1994	58.72	90.31	90.86	82.11
1994-1995	58.64	89.73	89.99	80.44
1995-1996	58.98	90.16	90.25	81.63
1996-1997	66.57	91.15	91.10	82.92
1997-1998	58.85	89.90	89.06	80.92
1998-1999	29.36	84.74	81.79	66.50
1999-2000	51.03	89.82	87.88	77.26
2000-2001	47.02	88.64	86.52	74.06
2001-2002	50.96	89.26	87.56	76.67
2002-2003	76.64	94.07	93.36	88.18
2003-2004	74.63	93.76	92.33	86.77
2004-2005	58.92	91.39	88.65	79.94
2005-2006	47.06	89.58	86.35	74.38
2006-2007	51.12	90.80	88.21	77.21
2007-2008	51.05	90.64	88.14	76.02
2008-2009	54.98	90.73	89.29	78.41
2009-2010	54.86	89.61	89.23	78.03
2010-2011	52.89	88.74	88.69	77.61
2011-2012	58.82	89.97	89.77	80.06


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
Postseason
Observed
PR525_11.gn1, 03/03/2012 09:37 am
YR SIM OBS
89 62188 0
90 68207 -----
91 68188 -----
92 61773 -----
93 41486 -----
94 42291 -----
95 42815 -----
96 49053 -----
97 52145 -----
98 57275 -----
99 50179 -----
00 51897 -----
01 50372 -----
02 50634 -----
03 58341 -----
04 64993 -----
05 67391 -----
06 63742 -----
07 63625 -----
08 60919 -----
09 60066 -----
10 56358 -----
11 52919 -----
12 52597 -----
AVERAGES
of Col. 56227
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
Close
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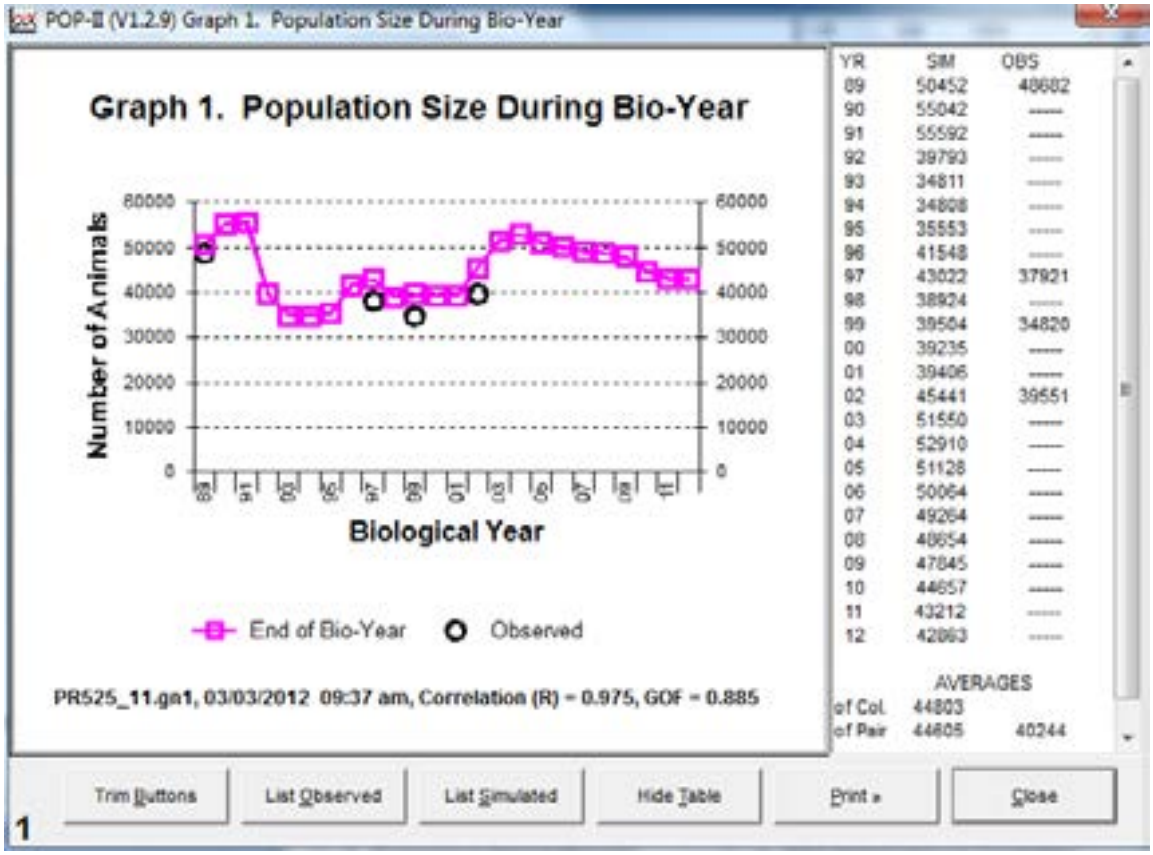
POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
End of Bio-Year
Observed
PR525_11.gn1, 03/03/2012 09:37 am, Correlation (R) = 0.975, GOF = 0.885
YR SIM OBS
89 50452 48682
90 55042 -----
91 55592 -----
92 39793 -----
93 34811 -----
94 34808 -----
95 35553 -----
96 41548 -----
97 43022 37921
98 38924 -----
99 39504 34820
00 39235 -----
01 39406 -----
02 45441 39651
03 51550 -----
04 52910 -----
05 51128 -----
06 50064 -----
07 49264 -----
08 48654 -----
09 47845 -----
10 44657 -----
11 43212 -----
12 42863 -----
AVERAGES
of Col. 44803
of Pair 44605 40244
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List Simulated
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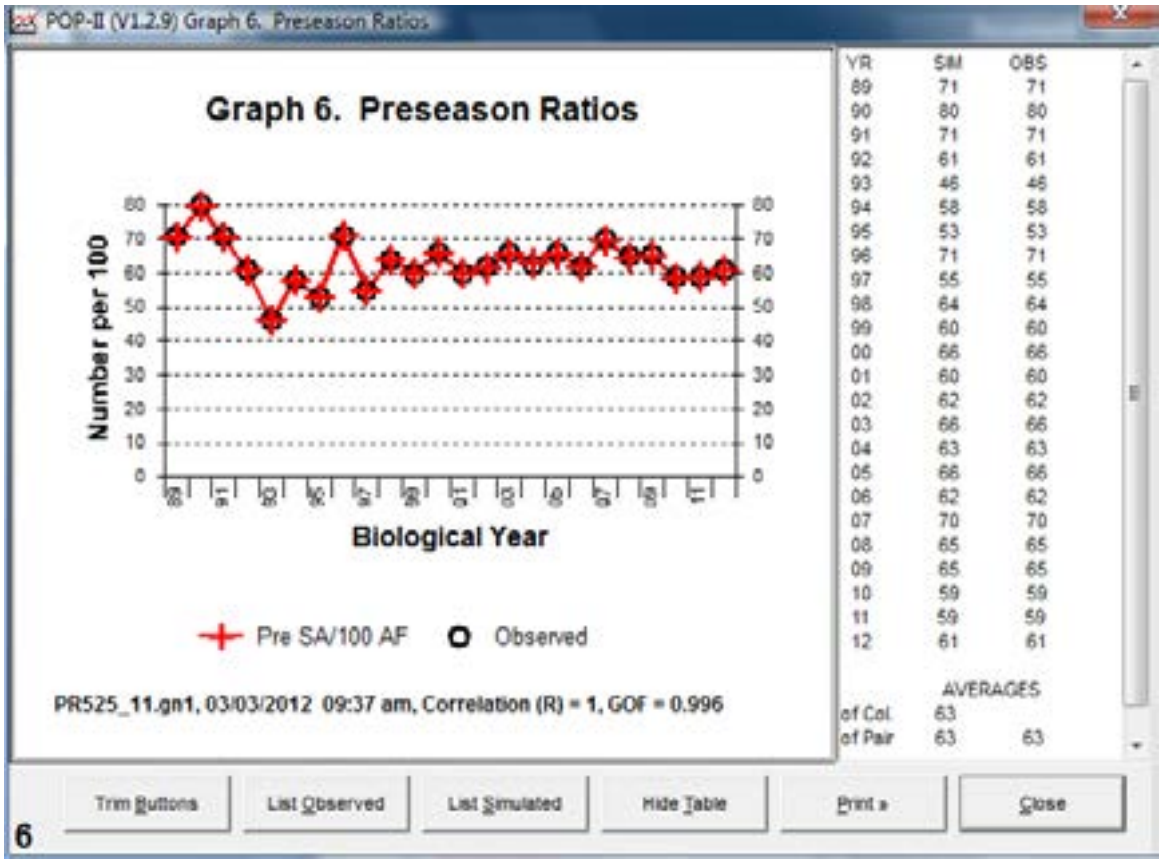
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre SA/100 AF
Observed
PR525_11.gn1, 03/03/2012 09:37 am, Correlation (R) = 1, GOF = 0.996
YR SIM OBS
89 71 71
90 80 80
91 71 71
92 61 61
93 46 46
94 58 58
95 53 53
96 71 71
97 55 55
98 64 64
99 60 60
00 66 66
01 60 60
02 62 62
03 66 66
04 63 63
05 66 66
06 62 62
07 70 70
08 65 65
09 65 65
10 59 59
11 59 59
12 61 61
AVERAGES
of Col. 63
of Pair 63 63
Trim Buttons
List Observed
List Simulated
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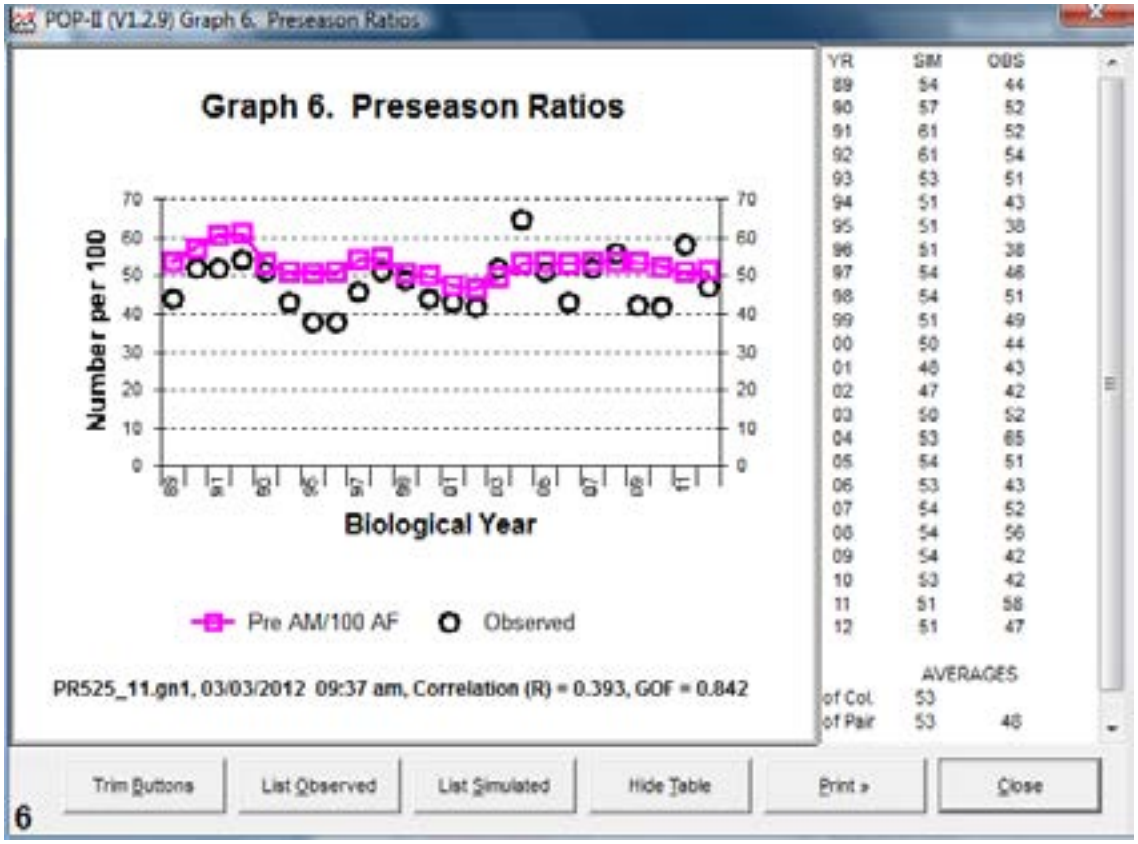
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre AM/100 AF
Observed
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YR SIM OBS
89 54 44
90 57 52
91 61 52
92 61 54
93 53 51
94 51 43
95 51 38
96 51 38
97 54 46
98 54 51
99 51 49
00 50 44
01 48 43
02 47 42
03 50 52
04 53 65
05 54 51
06 53 43
07 54 52
08 54 56
09 54 42
10 53 42
11 51 58
12 51 47
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List Observed
List Simulated
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Print »
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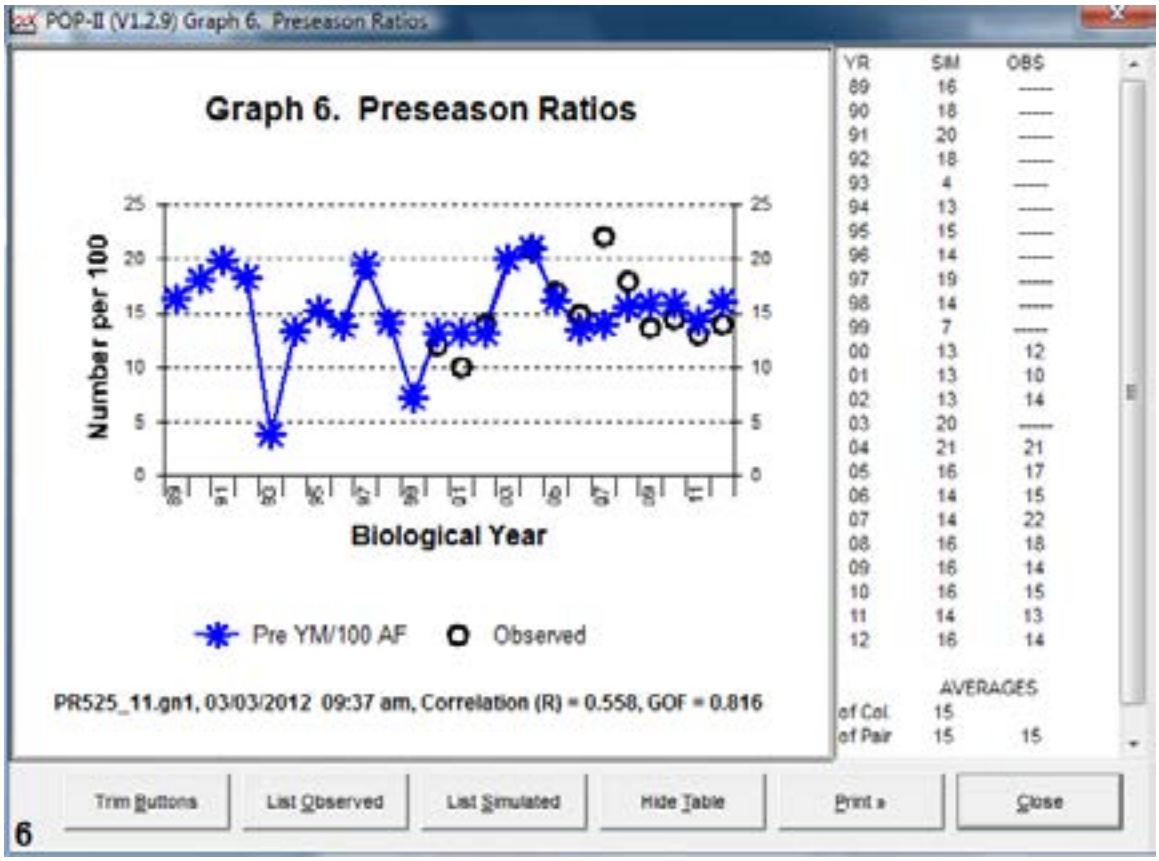
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre YM/100 AF
Observed
PR525_11.gn1, 03/03/2012 09:37 am, Correlation (R) = 0.558, GOF = 0.816
YR SIM OBS
89 16 ----
90 18 ----
91 20 ----
92 18 ----
93 4 ----
94 13 ----
95 15 ----
96 14 ----
97 19 ----
98 14 ----
99 7 ----
00 13 12
01 13 10
02 13 14
03 20 ----
04 21 21
05 16 17
06 14 15
07 14 22
08 16 18
09 16 14
10 16 15
11 14 13
12 16 14
AVERAGES
of Col. 15
of Pair 15 15
Trim Buttons
List Observed
List Simulated
Hide Table
Print
Close
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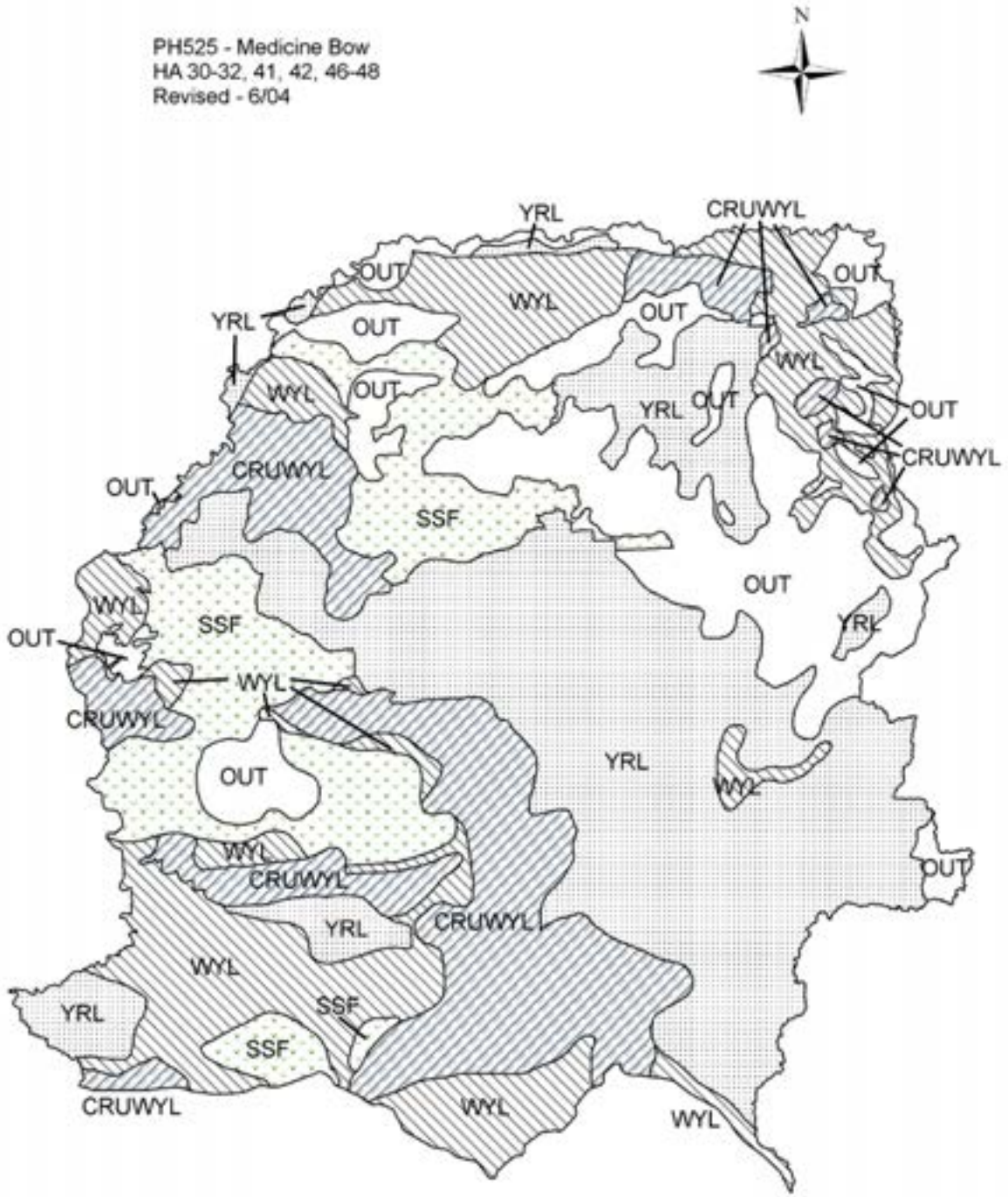
PH525 - Medicine Bow
HA 30-32, 41, 42, 46-48
Revised - 6/04
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CRUWYL
OUT
WYL
OUT
OUT
YRL
OUT
WYL
WYL
OUT
YRL
OUT
OUT
CRUWYL
CRUWYL
OUT
SSF
OUT
WYL
SSF
YRL
OUT
WYL
CRUWYL
OUT
YRL
WYL
WYL
CRUWYL
OUT
YRL
CRUWYL
WYL
YRL
SSF
SSF
CRUWYL
WYL
WYL

2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR526 - COOPER LAKE

HUNT AREAS: 43 | PREPARED BY: LEE KNOX

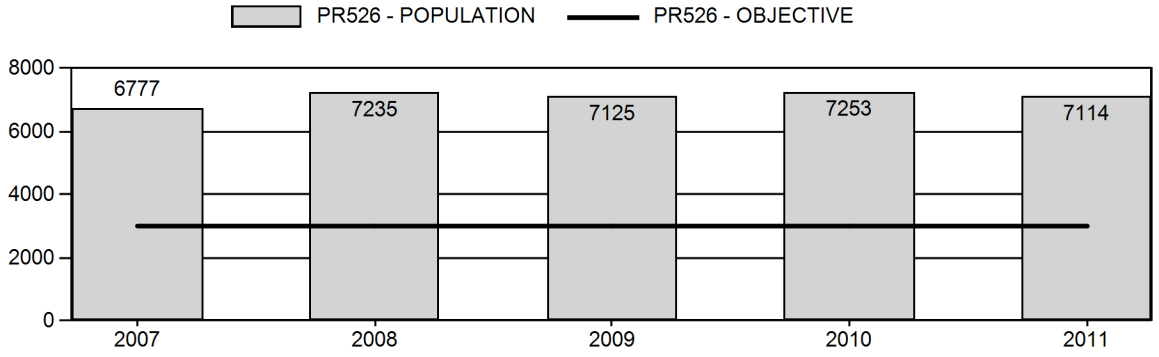
	2006 - 2010 Average	2011	2012 Proposed
Population:	6,937	7,114	7,562
Harvest:	632	654	650
Hunters:	695	746	750
Hunter Success:	91%	88%	87 %
Active Licenses:	746	825	830
Active License Percent:	85%	79%	78 %
Recreation Days:	2,028	2,641	2,300
Days Per Animal:	3.2	4.0	3.5
Males per 100 Females	42	40	
Juveniles per 100 Females	71	75	

Population Objective:	3,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	137%
Number of years population has been + or - objective in recent trend:	11
Model Date:	2/24/2012

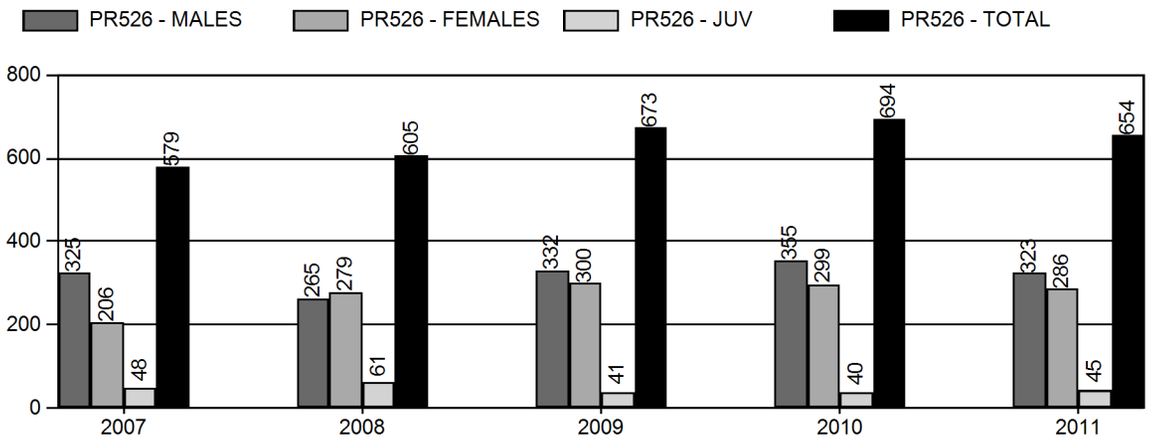
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	JCR Year	Proposed
Females ≥ 1 year old:	8.7%	8.6%
Males ≥ 1 year old:	15.6%	14.5%
Juveniles (< 1 year old):	1.8%	1.7%
Total:	8.35%	8.00%
Proposed change in post-season population:	4.8%	5.7%

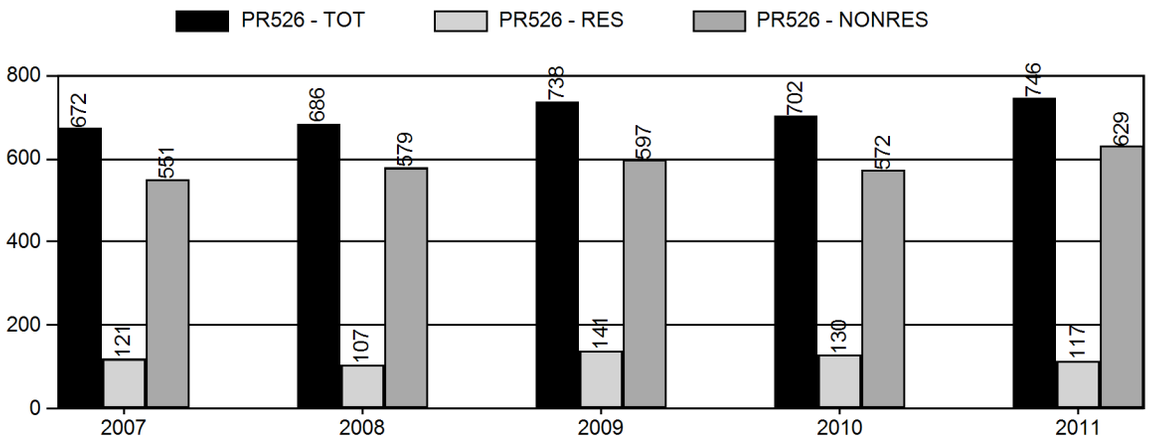
Population Size - Postseason



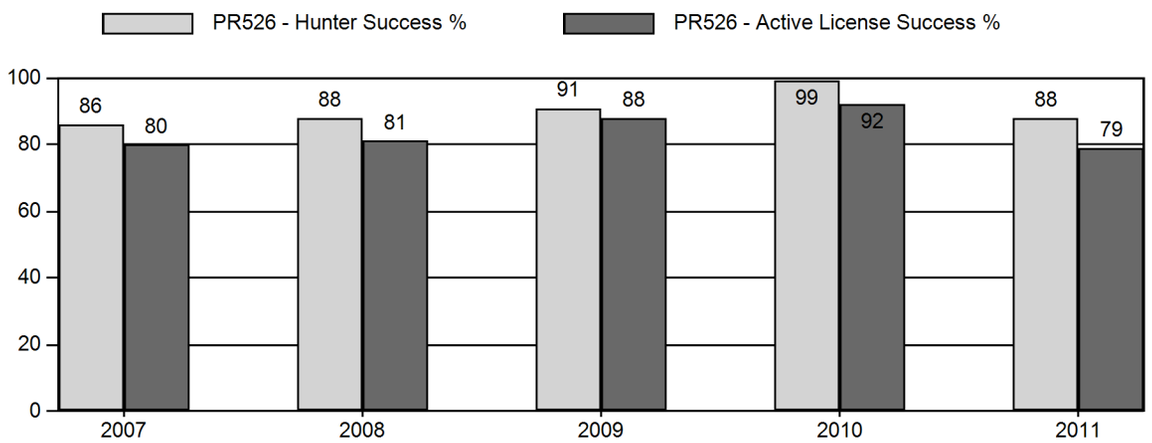
Harvest



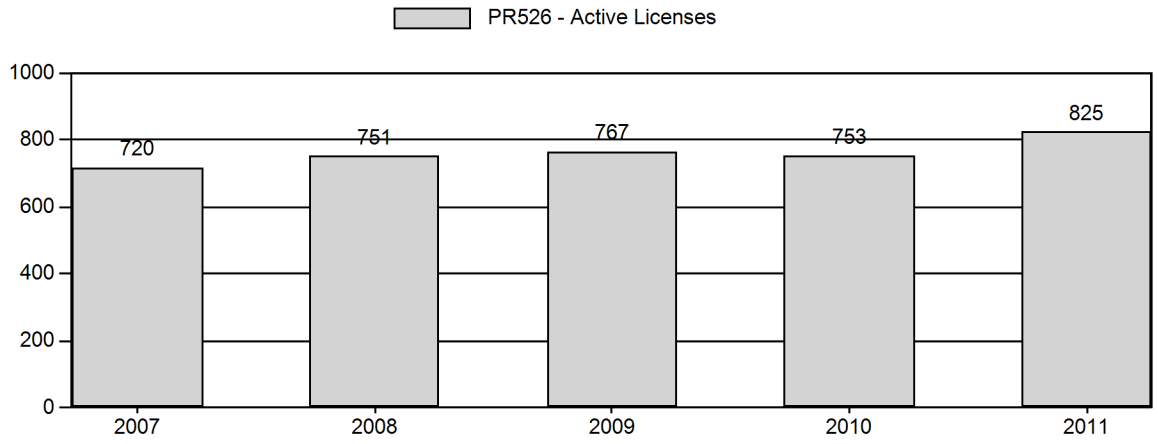
Number of Hunters



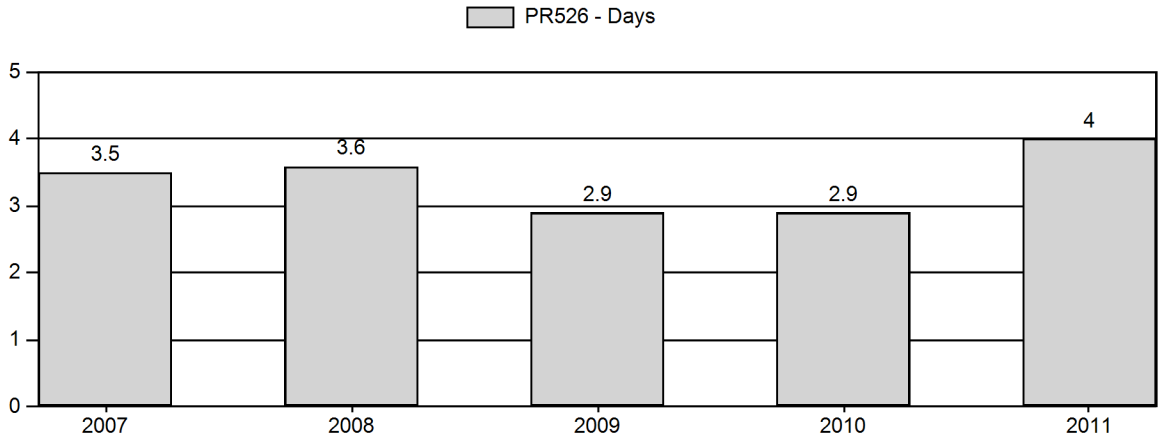
Harvest Success



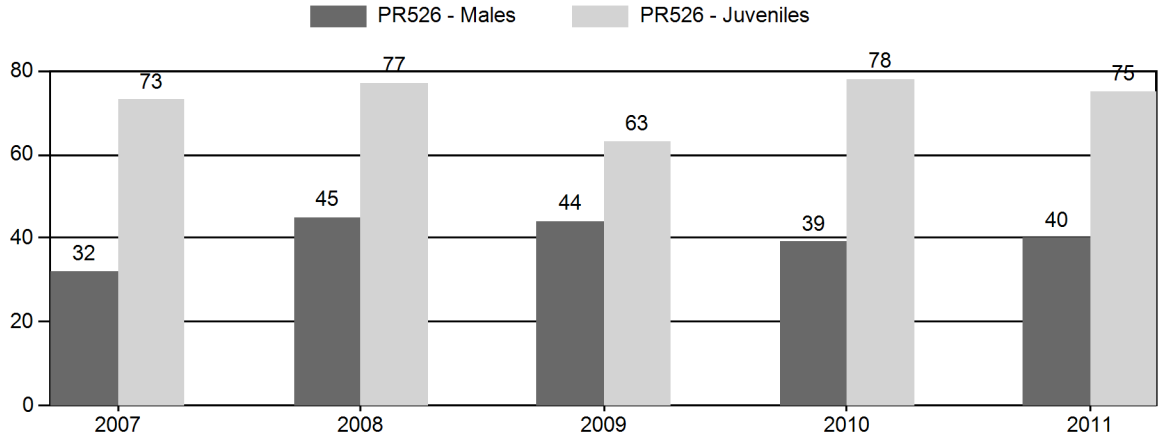
Active Licenses



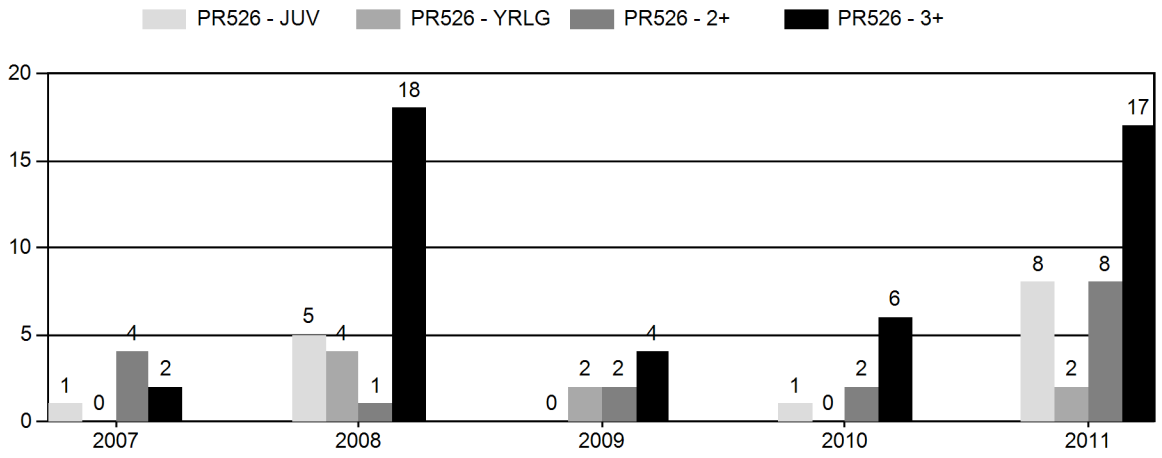
Days Per Animal Harvested



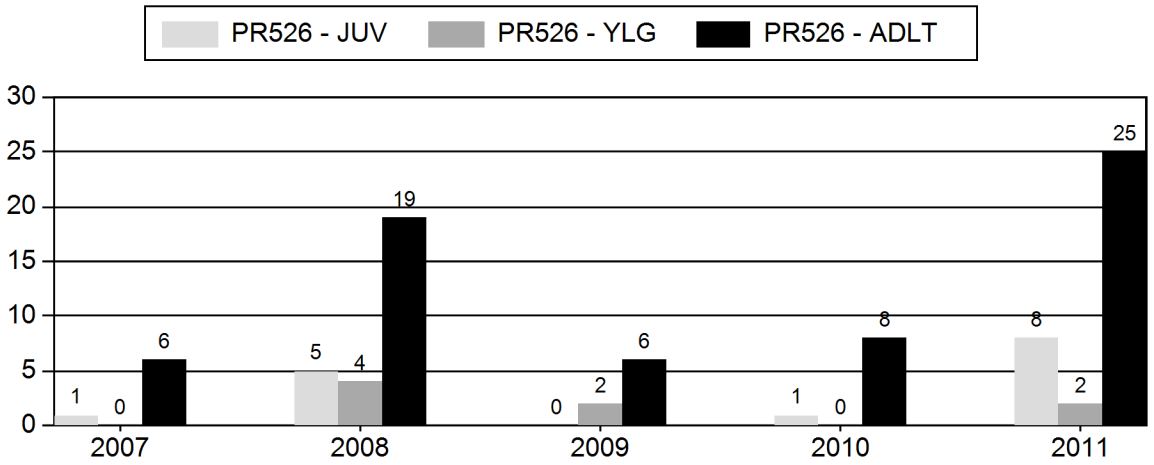
Preseason Animals per 100 Females



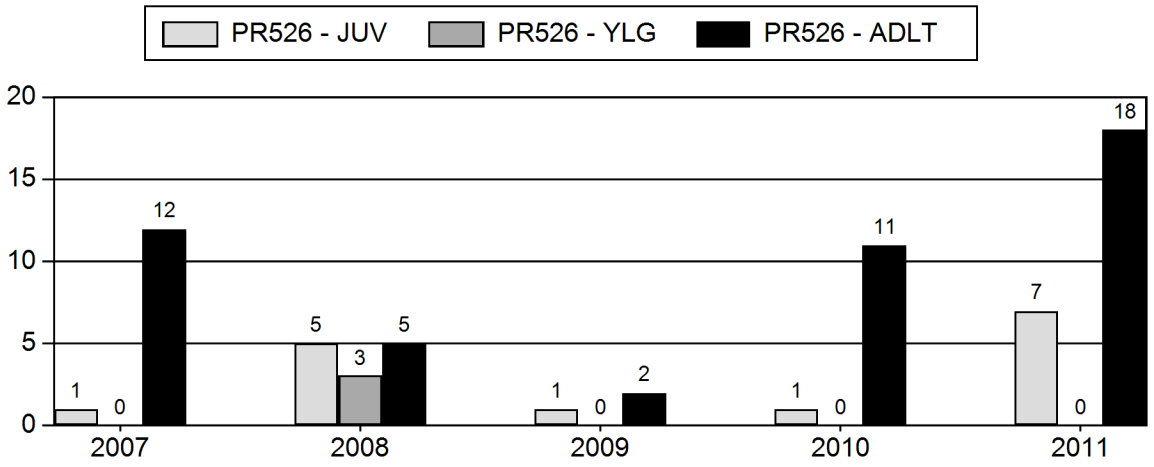
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2011 HUNTING SEASONS

PR526 - COOPER LAKE

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
43		ARCH		08/15 - 09/17	Refer to Section 3 of this Chapter
43		Type 1	450	09/17 - 10/14	Any
43		Type 6	450	09/17 - 10/14	Reduced Price doe/fawn

Area	Type	ActiveLic/ Htrs	Buck	Doe	Fawn	Total	Success	Days/ Harvest	Days	Licenses Sold
2011										
43 COOPER LAKE										
	Type 1	421	323	22	7	352	83.60%	3.9	1373	449
	Type 6	404	0	264	38	302	74.80%	4.2	1268	445
Pooled Total		746 (825)*	323	286	45	654	87.70% (79.3%)*	4	2641	
Pooled Resident		117	73	37	0	110	94.00%	5.4	590	
Pooled Nonresident		629	250	249	45	544	86.50%	3.8	2051	
2011 Hunt Area Total		746 (825)*	323	286	45	654	87.70% (79.3%)*	4	2641	894
2011 Herd Total		746 (825)*	323	286	45	654	87.70% (79.3%)*	4	2641	894

*Active Licenses

2007 - 2011 Harvest Age Structure

for Pronghorn Herd PR526 - COOPER LAKE

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2007	1	0	0%	4	2	33%	7	0	0	7	1	0	0%	2	4	67%	7	6	0	13	20
2008	5	4	17%	1	18	78%	28	0	5	33	5	3	38%	2	3	38%	13	0	3	16	49
2009	0	2	25%	2	3	43%	7	1	0	8	1	0	0%	0	1	100%	2	1	0	3	11
2010	1	0	0%	2	3	60%	6	3	0	9	1	0	0%	3	4	57%	8	4	0	12	21
2011	8	2	7%	8	8	44%	26	9	2	37	7	0	0%	2	5	71%	14	11	5	30	67

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

2007 - 2011 Preseason Classification Summary

for Pronghorn Herd PR526 - COOPER LAKE

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2007	7,411	84	163	247	16%	768	49%	559	36%	1,574	1,989	11	21	32	± 3	73	± 6	55
2008	7,900	39	71	110	20%	246	45%	189	35%	545	2,300	16	29	45	± 8	77	± 12	53
2009	7,865	87	146	233	21%	525	48%	332	30%	1,090	1,780	17	28	44	± 0	63	± 0	44
2010	8,017	89	147	236	18%	599	46%	468	36%	1,303	2,318	15	25	39	± 0	78	± 0	56
2011	7,833	56	162	218	19%	544	47%	406	35%	1,168	2,231	10	30	40	± 5	75	± 7	53

COOPER LAKE PRONGHORN
(PR526)
Hunt Area 43
2012 Hunting Seasons

Hunt Area	Type	Dates of Opens	Season Closes	Limitations
43	1	~~Sept. 17~~ **Sept. 15**	Oct. 14	Limited Quota; 450 licenses, any antelope
	6	~~Sept. 18~~ **Sept. 15**	Oct. 14	Limited Quota; 450 licenses, doe or fawn
Archery 43		Aug. 15	~~Sept 16~~ **Sept. 14**	Refer to Section 3 of this Chapter

SUMMARY OF CHANGES BY LICENSE NUMBER

Area	Type	Change from 2010
43	1	0
	6	0
Herd Totals	**1**	**0**
	6	**0**

Changes for 2012

- Changed the opening date for the rifle season to the third Saturday of September, on the 15th, and adjust the closing of the archery season

Management Evaluation

The Cooper Lake Pronghorn Herd is under recreational management. The Cooper Lake Herd is estimated to be well above its objective. However, limited public access has hindered efforts to increase harvest rates. Most hunting is limited to the Diamond Lake and Laramie River Hunter Management Areas. Drought and poor habitat conditions impact this herd. Without improved hunter access it remains difficult to address the objective by harvest. In 2011, over all harvest decreased by 5% and hunter success decreased by 11% indicating the current level of hunter

densities on these Hunter Management Areas appears to be at or above the threshold for maximum harvest.

Population: We last estimated the population using aerial line transect sampling at the end of the 2007 biological year (June 19-21, 2008). The projected 2011 postseason population is based on the simulation aligned on the 2007 survey. We estimate the population at 7,114 which compares to the 5 year average of 6,937 pronghorn. That is well above the herd's objective of 3,000. We have not been able to maintain the herd at or below this objective through harvest. Observed herd ratios showed a small decrease in the fawn:doe ratio from 78:100in 2010 to 75:100 in 2011. Buck:doe ratios continue to be lower than the 5 year average with the 2011 estimate at 40:100. We have been concerned that our hunting pressure may be affecting buck availability and quality on the HMAs.

Harvest: We have been selling all our Area 43 Type 1 and Type 6 licenses in recent years due to the availability of access through HMAs. Most hunters are nonresidents. In 2011, a total of 825 hunters harvested 654 pronghorn with a hunter success rate of 88%. Compared to 2010, we had more hunters participate in 2011 but harvest and success decreased. Success for Type 1 hunters decreased from 95% in 2010 to 84% in 2011. Success for Type 6 hunters also decreased from 89% to 75% in 2011. If this trend continues in the 2012 season we will look at reducing licenses in 2013.

Data Set: PR526_11.gn1 02/24/2012 10:46 am Page 1

COOPER LAKE PRONGHORN (A526) - 2011 Seasons Model using 2007 Line Transect
Data from 1984 to 2012 Simulation from 1990 to 2012

Age Class	Init Pop. Male	Init Pop. Female	Presn Male	Mort% Female	Postsn Mort% Male	Postsn Mort% Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	78.0	78.0	50.0	50.0	45.0	35.0	1.00	1.00	1.00	1.00
1	12.0	13.1	2.0	2.0	5.0	5.0	0.70	1.00	1.00	1.00
2	10.0	11.8	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
3	9.0	10.6	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
4	7.0	9.6	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
5	5.0	8.6	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
6	4.0	7.7	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
7	2.3	7.0	2.0	2.0	20.0	5.0	1.00	1.00	1.00	1.00
8	2.0	6.3	2.0	2.0	35.0	10.0	1.00	1.00	1.00	1.00
9	1.7	5.6	2.0	2.0	50.0	25.0	1.00	1.00	1.00	1.00
10	1.4	5.1	2.0	2.0	75.0	50.0	1.00	1.00	1.00	1.00
11	0.0	3.0	2.0	2.0	85.0	75.0	1.00	1.00	1.00	1.00
12	0.0	1.0	2.0	2.0	95.0	95.0	1.00	1.00	1.00	1.00
13	0.0	1.0	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 300.8 Estimated Sum = 11000 Subadults: Ages 0 to 0

Data Set: PR526_11.gn1 02/24/2012 10:46 am Page 2

MSI Function is Linear

Bio-Year	Preseason MSI	Harvest // Des. Pop Size in NA Subadults#	Males#	Females#	Postseason MSI	Effort & Wound Set Used
1984	1.00	7	203	80	1.00	1
1985	1.00	9	226	85	1.00	1
1986	1.00	8	184	154	0.90	1
1987	1.00	54	219	241	2.00	1
1988	1.00	50	262	237	1.00	1
1989	1.00	66	248	278	1.00	1
1990	1.00	66	293	285	1.00	1
1991	1.00	87	372	273	1.00	1
1992	1.28	56	326	377	6.00	1
1993	1.43	40	144	173	0.70	1
1994	1.25	36	144	125	0.60	1
1995	1.14	10	117	28	0.87	1
1996	1.13	10	106	53	1.95	1
1997	0.89	12	130	81	0.50	1
1998	0.93	12	134	110	0.45	1
1999	0.90	34	188	138	0.30	1
2000	1.00	46	228	270	2.10	1
2001	1.10	21	278	132	1.00	1
2002	1.20	52	187	290	1.00	1
2003	1.23	53	305	233	1.00	1
2004	1.30	42	310	261	1.00	1
2005	0.95	75	292	249	0.90	1
2006	1.01	31	326	251	0.90	1
2007	0.98	49	325	202	1.00	1
2008	0.93	63	267	275	1.00	1
2009	1.11	43	332	297	1.25	1
2010	0.96	40	355	299	1.30	1
2011	0.97	45	323	286	1.00	1
2012	0.95	43	320	300	1.00	1

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	15.%	15.%	15.%	Yearling Male 15.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1985	0.0	180.0	0.0	
1986	0.0	180.0	0.0	
1987	0.0	180.0	0.0	
1988	0.0	180.0	0.0	
1989	0.0	180.0	0.0	
1990	0.0	180.0	0.0	
1991	0.0	180.0	0.0	
1992	0.0	180.0	0.0	
1993	0.0	180.0	0.0	
1994	0.0	180.0	0.0	
1995	0.0	180.0	0.0	
1996	0.0	180.0	0.0	
1997	0.0	180.0	0.0	
1998	0.0	180.0	0.0	
1999	0.0	180.0	0.0	
2000	0.0	180.0	0.0	
2001	0.0	180.0	0.0	
2002	0.0	180.0	0.0	
2003	0.0	180.0	0.0	
2004	0.0	180.0	0.0	
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	180.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for PR526_11.gn1, 02/24/2012 10:46 am

Table 1. Population Size During Bio-Year for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
1990	11000	8042	7333	5660	-7.1
1991	10216	7825	7020	5672	3.8
1992	10609	7304	6469	2898	-42.3
1993	6117	3732	3340	2989	-7.6
1994	5654	3914	3578	3229	6.5
1995	6022	4357	4186	3538	9.7
1996	6604	4791	4605	2992	-9.7
1997	5963	4588	4342	3905	16.0
1998	6915	5442	5161	4727	22.9
1999	8497	6715	6319	5946	22.6
2000	10418	8063	7465	4608	-14.3
2001	8930	6451	5977	4937	2.1
2002	9120	6492	5910	4958	1.4
2003	9247	6487	5837	4874	-0.8
2004	9169	6250	5576	4654	-3.4
2005	8860	6774	6096	5019	3.3
2006	9156	6965	6297	5232	6.0
2007	9705	7411	6777	5472	5.1
2008	10201	7900	7235	5825	4.9
2009	10700	7865	7125	5539	-1.8
2010	10508	8017	7253	5469	-2.3
2011	10265	7833	7114	5798	4.8
2012	10757	8291	7562	6154	5.7

Table 2. Preseason Natural Mortality for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1990	2852	40	66	2958	26.9
1991	2278	45	69	2391	23.4
1992	3160	57	88	3305	31.2
1993	2301	32	51	2384	39.0
1994	1665	29	45	1740	30.8
1995	1592	30	44	1665	27.7
1996	1732	32	48	1812	27.4
1997	1322	20	33	1376	23.1
1998	1400	29	44	1472	21.3
1999	1696	35	50	1781	21.0
2000	2236	51	68	2355	22.6
2001	2377	42	59	2479	27.8
2002	2510	48	71	2628	28.8
2003	2638	50	72	2759	29.8
2004	2792	51	76	2919	31.8
2005	1998	35	53	2086	23.5
2006	2089	40	61	2190	23.9
2007	2192	40	62	2294	23.6
2008	2199	39	62	2301	22.6
2009	2706	51	78	2835	26.5
2010	2385	42	64	2491	23.7
2011	2326	41	65	2432	23.7
2012	2356	43	67	2466	22.9

Table 3. Harvest Mortality for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop

1990	66	293	285	644	8.0
1991	87	372	273	732	9.4
1992	56	326	377	759	10.4
1993	40	144	173	357	9.6
1994	36	144	125	305	7.8
1995	10	117	28	155	3.6
1996	10	106	53	169	3.5
1997	12	130	81	223	4.9
1998	12	134	110	256	4.7
1999	34	188	138	360	5.4
2000	46	228	270	544	6.7
2001	21	278	132	431	6.7
2002	52	187	290	529	8.1
2003	53	305	233	591	9.1
2004	42	310	261	613	9.8
2005	75	292	249	616	9.1
2006	31	326	251	608	8.7
2007	49	325	202	576	7.8
2008	63	267	275	605	7.7
2009	43	332	297	672	8.5
2010	40	355	299	694	8.7
2011	45	323	286	654	8.3
2012	43	320	300	663	8.0

Table 4. Harvest Percentages for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
1990	2.3	15.0	8.8	8.01	16.5
1991	3.8	17.1	8.1	9.35	26.8
1992	3.2	15.1	11.2	10.39	20.6
1993	4.4	13.4	10.0	9.56	0.0
1994	3.6	12.5	7.1	7.79	19.2
1995	0.8	9.2	1.5	3.56	20.5
1996	0.7	7.6	2.6	3.53	19.3
1997	0.7	11.7	4.4	4.86	5.1
1998	0.7	8.8	4.8	4.70	32.5
1999	1.6	9.8	5.1	5.36	25.2
2000	2.1	9.1	8.1	6.75	27.0
2001	1.1	14.8	5.0	6.68	2.2
2002	3.1	9.6	10.1	8.15	20.2
2003	3.2	15.3	8.2	9.11	16.2
2004	2.8	16.2	9.2	9.81	16.7
2005	3.4	16.1	9.0	9.09	16.3
2006	1.5	16.7	8.5	8.73	24.5
2007	2.1	16.1	6.5	7.77	22.3
2008	2.5	12.8	8.4	7.66	22.1
2009	2.0	14.7	8.7	8.54	22.4
2010	1.5	16.6	9.1	8.66	15.9
2011	1.8	15.6	8.7	8.35	18.9
2012	1.7	14.5	8.6	8.00	22.7

Table 5. Postseason Natural Mortality for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1990	1112	167	395	1673	22.8
1991	873	152	323	1348	19.2
1992	1716	694	1161	3571	55.2
1993	245	39	67	350	10.5
1994	230	43	76	349	9.8
1995	414	82	152	648	15.5

1996	1032	222	360	1614	35.0
1997	327	44	66	438	10.1
1998	287	58	88	434	8.4
1999	244	48	81	373	5.9
2000	1836	392	629	2857	38.3
2001	769	109	163	1040	17.4
2002	646	129	176	952	16.1
2003	637	133	194	963	16.5
2004	583	134	205	922	16.5
2005	765	127	185	1077	17.7
2006	725	136	204	1064	16.9
2007	891	152	262	1306	19.3
2008	984	147	278	1410	19.5
2009	1061	182	343	1586	22.3
2010	1321	164	299	1784	24.6
2011	968	126	222	1316	18.5
2012	1023	141	245	1408	18.6

Table 6. Preseason Ratios for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	88.0	46.9	13.3	60.2
1991	67.7	42.5	22.3	64.8
1992	52.8	46.9	17.4	64.3
1993	52.8	62.1	0.0	62.1
1994	56.6	48.6	16.5	65.2
1995	63.7	49.1	18.1	67.3
1996	64.5	50.0	17.1	67.1
1997	90.2	56.4	4.4	60.8
1998	69.9	39.4	27.0	66.4
1999	76.3	47.8	23.0	70.8
2000	67.2	49.2	25.9	75.1
2001	73.9	69.0	2.2	71.2
2002	58.1	49.5	17.9	67.4
2003	58.2	55.2	15.3	70.5
2004	53.2	52.7	15.1	67.8
2005	80.1	51.4	14.3	65.6
2006	69.1	45.0	20.9	65.9
2007	73.3	45.9	18.9	64.8
2008	76.9	45.0	18.3	63.3
2009	63.2	46.7	19.3	66.0
2010	78.5	51.2	13.8	65.0
2011	75.0	47.2	15.7	62.9
2012	74.9	44.9	18.8	63.7

Table 7. Postseason Ratios for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	95.0	42.7	12.9	55.6
1991	71.2	36.9	20.9	57.8
1992	58.2	43.8	17.3	61.2
1993	56.5	59.5	0.0	59.5
1994	59.0	44.9	16.1	60.9
1995	64.1	44.4	17.0	61.5
1996	65.8	46.8	16.5	63.3
1997	94.1	51.5	4.2	55.7
1998	73.2	37.0	26.3	63.3
1999	79.4	44.6	22.3	67.0
2000	72.1	47.9	26.2	74.2
2001	77.3	61.0	2.1	63.1
2002	63.2	49.3	18.5	67.8

2003	61.7	49.8	14.7	64.5
2004	57.3	47.5	14.5	62.1
2005	85.6	46.2	13.7	59.9
2006	74.9	39.5	19.8	59.3
2007	77.1	39.9	17.6	57.4
2008	82.4	41.9	17.9	59.8
2009	68.4	42.5	18.7	61.2
2010	85.7	45.8	13.3	59.0
2011	81.3	42.5	15.1	57.7
2012	81.3	41.0	18.2	59.2

Table 8. End of Year Ratios for PR526_11.gn1 02/24/2012 10:46 am

Bio-Year	Subadults /100 Adlts	Subadults /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	41.8	65.9	14.1	57.7
1991	30.0	47.7	22.1	59.0
1992	0.0	0.0	20.0	62.1
1993	26.6	42.5	0.0	59.5
1994	29.2	47.0	16.3	61.1
1995	28.1	45.5	17.7	62.2
1996	10.8	17.6	18.1	63.6
1997	50.4	78.3	4.2	55.2
1998	38.3	62.5	26.8	63.2
1999	43.1	72.1	22.7	67.2
2000	8.2	14.6	29.6	77.3
2001	30.5	49.6	2.1	62.8
2002	24.3	40.7	18.9	67.4
2003	24.4	40.0	15.1	64.2
2004	23.1	37.4	15.0	61.8
2005	37.2	59.2	14.2	59.2
2006	32.7	51.9	20.4	58.7
2007	32.3	50.9	18.3	57.4
2008	34.0	54.5	18.8	60.5
2009	23.7	38.4	19.7	62.2
2010	28.7	45.8	13.8	59.5
2011	33.4	52.7	15.5	57.7
2012	33.2	52.9	18.8	59.3

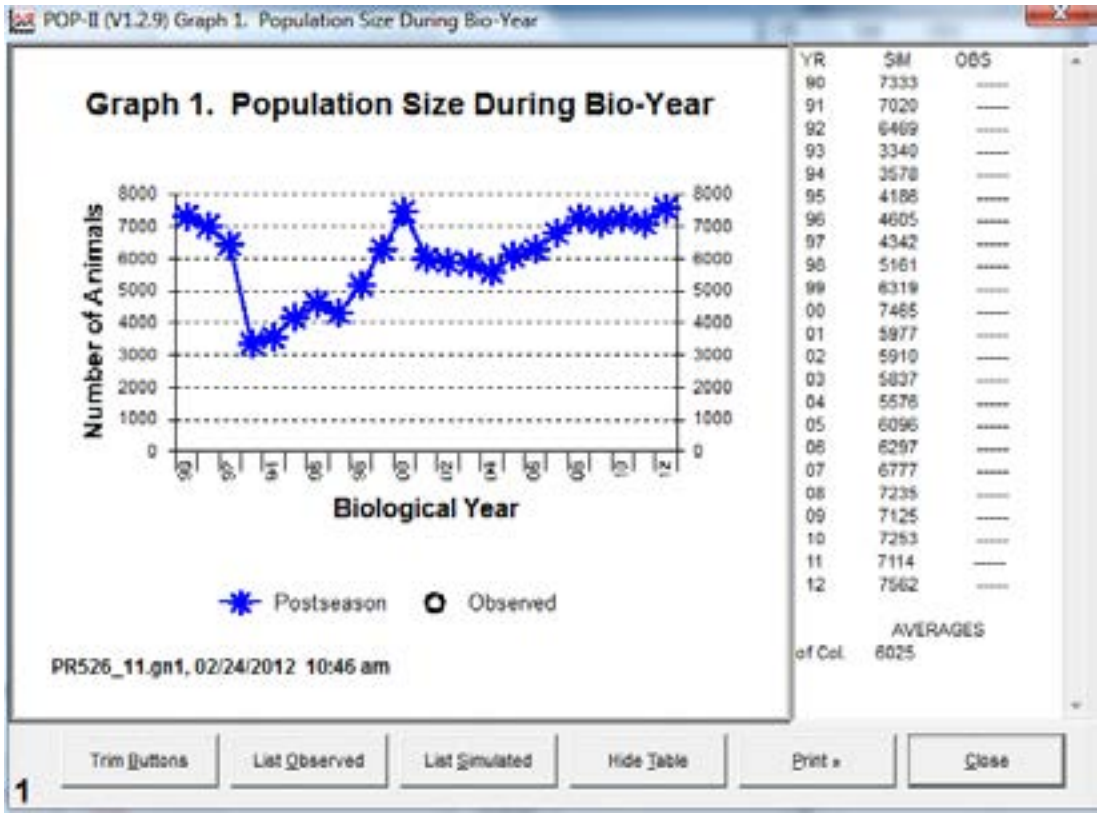
Table 9. Reproduction at Start of Bio-Year for PR526_11.gn1 02/24/2012 10:46 am

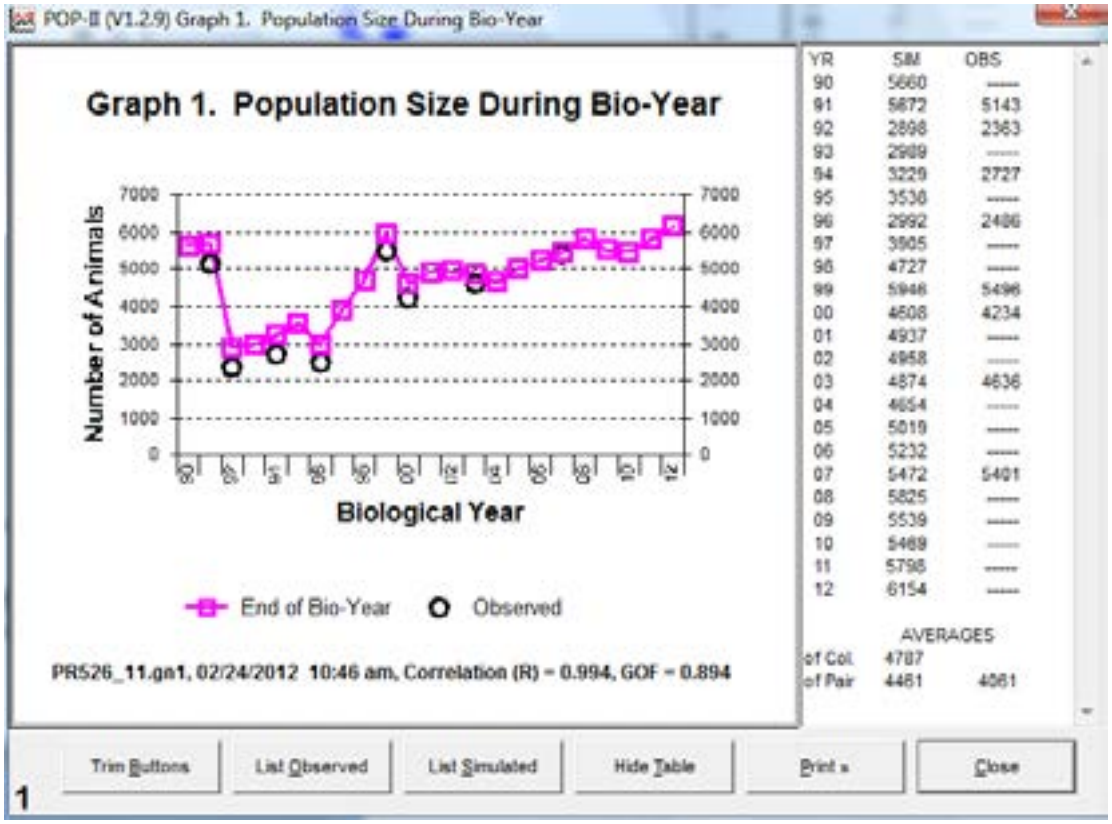
Bio-Year	Young / 100 AF 1 +	Sub-Ad. / 100 AF 1 +	Total Young	Total Sub-Adult	Total Females 1 +
1990	173	173	5705	5705	3306
1991	133	133	4556	4556	3435
1992	143	143	4937	4937	3452
1993	180	180	3219	3219	1788
1994	147	147	2664	2664	1810
1995	145	145	2793	2793	1931
1996	145	145	3066	3066	2117
1997	160	160	2972	2972	1861
1998	128	128	3010	3010	2347
1999	136	136	3769	3769	2767
2000	132	132	4472	4472	3396
2001	161	161	4322	4322	2691
2002	142	142	4183	4183	2948
2003	147	147	4289	4289	2908
2004	148	148	4295	4295	2904
2005	150	150	4206	4206	2810
2006	137	137	4137	4137	3026
2007	141	141	4473	4473	3175
2008	141	141	4730	4730	3352

2009	139	139	4875	4875	3508
2010	148	148	4969	4969	3357
2011	143	143	4796	4796	3357
2012	140	140	4959	4959	3542

Table A. Intra-Annual Natural Survival(%) for PR526_11.gn1 02/24/2012 10:46 am

Bio-Years	Sub Adults	Adult Males	Adult Females	Overall Survival
1990-1991	58.80	87.97	84.77	75.64
1991-1992	58.46	89.06	87.18	78.73
1992-1993	0.00	59.76	58.90	43.52
1993-1994	70.20	93.34	93.31	87.27
1994-1995	74.27	93.49	93.17	88.19
1995-1996	63.73	90.72	89.71	82.60
1996-1997	21.61	81.06	80.64	63.80
1997-1998	78.51	93.67	94.39	88.25
1998-1999	80.52	94.08	94.23	89.95
1999-2000	86.24	95.24	94.92	92.21
2000-2001	15.65	80.76	77.49	60.37
2001-2002	58.56	90.82	91.22	80.61
2002-2003	58.52	90.28	90.83	81.83
2003-2004	58.44	89.64	90.09	81.33
2004-2005	58.86	89.77	90.19	81.88
2005-2006	62.71	89.60	90.69	80.67
2006-2007	62.75	89.70	90.60	81.47
2007-2008	58.88	89.14	89.23	79.23
2008-2009	58.67	89.72	88.67	78.72
2009-2010	49.04	88.69	87.23	76.25
2010-2011	47.07	88.86	88.16	73.94
2011-2012	58.86	90.91	90.79	79.96


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
Postseason
Observed
PR526_11.gn1, 02/24/2012 10:46 am
YR SIM OBS
90 7333 -----
91 7020 -----
92 6469 -----
93 3340 -----
94 3578 -----
95 4188 -----
96 4605 -----
97 4342 -----
98 5161 -----
99 6319 -----
00 7465 -----
01 5977 -----
02 5910 -----
03 5837 -----
04 5576 -----
05 6096 -----
06 6297 -----
07 6777 -----
08 7235 -----
09 7125 -----
10 7253 -----
11 7114 -----
12 7562 -----
AVERAGES
of Col. 6025
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
Close
1


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
End of Bio-Year
Observed
PR526_11.gn1, 02/24/2012 10:46 am, Correlation (R) = 0.994, GOF = 0.894
YR SIM OBS
90 5660 -----
91 5872 5143
92 2898 2363
93 2989 -----
94 3229 2727
95 3538 -----
96 2992 2486
97 3905 -----
98 4727 -----
99 5946 5496
00 4608 4234
01 4937 -----
02 4958 -----
03 4874 4636
04 4654 -----
05 5019 -----
06 5232 -----
07 5472 5401
08 5825 -----
09 5539 -----
10 5469 -----
11 5798 -----
12 6154 -----
AVERAGES
of Col. 4787
of Pair 4461 4061
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
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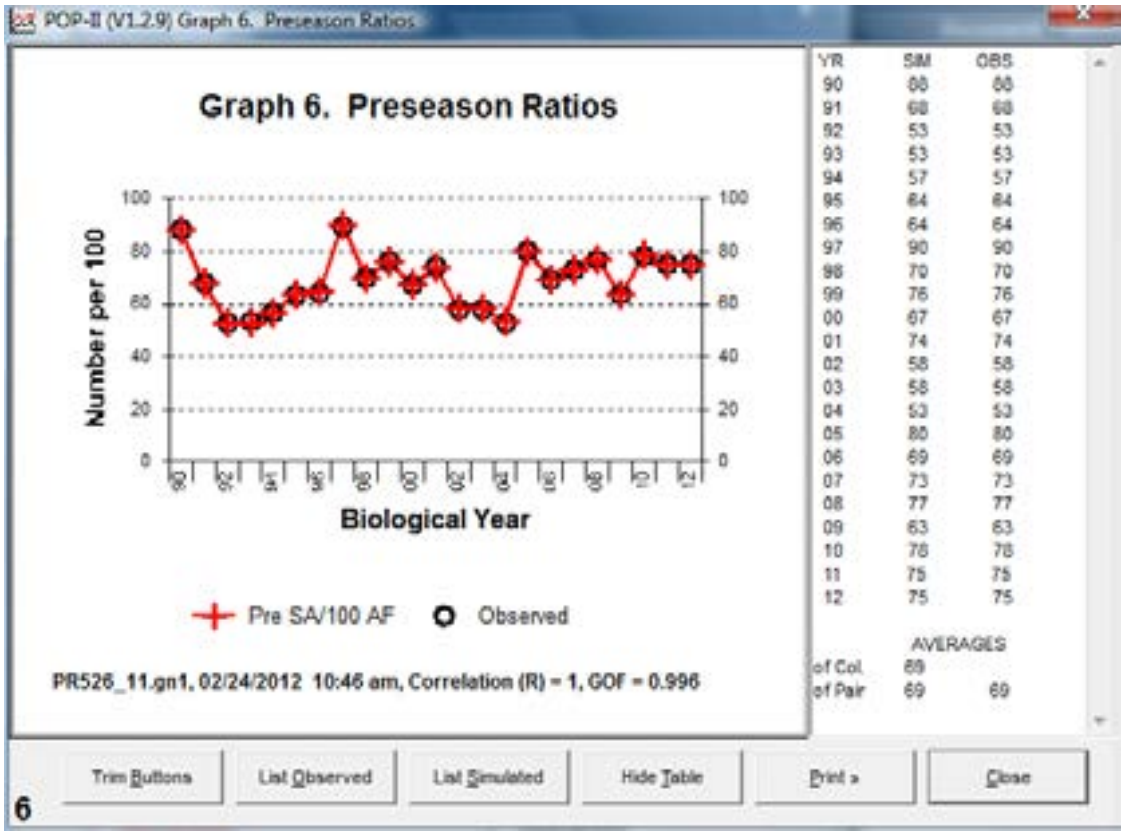
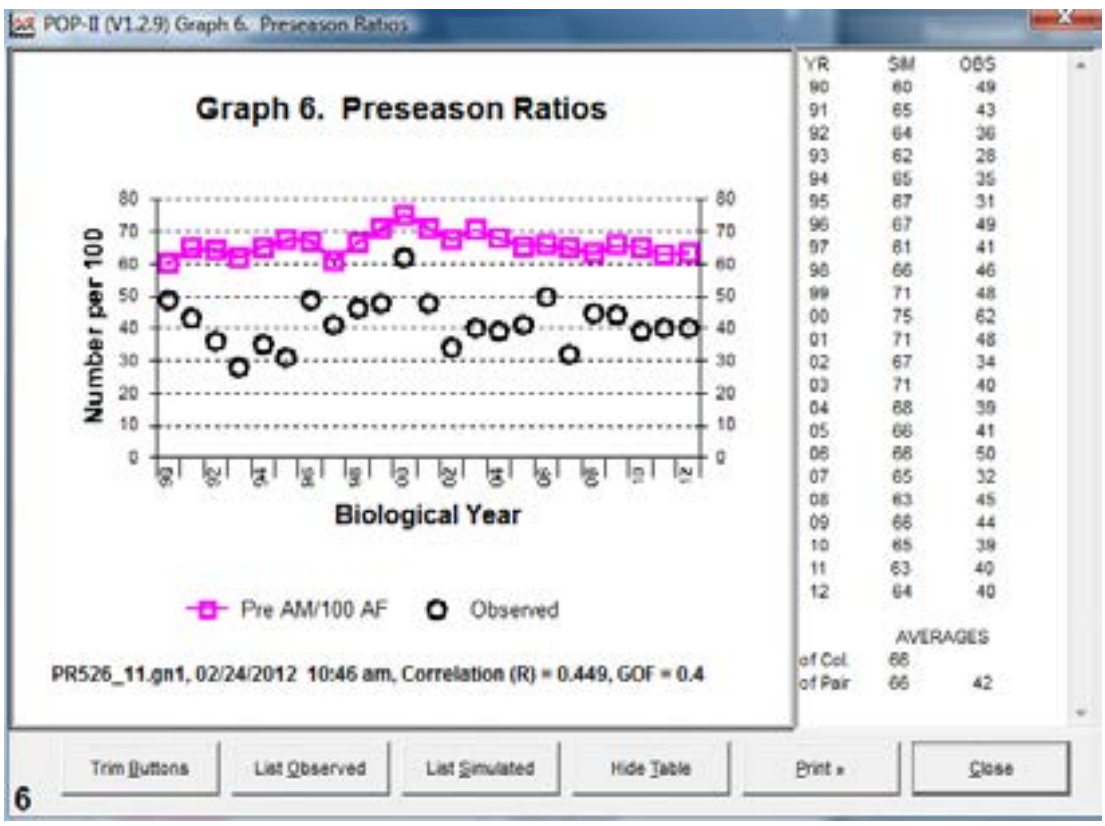
1


POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre SA/100 AF
Observed
PR526_11.gn1, 02/24/2012 10:46 am, Correlation (R) = 1, GOF = 0.996
YR SIM OBS
90 68 68
91 68 68
92 53 53
93 53 53
94 57 57
95 64 64
96 64 64
97 90 90
98 70 70
99 76 76
00 67 67
01 74 74
02 58 58
03 58 58
04 53 53
05 80 80
06 69 69
07 73 73
08 77 77
09 63 63
10 78 78
11 75 75
12 75 75
AVERAGES
of Col. 69
of Pair 69 69
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
Close
6


POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre AM/100 AF
Observed
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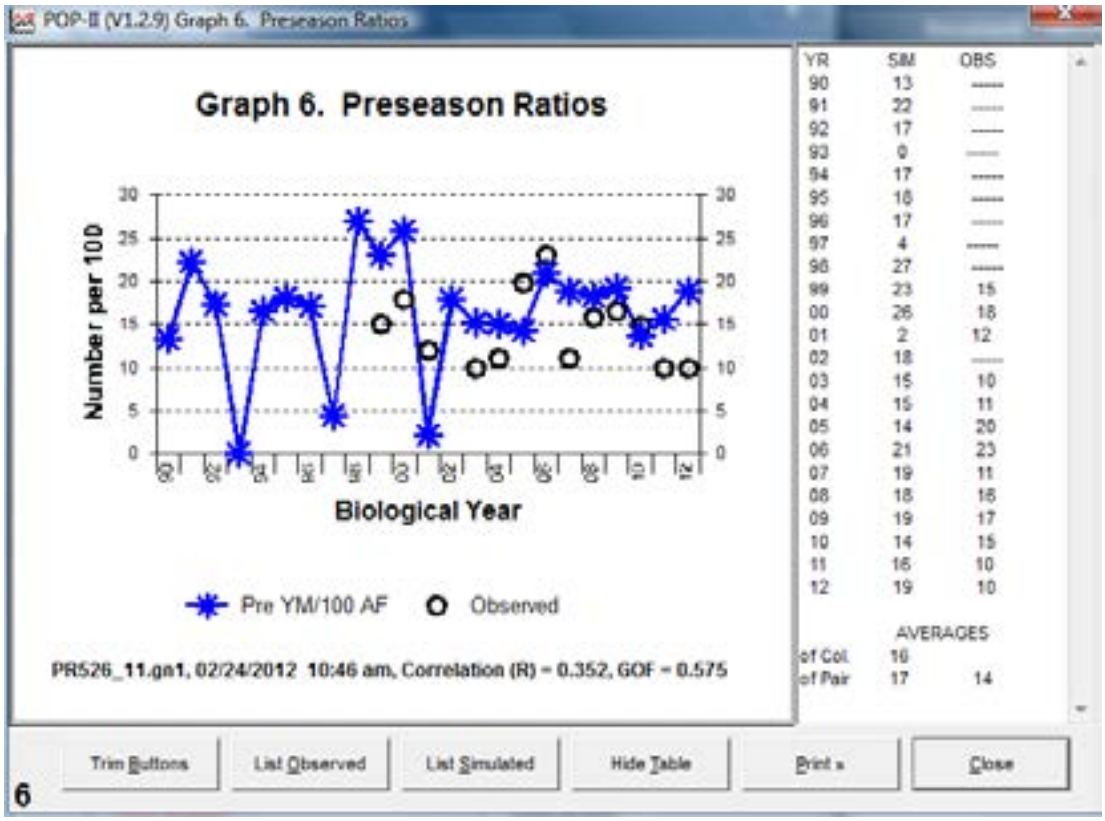
YR SIM OBS
90 60 49
91 65 43
92 64 36
93 62 28
94 65 35
95 67 31
96 67 49
97 61 41
98 66 46
99 71 48
00 75 62
01 71 48
02 67 34
03 71 40
04 68 39
05 66 41
06 66 50
07 65 32
08 63 45
09 66 44
10 65 39
11 63 40
12 64 40
AVERAGES
of Col. 66
of Pair 66 42
Trim Buttons
List Observed
List Simulated
Hide Table
Print »
Close
6


POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre YM/100 AF
Observed
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91 22 -----
92 17 -----
93 0 -----
94 17 -----
95 16 -----
96 17 -----
97 4 -----
98 27 -----
99 23 15
00 26 18
01 2 12
02 18 -----
03 15 10
04 15 11
05 14 20
06 21 23
07 19 11
08 18 16
09 19 17
10 14 15
11 16 10
12 19 10
AVERAGES
of Col. 16
of Pair 17 14
Trim Buttons
List Observed
List Simulated
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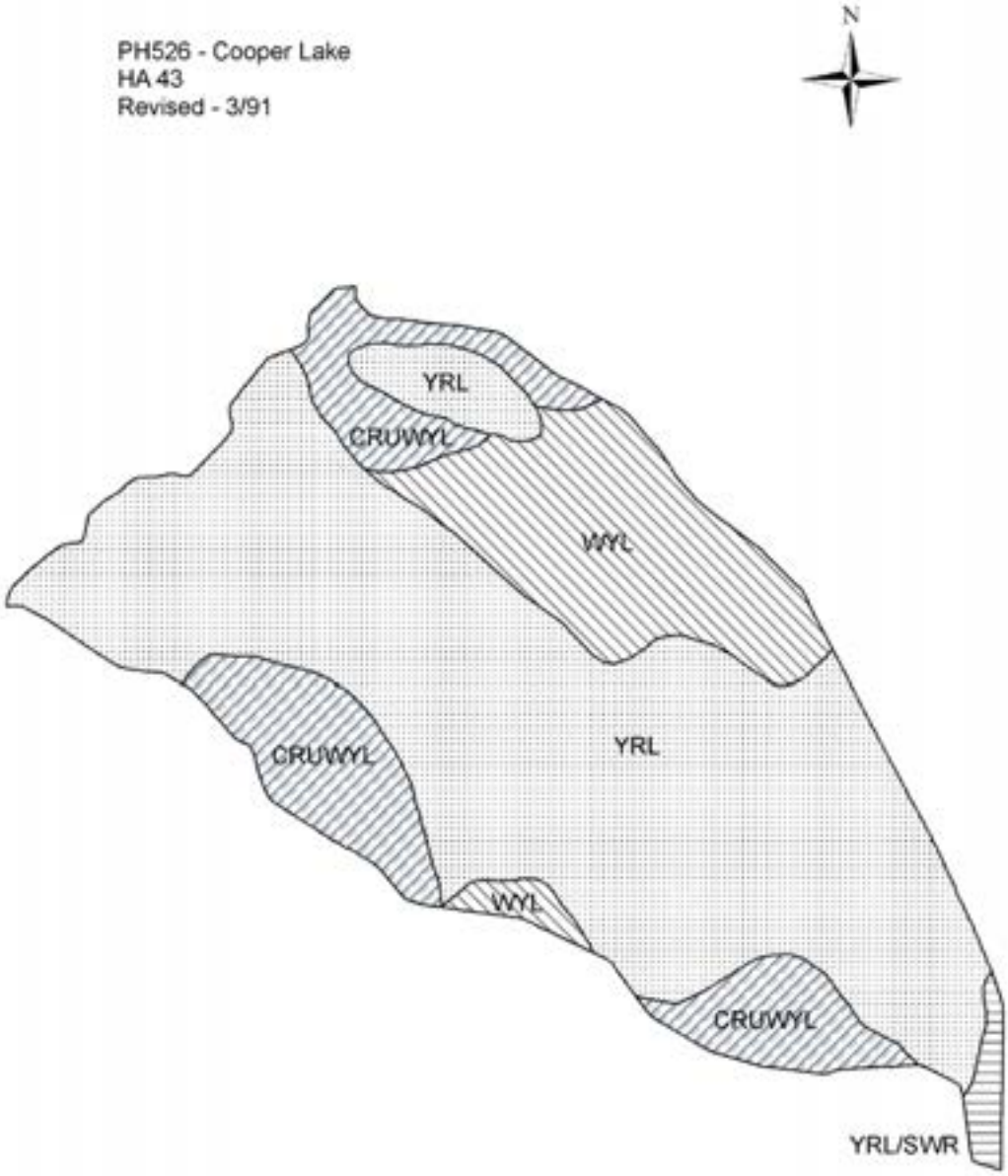
6

PH526 - Cooper Lake
HA 43
Revised - 3/91



2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR527 - CENTENNIAL

HUNT AREAS: 37, 44-45 | PREPARED BY: LEE KNOX

	2006 - 2010 Average	2011	2012 Proposed
Population:	23,601	26,664	30,000
Harvest:	1,502	1,256	1,280
Hunters:	1,699	1,374	1,350
Hunter Success:	88%	91%	95%
Active Licenses:	1,880	1,627	1,630
Active License Percent:	80%	77%	79%
Recreation Days:	6,110	5,296	5,290
Days Per Animal:	4.1	4.2	4.1
Males per 100 Females	44	37	
Juveniles per 100 Females	70	87	

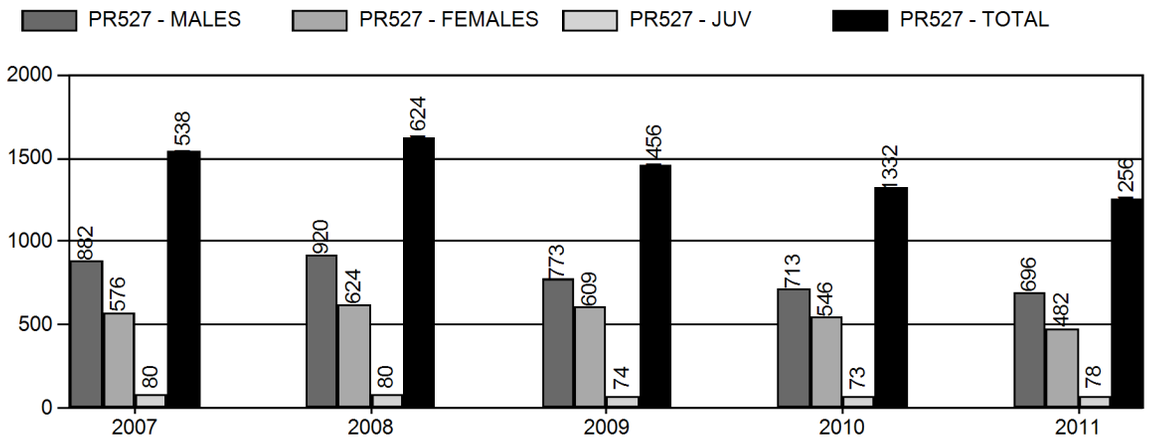
Population Objective:	14,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	90%
Number of years population has been + or - objective in recent trend:	11
Model Date:	2/24/2012

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

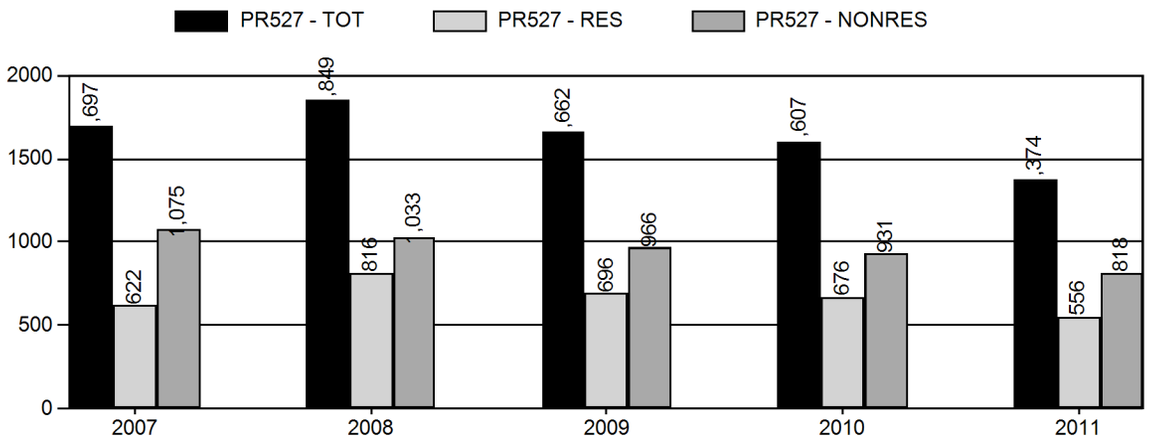
	JCR Year	Proposed
Females ≥ 1 year old:	4.3%	4.3%
Males ≥ 1 year old:	9.6%	8.4%
Juveniles (< 1 year old):	.8%	.8%
Total:	4.48%	6.76%
Proposed change in post-season population:	11.2%	13.6%

Population Size - Postseason

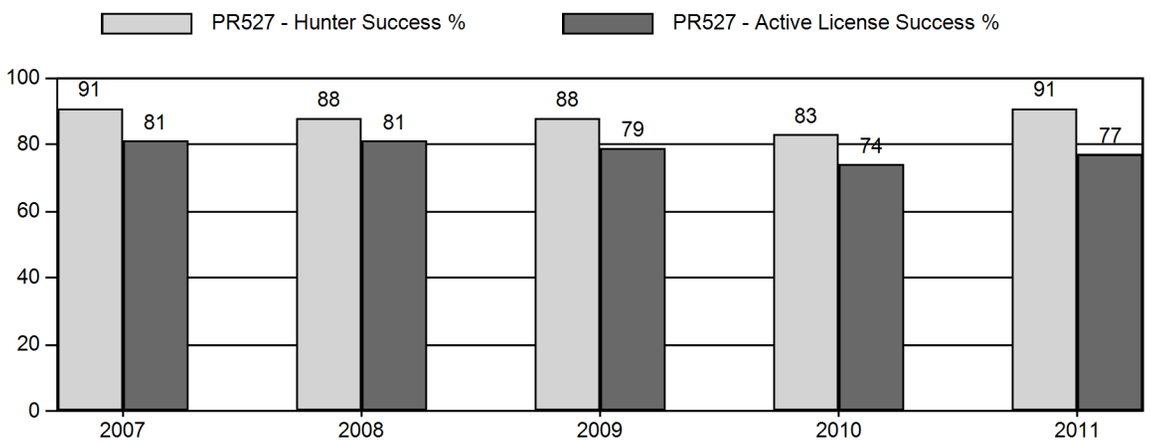
Harvest



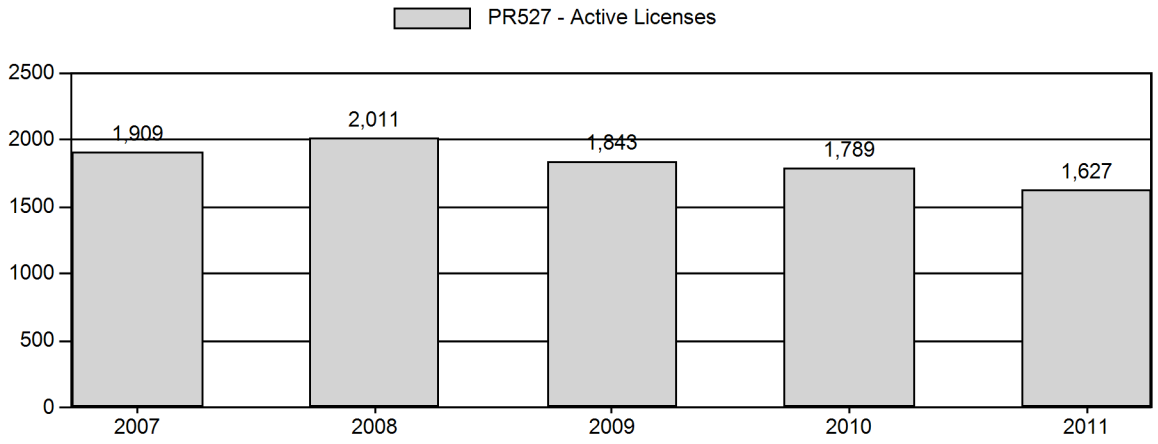
Number of Hunters



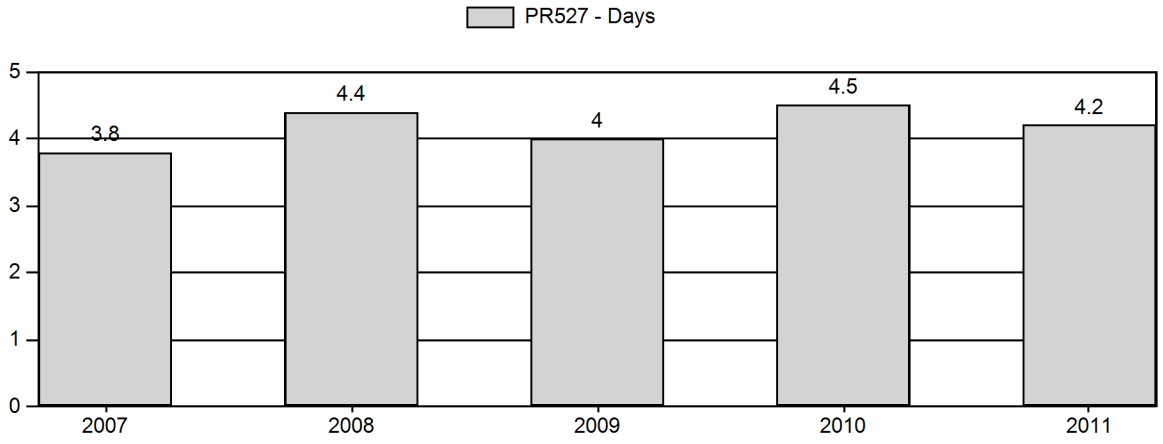
Harvest Success



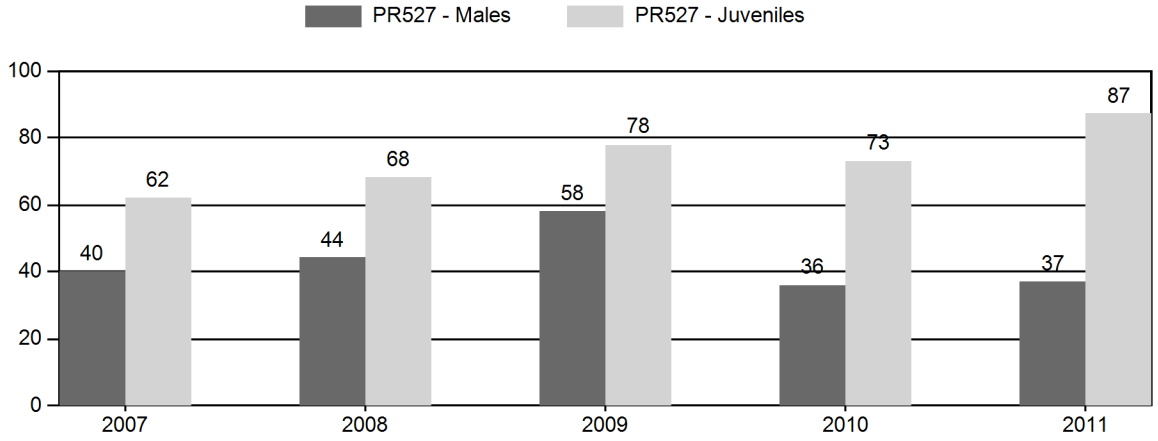
Active Licenses



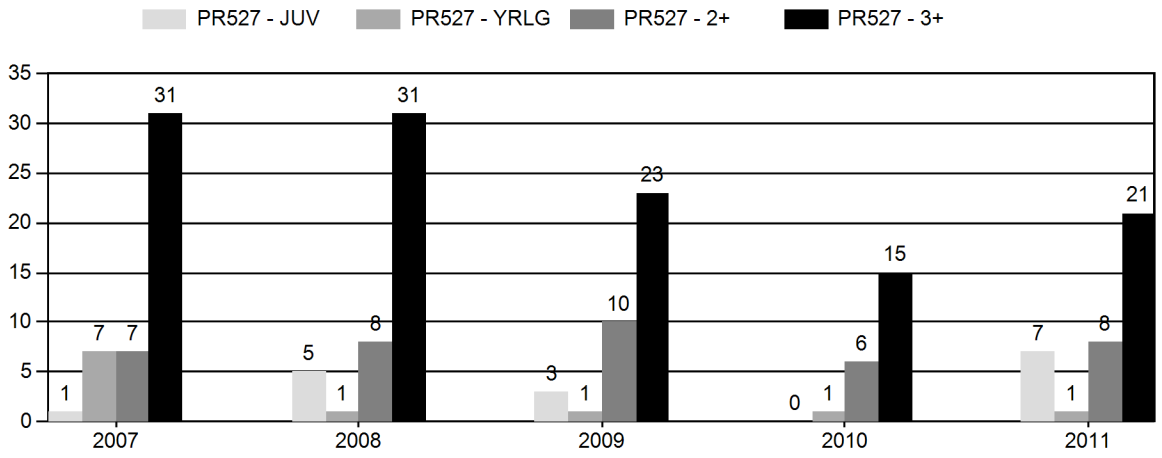
Days Per Animal Harvested



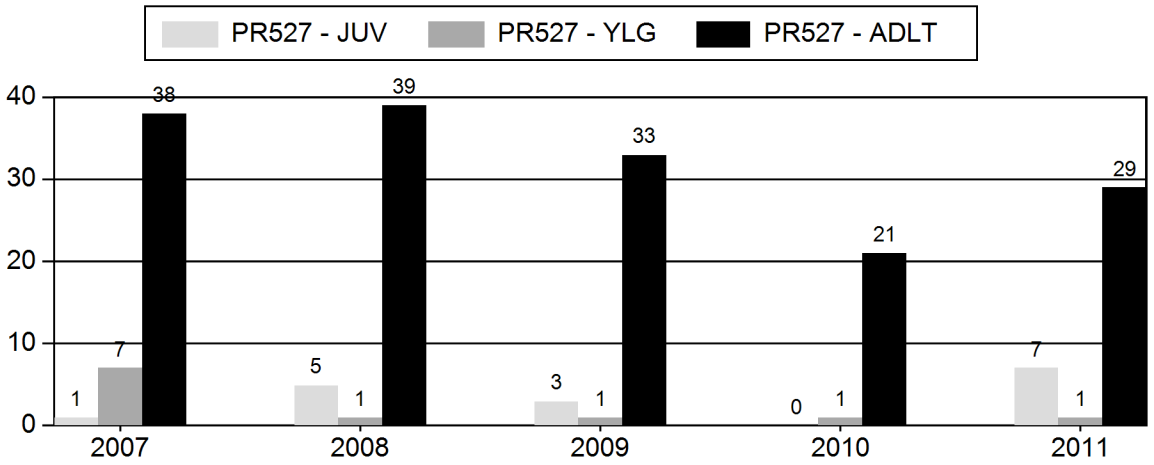
Preseason Animals per 100 Females



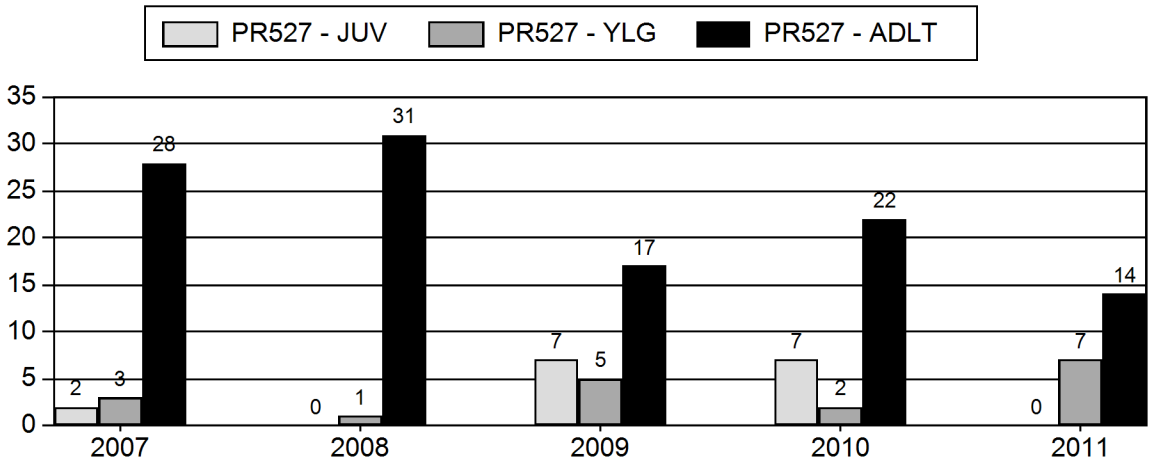
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2007 - 2011 Preseason Classification Summary

for Pronghorn Herd PR527 - CENTENNIAL

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2007	23,774	99	362	461	20%	1,147	49%	713	31%	2,321	1,990	9	32	40	± 3	62	± 5	44
2008	25,224	202	386	588	21%	1,343	47%	915	32%	2,846	2,381	15	29	44	± 3	68	± 4	47
2009	27,817	359	405	764	24%	1,326	42%	1,035	33%	3,125	3,122	27	31	58	± 0	78	± 0	50
2010	26,314	131	357	488	17%	1,337	48%	978	35%	2,803	2,589	10	27	36	± 0	73	± 0	54
2011	28,046	59	214	273	16%	741	45%	641	39%	1,655	2,886	8	29	37	± 4	87	± 7	63

2011 HUNTING SEASONS

PR527 - CENTENNIAL

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
37		ARCH		08/15 - 09/17	Refer to Section 3 of this Chapter
37		Type 1	275	09/17 - 10/14	Any
37		Type 6	75	09/17 - 10/31	Reduced Price doe/fawn
37		Type 7	25	09/17 - 10/14	Reduced Price doe/fawn
44	45	ARCH		08/15 - 09/10	Refer to Section 3 of this Chapter
44		Type 1	250	09/10 - 09/30	Any
44		Type 6	250	09/10 - 09/30	Reduced Price doe/fawn
45		Type 1	500	09/10 - 09/30	Any
45		Type 6	500	09/10 - 09/30	Reduced Price doe/fawn
45		Type 6	1000	10/01 - 10/14	Reduced Price doe/fawn

Area	Type	Active Lic/ Htrs	Buck	Doe	Fawn	Total	Success	Days/ Harvest	Days	Licenses Sold
2011										
37 HARRIMAN										
	Type 1	233	211	0	0	211	90.60%	3.3	691	273
	Type 6	65	0	55	0	55	84.60%	5.1	282	75
	Type 7	17	0	15	0	15	88.20%	2.9	43	25
Pooled Total		277 (315)*	211	70	0	281	101.40% (89.2%)*	3.6	1016	
Pooled Resident		162	126	34	0	160	98.80%	4.5	727	
Pooled Nonresident		115	85	36	0	121	105.20%	2.4	289	
44 SOUTH LARAMIE										
	Type 1	245	187	13	0	200	81.60%	4.3	851	249
	Type 6	216	0	126	26	152	70.40%	5.7	863	250
Pooled Total		387 (461)*	187	139	26	352	91.00% (76.4%)*	4.9	1714	
Pooled Resident		137	98	17	4	119	86.90%	4.2	498	
Pooled Nonresident		250	89	122	22	233	93.20%	5.2	1216	
45 WEST LARAMIE										
	Type 1	410	298	29	7	334	81.50%	4.5	1493	491
	Type 6	441	0	244	45	289	65.50%	3.7	1073	494
Pooled Total		722 (851)*	298	273	52	623	86.30% (73.2%)*	4.1	2566	
Pooled Resident		262	157	61	7	225	85.90%	4.3	968	
Pooled Nonresident		460	141	212	45	398	86.50%	4	1598	
2011 Hunt Area Total		1386 (1627)*	696	482	78	1256	90.60% (77.2%)*	4.2	5296	1857
2011 Herd Total		1374 (1627)*	696	482	78	1256	91.40% (77.2%)*	4.2	5296	1857

2007 - 2011 Harvest Age Structure

for Pronghorn Herd PR527 - CENTENNIAL

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2007	1	7	16%	7	26	65%	41	5	0	46	2	3	10%	5	14	64%	24	9	0	33	79
2008	5	1	2%	8	26	74%	40	5	0	45	0	1	3%	5	19	76%	25	7	0	32	77
2009	3	1	3%	10	12	52%	26	11	9	46	7	5	23%	4	4	31%	20	9	2	31	77
2010	0	1	5%	6	13	65%	20	2	0	22	7	2	8%	3	4	44%	16	15	6	37	59
2011	7	1	3%	8	7	44%	23	14	0	37	0	7	33%	0	7	50%	14	7	8	29	66

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

CENTENNIAL PRONGHORN
(PR527)
Hunt Areas 37, 44, 45
2012 Hunting Seasons

Hunt Area	Type	Dates of Opens	Season Closes	Limitations
37	1	~~Sept. 17~~ **Sept. 15**	Oct. 14	Limited Quota; 275 licenses, any antelope
	6	~~Sept. 17~~ **Sept. 15**	Oct. 14	Limited Quota; 75 licenses, doe or fawn, valid in that portion of Area 37 east of the Harriman Road (Wyoming Highway 218, Laramie County Road 102)
	7	~~Sept. 17~~ **Sept. 15**	Oct. 14	Limited Quota; 25 licenses, doe or fawn, valid in that portion of Area 37 west of the Harriman Road (Wyoming Highway 218, Laramie County Road 102)
44	1	~~Sept. 10~~ **Sept. 8**	Sept. 30	Limited Quota; 250 licenses, any antelope
	6	~~Sept. 10~~ **Sept. 8**	Sept. 30	Limited Quota; 250 licenses, doe or fawn
45	1	~~Sept. 10~~ **Sept. 8**	Sept. 30	Limited Quota; 500 licenses, any antelope
	6	~~Sept. 10~~ **Sept. 8**	Sept. 30	Limited Quota; 500 licenses, doe or fawn
		Oct. 1	Oct. 14	Unused Area 45 Type 1 and Type 6 licenses valid in that portion of Area 45 south of Wyoming Highway 130
Archery				
37		Aug. 15	~~Sept 16~~ **Sept 14**	Refer to Section 3 of this Chapter
44,45		Aug. 15	~~Sept 16~~ **Sept 7**	Refer to Section 3 of this Chapter

SUMMARY OF CHANGES BY LICENSE NUMBER

Area	Type	Change from 2010
37	1	0
	6	0
	7	0
44	1	0
	6	0

45	1 6	0 -0
Herd Totals	**1** **6 & 7**	**0** **0**

Changes for 2012

- Changed opening dates to coincide with the 2nd Saturday of September in Areas 44 and 45, and the 3rd Saturday in Area 37.

Management Evaluation

The Centennial Pronghorn Herd is under recreational management. The seasons are structured to decrease the population but the lack of access continues to limit harvests and our ability to bring the population anywhere near the objective. We would like to lower the population to bring it in better balance with habitat conditions and to maintain the population at a level that can be controlled by harvest. Current harvest rates are limited by access to private lands. The population has been increasing since 2003. We moved the seasons in Areas 44 and 45 into September in 2009 in order to close them before the opening of deer season on October 1st. Landowners in our Hunter Management Areas were concerned about pronghorn hunters pushing deer off their ranches during the deer season. This change was intended to keep these landowners from withdrawing from the HMA program. In 2008, we enrolled the State of Wyoming's X-Bar Ranch in Area 45 as a Hunter Management Area, but limitations due to safety concerns with nearby dwellings necessitate fairly limited pronghorn hunting. Access to the X-Bar Ranch does not replace access to formerly accessible state lands that were exchanged for this Ranch. Home building adjacent to the X-Bar Ranch and other nearby State Lands may require further limitations. The biggest challenge we face in this herd is trying to increase harvest when hunting pressure on the few accessible areas has decreased the quality and abundance of game. We propose to decrease the Type 6 license in Area 45 by 100, due to crowding on the HMAs and other accessible public lands.

Population: The Centennial Herd is well above its objective of 14,000. The herd's postseason population has been over 20,000 since the 2005 hunting season. Another confounding influence is that some segments of the herd move back and forth between Colorado and Wyoming. The 87 fawns/100 does is the highest ratio observed since 2004. The ratio of 91 fawns/100 does observed in Area 45 brings the fawn proportions for the entire herd up. We observed a marked decrease in the preseason buck:doe ratio from 58:100 in 2009 surveys to 39:100 in 2010 and 37:100 in 2011. Despite the high fawn/doe ratios, pronghorn abundance on accessible lands like the HMAs is lower than adjacent private lands with restricted access. Hunter success on Area 45 Type 6s has decreased the past 3 years indicating we may be at maximum hunter densities on the HMAs and hopefully reducing the 45 Type 6s will help alleviate this. Given the limits on obtaining harvests, we predict that the population will continue to increase after the 2012 season, unless we have a severe winter in 2012/2013.

Harvest: Pronghorn hunting in this herd remains relatively difficult because of limited public access and highly restricted hunting on private lands. During the 2011 hunting season, 1374

hunters harvested 1256 pronghorn at a success rate of 77%. These harvest statistics show a continuing decline in hunters, harvest and success. The limited public access seems to be causing poorer hunting on the HMAs and other accessible areas, although the herd is still growing. Since 1997, days hunted per animal harvest have increased from 1.6 to 4.2 days/animal in 2011. Success rates for each Hunt Area Type 6 licenses have continually decreased with Area 45,44 at or below 70% and Are 38 at 83%. The 2012 season would reduce pressure on Type 6 licenses. We expect to decrease harvest to 1,280 pronghorn. Access will be a big determinant in the actual harvest success.

Data Set: PR527_10.gn1 02/24/2012 10:26 am Page 1

CENTENNIAL PRONGHORN (A527) - 2011 Seasons using EOY 2007 Line Transect
Data from 1984 to 2012 Simulation from 1990 to 2012

Age Class	Init Pop. Male	Init Pop. Female	Prop. Presn Male	Prop. Presn Female	Mort% Postsn Male	Mort% Postsn Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	90.0	90.0	50.0	50.0	35.0	35.0	1.00	1.00	1.00	1.00
1	30.0	30.0	2.0	2.0	10.0	5.0	0.25	1.00	1.00	1.00
2	10.0	11.8	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
3	8.0	10.6	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
4	6.5	9.6	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
5	4.4	8.6	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
6	3.1	7.7	2.0	2.0	25.0	5.0	1.00	1.00	1.00	1.00
7	2.6	7.0	2.0	2.0	50.0	5.0	1.00	1.00	1.00	1.00
8	2.2	6.3	2.0	2.0	60.0	10.0	1.00	1.00	1.00	1.00
9	1.9	5.6	2.0	2.0	70.0	25.0	1.00	1.00	1.00	1.00
10	1.6	5.1	2.0	2.0	80.0	50.0	1.00	1.00	1.00	1.00
11	1.0	4.0	2.0	2.0	90.0	75.0	1.00	1.00	1.00	1.00
12	0.0	2.0	2.0	2.0	95.0	95.0	1.00	1.00	1.00	1.00
13	0.0	1.0	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 360.6 Estimated Sum = 26750 Subadults: Ages 0 to 0

Data Set: PR527_10.gn1 02/24/2012 10:26 am Page 2

Bio-Year	Preseason MSI	MSI Function is Linear: Harvest Subadults#	Des. Pop Size in NA: Males#	Des. Pop Size in NA: Females#	Postseason MSI	Effort & Wound Set Used
1984	1.00	56	927	288	1.00	1
1985	1.00	53	745	497	1.00	1
1986	1.00	129	517	904	0.80	1
1987	1.00	159	487	803	1.20	1
1988	1.00	109	445	689	1.00	1
1989	1.00	81	439	599	1.20	1
1990	1.00	75	509	685	1.00	1
1991	0.93	96	572	799	0.80	1
1992	1.00	229	769	1523	2.20	1
1993	1.40	133	675	760	1.80	2
1994	1.41	100	417	579	0.80	2
1995	1.35	71	317	372	0.80	1
1996	1.11	51	284	236	0.20	2
1997	0.98	15	267	338	0.70	1
1998	1.01	36	401	321	0.70	1
1999	1.14	46	509	397	0.30	1
2000	1.11	73	556	456	0.70	1
2001	1.11	44	591	299	1.60	1
2002	1.12	43	809	298	1.80	1
2003	1.18	70	835	522	1.30	1
2004	0.90	87	989	406	1.00	1
2005	0.97	57	970	542	1.00	1
2006	1.07	63	828	672	1.00	1
2007	1.15	80	885	573	1.10	1
2008	1.09	80	923	617	1.20	1
2009	0.95	110	772	592	1.30	1
2010	1.01	73	713	546	1.40	1
2011	0.84	78	696	482	1.00	1
2012	0.85	80	727	540	1.00	1

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	10.%	15.%	10.%	Yearling Male 15.%

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
1985	0.0	180.0	0.0	
1986	0.0	180.0	0.0	
1987	0.0	180.0	0.0	
1988	0.0	180.0	0.0	
1989	0.0	180.0	0.0	
1990	0.0	180.0	0.0	
1991	0.0	180.0	0.0	
1992	0.0	180.0	0.0	
1993	0.0	180.0	0.0	
1994	0.0	180.0	0.0	
1995	0.0	180.0	0.0	
1996	0.0	180.0	0.0	
1997	0.0	180.0	0.0	
1998	0.0	180.0	0.0	
1999	0.0	180.0	0.0	
2000	0.0	180.0	0.0	
2001	0.0	180.0	0.0	
2002	0.0	180.0	0.0	
2003	0.0	180.0	0.0	
2004	0.0	180.0	0.0	
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	180.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for PR527_10.gn1, 02/24/2012 10:26 am

Table 1. Population Size During Bio-Year for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
1990	26750	19806	18410	14322	-4.6
1991	25522	20048	18434	15650	8.9
1992	27806	21415	18642	11344	-22.0
1993	21697	14133	12374	9009	-19.2
1994	17530	11269	10042	8811	-6.2
1995	16436	11051	10215	8880	0.6
1996	16535	12089	11447	11016	17.3
1997	19403	15077	14395	12372	13.1
1998	21946	16861	16027	13827	12.1
1999	24598	18143	17096	16136	16.2
2000	28577	21314	20121	17434	8.8
2001	31084	23121	22094	15778	-4.7
2002	29612	21511	20246	14136	-6.8
2003	27587	19318	17748	13848	-3.1
2004	26727	20682	19052	15476	8.1
2005	28892	22085	20359	16633	8.8
2006	31427	23156	21437	17559	5.4
2007	33132	23774	22082	17806	2.5
2008	33965	24770	22988	18031	0.6
2009	34152	26152	24531	18656	2.2
2010	34888	26314	24849	18684	1.4
2011	35367	28046	26664	21714	11.2
2012	39344	31482	30000	24559	13.6

Table 2. Preseason Natural Mortality for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1990	6676	106	162	6944	26.0
1991	5208	111	156	5474	21.4
1992	6078	136	177	6391	23.0
1993	7247	138	180	7565	34.9
1994	6007	105	149	6261	35.7
1995	5147	100	138	5385	32.8
1996	4249	84	114	4446	26.9
1997	4109	94	122	4325	22.3
1998	4835	110	140	5084	23.2
1999	6140	138	177	6455	26.2
2000	6905	159	199	7263	25.4
2001	7576	173	214	7963	25.6
2002	7747	152	202	8100	27.4
2003	7936	131	203	8270	30.0
2004	5796	94	155	6045	22.6
2005	6507	112	189	6807	23.6
2006	7915	132	224	8271	26.3
2007	8954	154	250	9358	28.2
2008	8807	149	239	9195	27.1
2009	7657	132	210	8000	23.4
2010	8197	149	228	8574	24.6
2011	7007	124	190	7321	20.7
2012	7493	150	219	7862	20.0

Table 3. Harvest Mortality for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop

1990	75	509	685	1269	6.4
1991	96	572	799	1467	7.3
1992	229	769	1523	2521	11.8
1993	133	675	760	1568	11.1
1994	100	417	579	1096	9.7
1995	71	317	372	760	6.9
1996	51	284	236	571	4.7
1997	15	267	338	620	4.1
1998	36	401	321	758	4.5
1999	46	509	397	952	5.2
2000	73	556	456	1085	5.1
2001	44	591	299	934	4.0
2002	43	809	298	1150	5.3
2003	70	835	522	1427	7.4
2004	87	989	406	1482	7.2
2005	57	970	542	1569	7.1
2006	63	828	672	1563	6.7
2007	80	885	573	1538	6.5
2008	80	923	617	1620	6.5
2009	110	772	592	1474	5.6
2010	73	713	546	1332	5.1
2011	78	696	482	1256	4.5
2012	80	727	540	1347	4.3

Table 4. Harvest Percentages for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
1990	1.1	9.8	8.6	6.41	15.4
1991	1.6	9.8	9.7	7.32	12.3
1992	3.8	11.6	17.5	11.77	10.2
1993	4.3	14.1	12.2	11.09	13.6
1994	4.0	11.5	11.3	9.73	14.7
1995	2.9	8.8	7.5	6.88	7.1
1996	1.5	7.7	4.7	4.72	23.0
1997	0.4	5.7	5.5	4.11	10.7
1998	0.8	7.5	4.7	4.50	9.5
1999	1.0	8.6	5.2	5.25	9.4
2000	1.3	7.9	5.2	5.09	9.1
2001	0.7	7.8	3.2	4.04	8.2
2002	0.7	12.2	3.4	5.35	5.7
2003	1.3	15.4	6.2	7.39	5.9
2004	1.2	19.3	4.8	7.17	9.0
2005	0.8	17.2	5.7	7.10	14.0
2006	0.9	13.7	6.6	6.75	12.3
2007	1.2	13.5	5.4	6.47	11.0
2008	1.1	13.8	5.7	6.54	9.4
2009	1.3	11.3	5.5	5.64	9.8
2010	0.9	9.9	4.9	5.06	10.0
2011	0.8	9.6	4.3	4.48	8.6
2012	0.8	8.4	4.3	4.28	12.1

Table 5. Postseason Natural Mortality for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
1990	2308	809	970	4087	22.2
1991	1648	558	577	2784	15.1
1992	4486	1544	1268	7298	39.1
1993	1865	829	672	3365	27.2
1994	673	299	260	1231	12.3
1995	672	362	301	1335	13.1

1996	235	112	84	431	3.8
1997	1044	574	405	2023	14.1
1998	1151	600	450	2201	13.7
1999	481	246	233	960	5.6
2000	1337	672	678	2687	13.4
2001	3375	1526	1415	6316	28.6
2002	3805	1296	1009	6110	30.2
2003	2474	768	658	3900	22.0
2004	2446	549	582	3576	18.8
2005	2396	609	720	3726	18.3
2006	2383	665	830	3878	18.1
2007	2514	755	1007	4276	19.4
2008	3051	795	1111	4957	21.6
2009	3796	895	1184	5874	23.9
2010	3898	1073	1194	6165	24.8
2011	3357	812	782	4950	18.6
2012	3517	1005	919	5442	18.1

Table 6. Preseason Ratios for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	84.0	37.8	27.4	65.2
1991	73.0	45.6	25.6	71.2
1992	69.9	52.5	23.9	76.4
1993	49.8	66.2	10.4	76.7
1994	49.0	60.2	10.4	70.6
1995	49.9	55.8	17.0	72.7
1996	68.1	56.7	16.9	73.5
1997	70.2	52.1	25.1	77.2
1998	69.8	55.4	23.2	78.6
1999	61.1	55.4	22.9	78.2
2000	63.2	57.2	22.9	80.1
2001	64.4	59.4	21.4	80.8
2002	69.1	60.4	14.7	75.1
2003	65.8	51.6	13.0	64.6
2004	83.5	43.2	17.2	60.3
2005	72.5	35.8	23.4	59.1
2006	67.3	38.0	21.3	59.3
2007	62.4	41.2	20.4	61.6
2008	68.4	43.8	18.3	62.1
2009	78.0	43.9	19.0	63.0
2010	72.6	45.1	20.1	65.2
2011	87.1	47.4	18.0	65.4
2012	79.9	44.0	24.1	68.2

Table 7. Postseason Ratios for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	91.7	35.2	29.1	64.3
1991	80.3	43.5	27.6	71.2
1992	83.0	54.2	28.4	82.6
1993	54.7	64.1	10.1	74.2
1994	53.5	59.6	10.3	69.9
1995	52.7	53.7	17.9	71.6
1996	70.6	54.4	16.2	70.7
1997	74.4	50.9	26.1	77.1
1998	73.0	52.2	23.8	76.1
1999	64.1	51.6	23.5	75.2
2000	66.0	53.9	23.6	77.5
2001	66.2	55.0	21.5	76.6
2002	71.2	52.8	14.7	67.5

2003	69.6	44.3	13.3	57.6
2004	87.0	33.3	16.9	50.1
2005	76.6	27.9	23.2	51.2
2006	71.8	32.5	21.8	54.3
2007	65.4	35.2	20.6	55.8
2008	72.2	37.6	18.6	56.2
2009	81.8	39.2	19.4	58.7
2010	76.0	40.9	20.5	61.5
2011	90.7	43.2	18.2	61.4
2012	83.1	40.4	24.5	64.9

Table 8. End of Year Ratios for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Subadults /100 Adlts	Subadults /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
1990	42.7	68.9	30.3	61.3
1991	37.1	62.8	27.6	69.0
1992	13.4	23.3	27.0	73.9
1993	13.8	23.1	9.5	67.2
1994	24.4	40.9	10.0	67.1
1995	24.2	40.6	17.7	68.2
1996	39.4	66.9	16.2	69.6
1997	35.1	60.5	26.2	72.1
1998	34.5	59.3	23.8	71.8
1999	34.1	59.3	23.6	74.1
2000	30.9	54.3	23.9	75.6
2001	20.2	34.5	21.4	70.8
2002	18.8	29.9	13.7	59.3
2003	27.2	41.4	12.6	52.1
2004	41.5	60.9	16.4	46.7
2005	36.5	54.1	22.7	48.2
2006	33.7	51.2	21.5	51.8
2007	29.1	44.7	20.4	53.6
2008	30.5	47.0	18.4	54.3
2009	32.2	50.4	19.1	56.5
2010	27.7	43.8	19.9	57.8
2011	40.3	63.6	17.7	58.1
2012	36.2	58.4	23.9	61.3

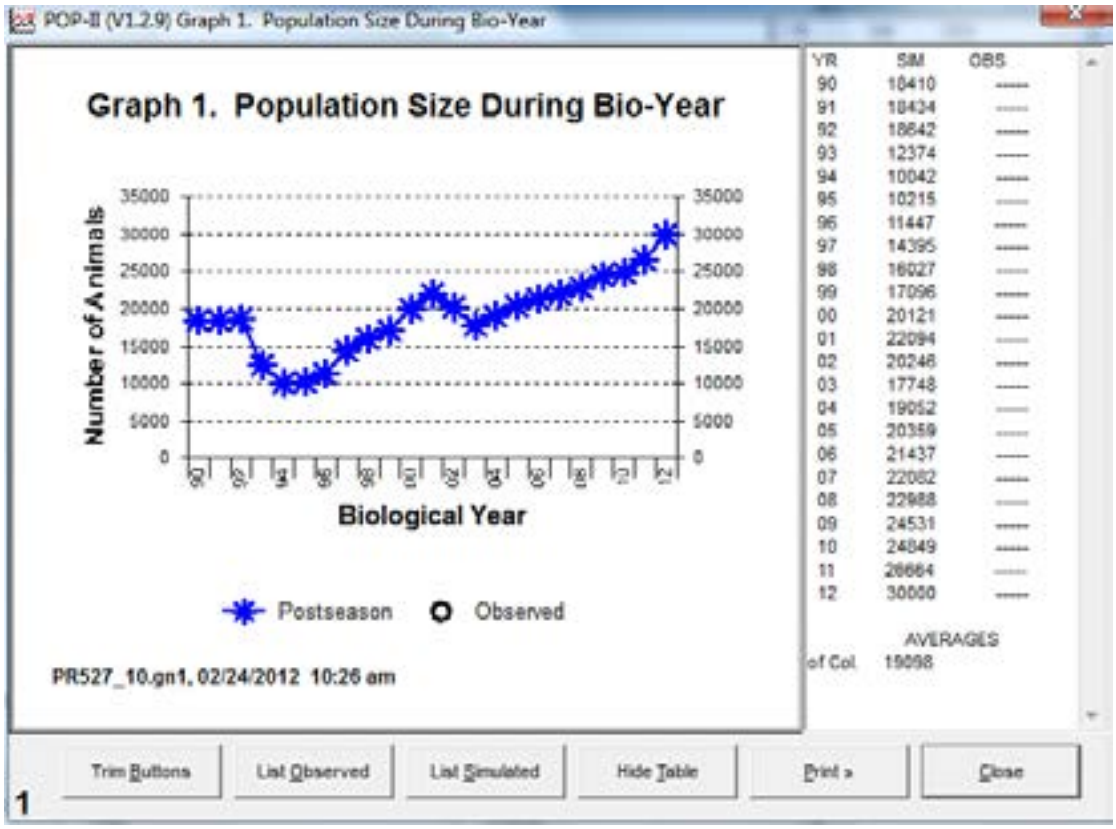
Table 9. Reproduction at Start of Bio-Year for PR527_10.gn1 02/24/2012 10:26 am

Bio-Year	Young / 100 AF 1 +	Sub-Ad. / 100 AF 1 +	Total Young	Total Sub-Adult	Total Females 1 +
1990	165	165	13353	13353	8108
1991	134	134	11200	11200	8365
1992	137	137	12156	12156	8872
1993	161	161	10353	10353	6422
1994	161	161	8521	8521	5281
1995	149	149	7625	7625	5101
1996	150	150	7655	7655	5117
1997	135	135	8387	8387	6217
1998	138	138	9573	9573	6927
1999	139	139	10771	10771	7758
2000	139	139	12441	12441	8962
2001	142	142	13650	13650	9643
2002	154	154	13834	13834	9011
2003	157	157	13451	13451	8590
2004	149	149	12879	12879	8637
2005	138	138	13416	13416	9724
2006	142	142	14794	14794	10444
2007	143	143	15573	15573	10865
2008	147	147	16160	16160	10986

2009	146	146	16121	16121	11063
2010	144	144	16232	16232	11291
2011	148	148	16682	16682	11296
2012	137	137	17630	17630	12911

Table A. Intra-Annual Natural Survival(%) for PR527_10.gn1 02/24/2012 10:26 am

Bio-Years	Sub Adults	Adult Males	Adult Females	Overall Survival
1990-1991	63.79	80.96	84.90	76.35
1991-1992	70.56	87.51	90.28	83.20
1992-1993	22.36	71.32	79.64	59.15
1993-1994	35.96	77.09	85.10	70.75
1994-1995	70.06	88.06	91.68	85.37
1995-1996	70.40	86.92	91.31	85.00
1996-1997	91.18	94.78	96.29	94.35
1997-1998	73.97	85.22	91.05	84.21
1998-1999	73.78	85.75	90.89	84.30
1999-2000	87.51	93.30	94.60	92.29
2000-2001	73.82	87.52	89.76	84.72
2001-2002	43.01	76.34	82.56	69.81
2002-2003	36.13	75.53	86.03	68.17
2003-2004	53.52	81.43	89.93	76.62
2004-2005	63.74	84.71	90.96	79.65
2005-2006	63.61	84.82	89.97	79.95
2006-2007	63.50	85.08	89.15	80.03
2007-2008	60.16	84.55	87.95	78.88
2008-2009	56.90	84.32	87.27	76.95
2009-2010	53.40	83.34	86.61	74.52
2010-2011	50.14	81.92	87.10	73.93
2011-2012	63.90	86.02	91.03	80.05


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
Postseason
Observed
PR527_10.gn1, 02/24/2012 10:26 am
YR SIM OBS
90 18410 -----
91 18424 -----
92 18642 -----
93 12374 -----
94 10042 -----
95 10215 -----
96 11447 -----
97 14395 -----
98 16027 -----
99 17096 -----
00 20121 -----
01 22094 -----
02 20246 -----
03 17748 -----
04 19052 -----
05 20359 -----
06 21437 -----
07 22082 -----
08 22988 -----
09 24531 -----
10 24849 -----
11 26664 -----
12 30000 -----
AVERAGES
of Col 19098
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List Simulated
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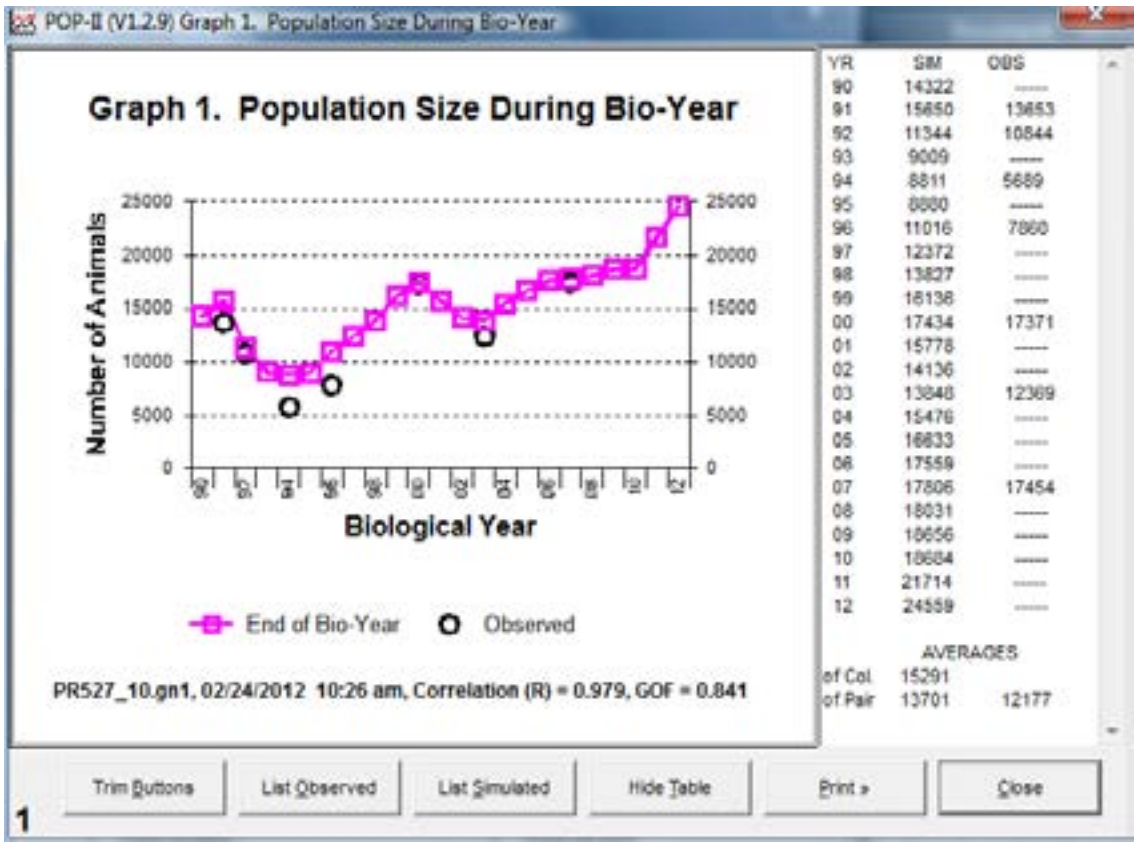
POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
Biological Year
End of Bio-Year
Observed
PR527_10.gn1, 02/24/2012 10:26 am, Correlation (R) = 0.979, GOF = 0.841
YR SIM OBS
90 14322 -----
91 15650 13653
92 11344 10844
93 9009 -----
94 8811 5689
95 8880 -----
96 11016 7860
97 12372 -----
98 13827 -----
99 16136 -----
00 17434 17371
01 15778 -----
02 14136 -----
03 13848 12369
04 15476 -----
05 16833 -----
06 17559 -----
07 17806 17454
08 18031 -----
09 18656 -----
10 18684 -----
11 21714 -----
12 24559 -----
AVERAGES
of Col 15291
of Pair 13701 12177
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List Simulated
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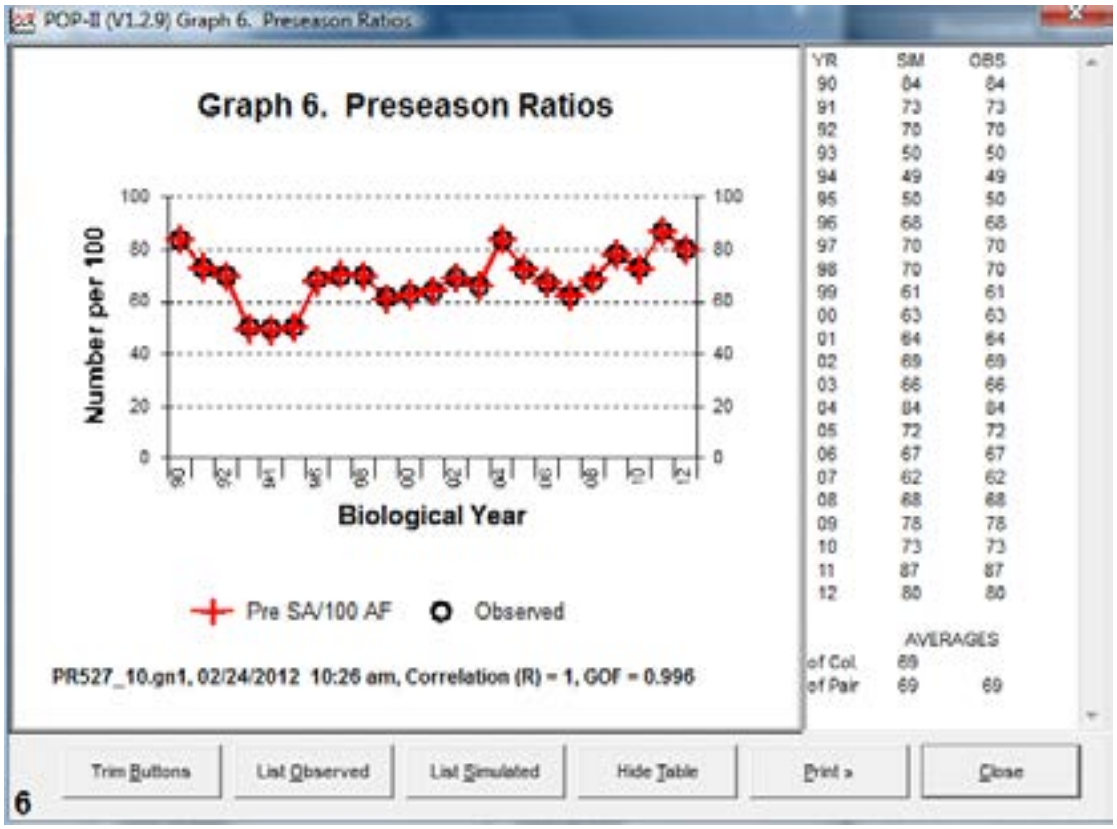
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre SA/100 AF
Observed
PR527_10.gn1, 02/24/2012 10:26 am, Correlation (R) = 1, GOF = 0.996
YR SIM OBS
90 84 84
91 73 73
92 70 70
93 50 50
94 49 49
95 50 50
96 68 68
97 70 70
98 70 70
99 61 61
00 63 63
01 64 64
02 69 69
03 66 66
04 84 84
05 72 72
06 67 67
07 62 62
08 68 68
09 78 78
10 73 73
11 87 87
12 80 80
AVERAGES
of Col. 69
of Pair 69 69
Trim Buttons
List Observed
List Simulated
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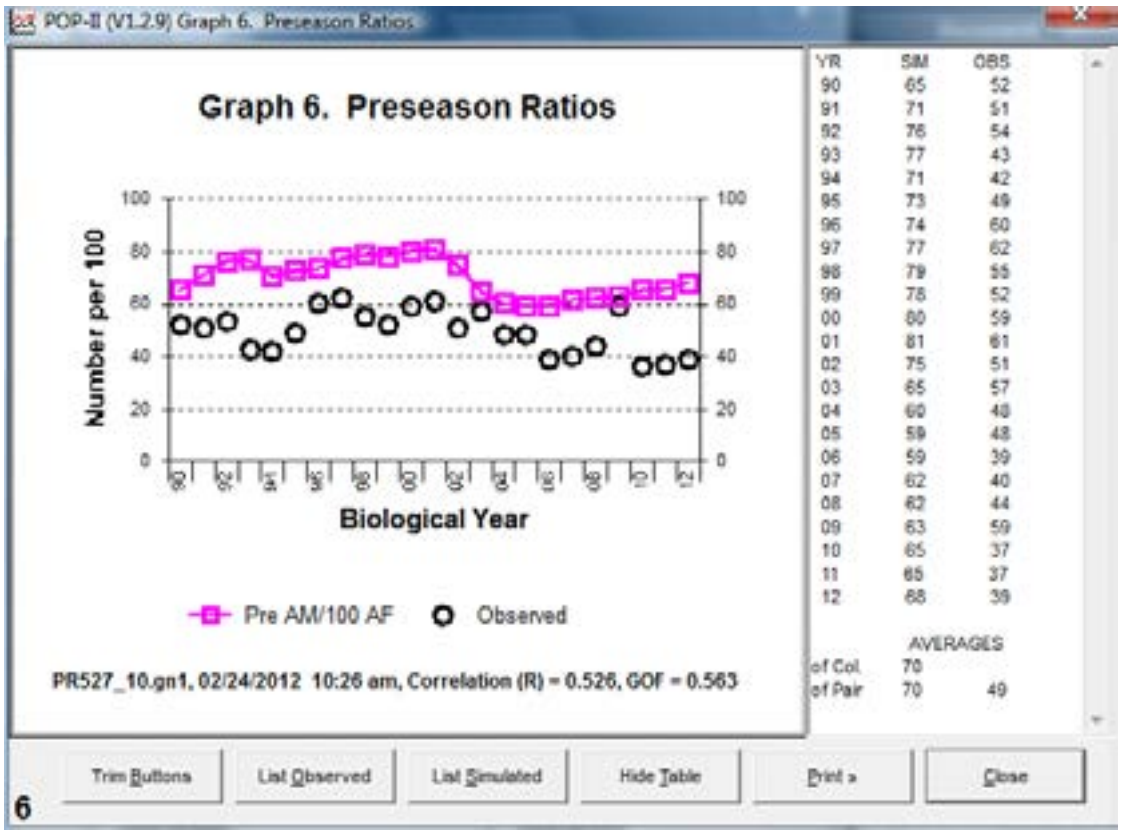
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre AM/100 AF
Observed
PR527_10.gn1, 02/24/2012 10:26 am, Correlation (R) = 0.526, GOF = 0.563
YR SIM OBS
90 65 52
91 71 51
92 76 54
93 77 43
94 71 42
95 73 49
96 74 60
97 77 62
98 79 55
99 78 52
00 80 59
01 81 61
02 75 51
03 65 57
04 60 48
05 59 48
06 59 39
07 62 40
08 62 44
09 63 59
10 65 37
11 65 37
12 68 39
AVERAGES
of Col. 70
of Pair 70 49
Trim Buttons
List Observed
List Simulated
Hide Table
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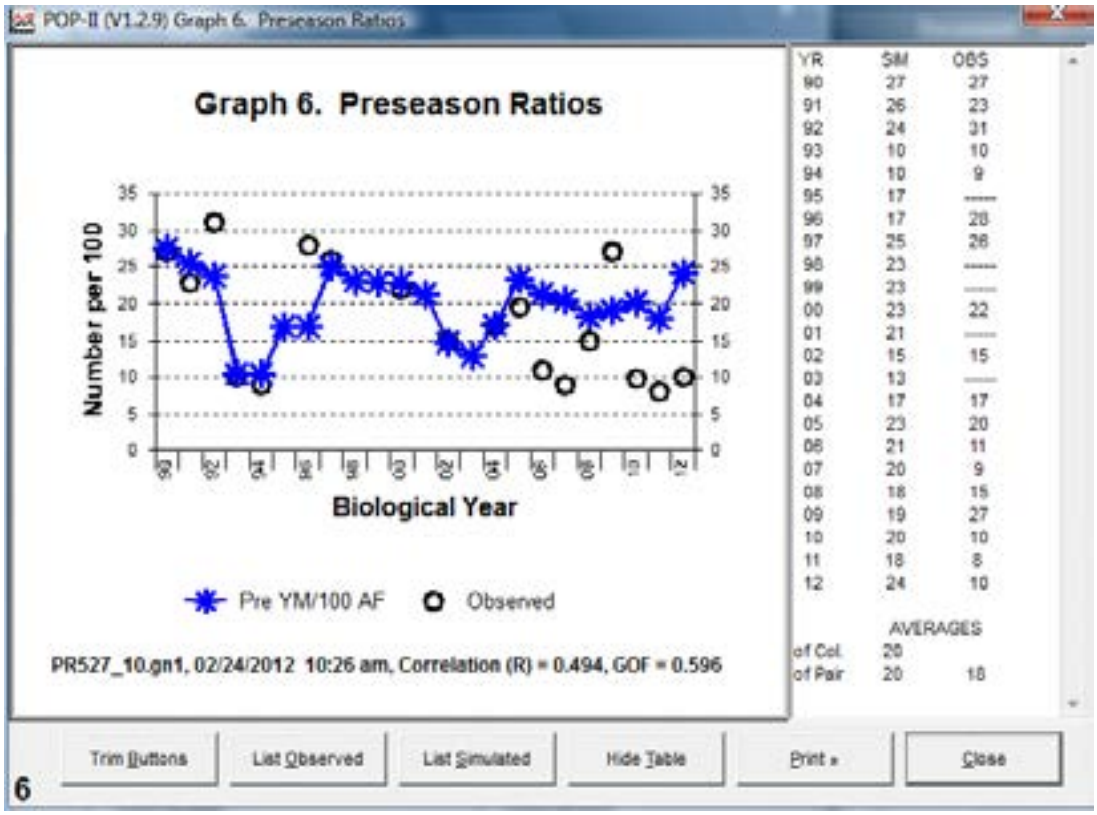
POP-II (V1.2.9) Graph 6. Preseason Ratios
Graph 6. Preseason Ratios
Number per 100
Biological Year
Pre YM/100 AF
Observed
PR527_10.gn1, 02/24/2012 10:26 am, Correlation (R) = 0.494, GOF = 0.596
YR SIM OBS
90 27 27
91 26 23
92 24 31
93 10 10
94 10 9
95 17 ----
96 17 28
97 25 28
98 23 ----
99 23 ----
00 23 22
01 21 ----
02 15 15
03 13 ----
04 17 17
05 23 20
06 21 11
07 20 9
08 18 15
09 19 27
10 20 10
11 18 8
12 24 10
AVERAGES
of Col. 20
of Pair 20 18
Trim Buttons
List Observed
List Simulated
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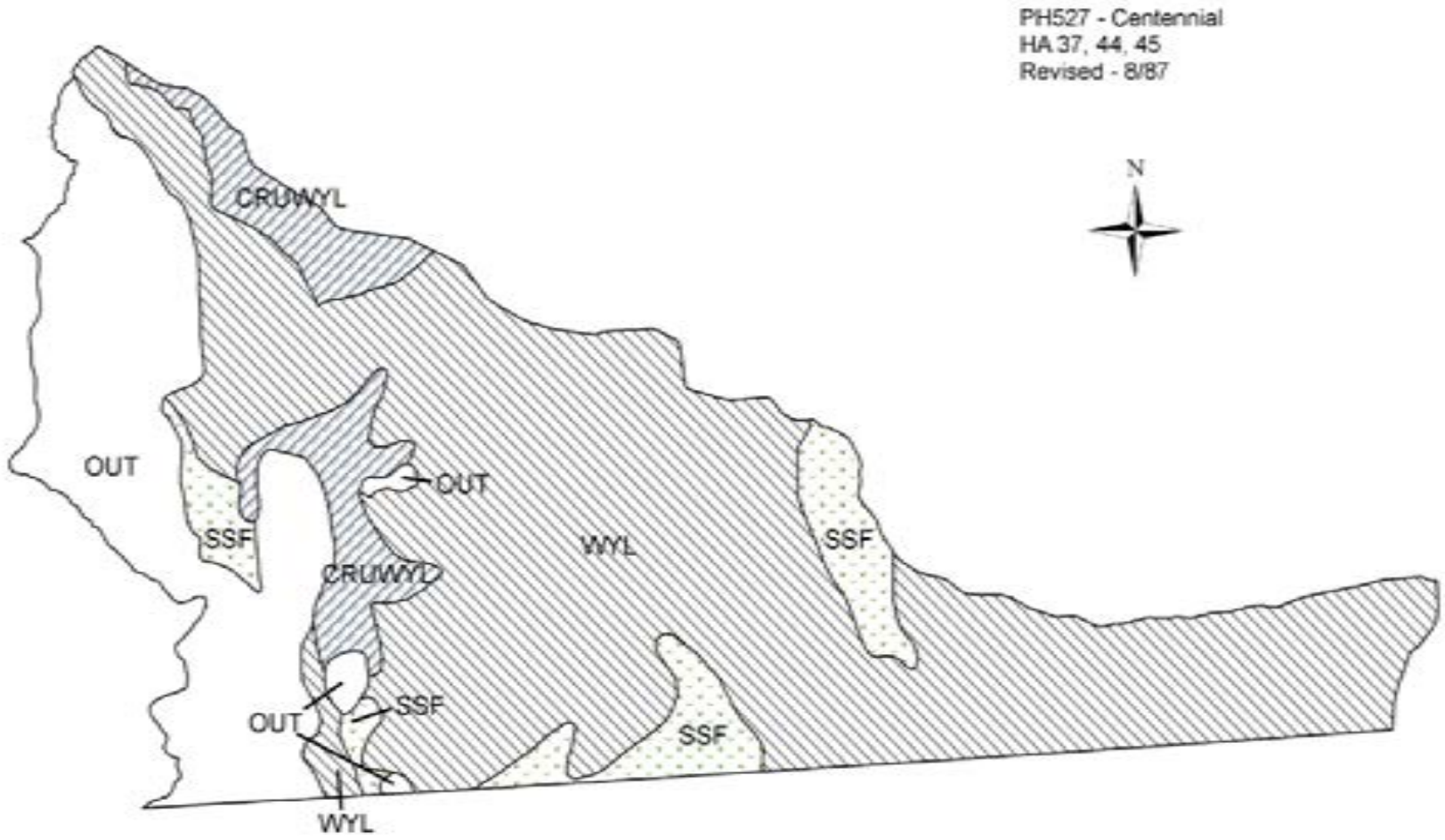
PH527 - Centennial
HA 37, 44, 45
Revised - 8/87
N
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OUT
SSF
CRUWYD
WYL
SSF
OUT
SSF
SSF
WYL

2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR528 - ELK MOUNTAIN

HUNT AREAS: 50 | PREPARED BY: WILL SCHULTZ

	2006 - 2010 Average	2011	2012 Proposed
Population:	9,600	8,721	7,972
Harvest:	848	1,007	1,000
Hunters:	923	1,048	1,050
Hunter Success:	92%	96%	95%
Active Licenses:	996	1,141	1,250
Active License Percent:	85%	88%	80%
Recreation Days:	3,041	3,703	3,700
Days Per Animal:	3.6	3.7	3.7
Males per 100 Females	45	29	
Juveniles per 100 Females	50	40	

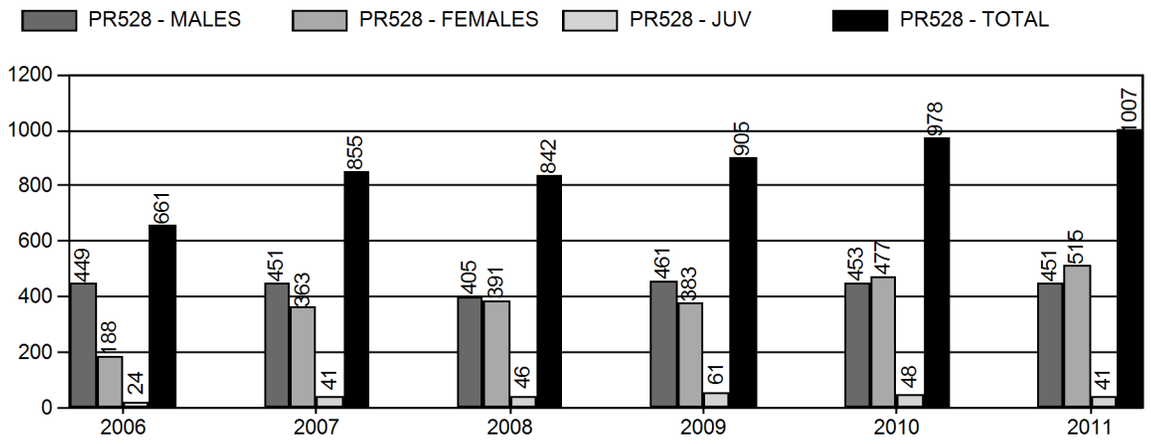
Population Objective:	5,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	74%
Number of years population has been + or - objective in recent trend:	10
Model Date:	03/03/2012

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

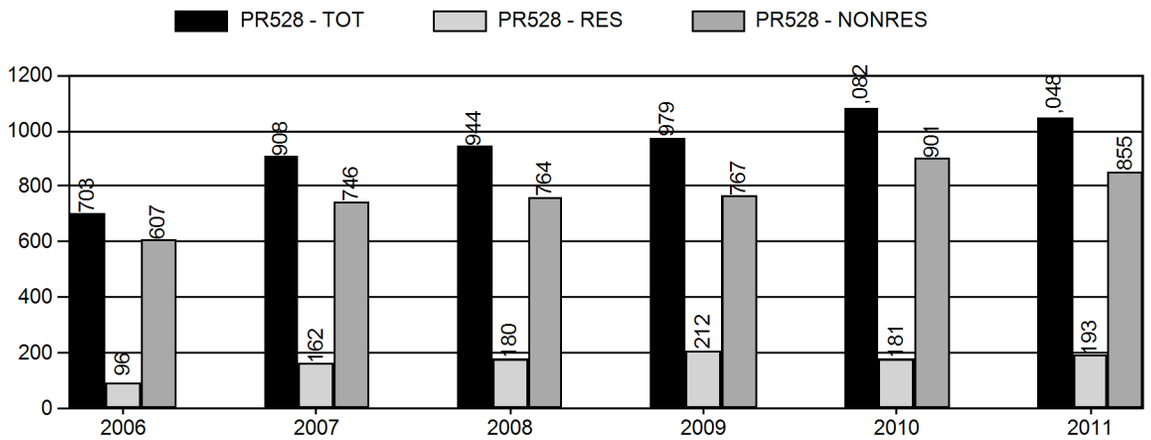
	JCR Year	Proposed
Females ≥ 1 year old:	10.1%	11.1%
Males ≥ 1 year old:	16.8%	18.5%
Juveniles (< 1 year old):	2.0%	2.3%
Total:	10.25%	11.02%
Proposed change in post-season population:	-11.3%	-12.1%

Population Size - Postseason

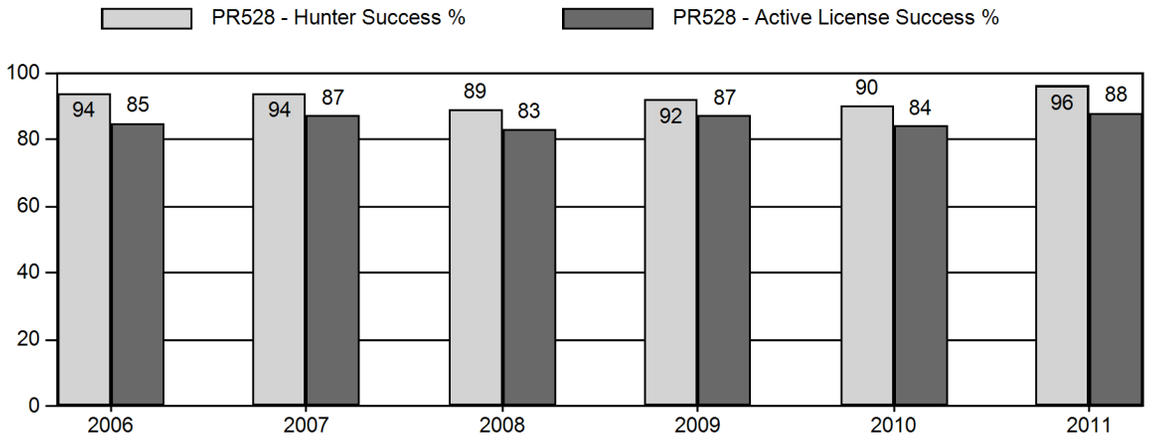
Harvest



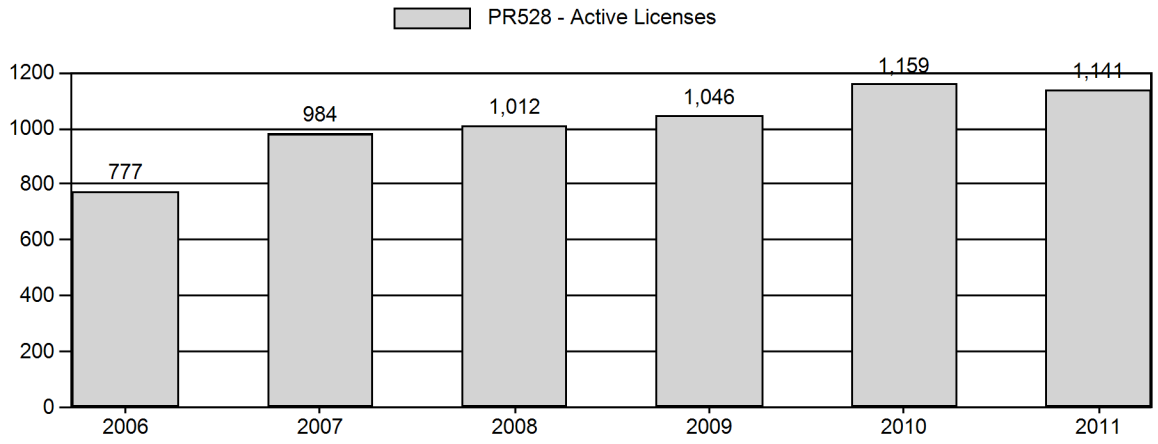
Number of Hunters



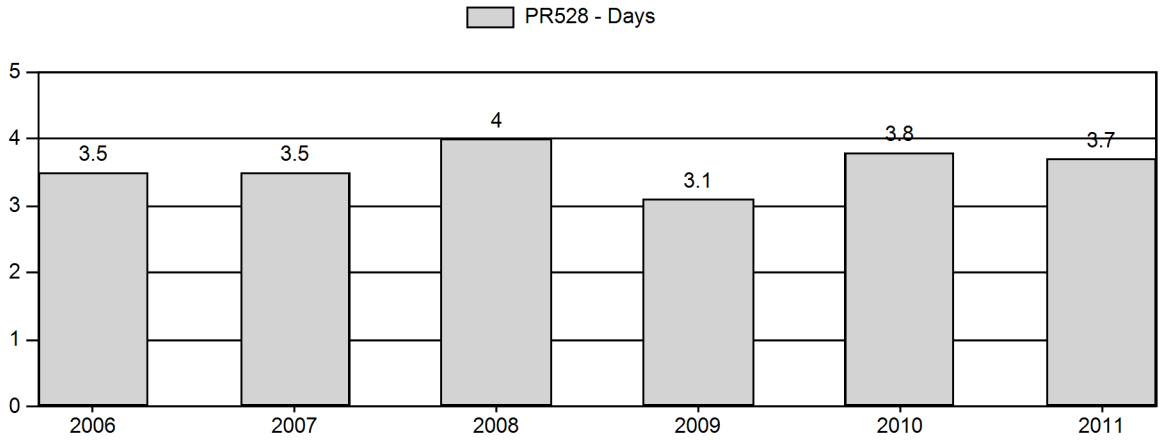
Harvest Success



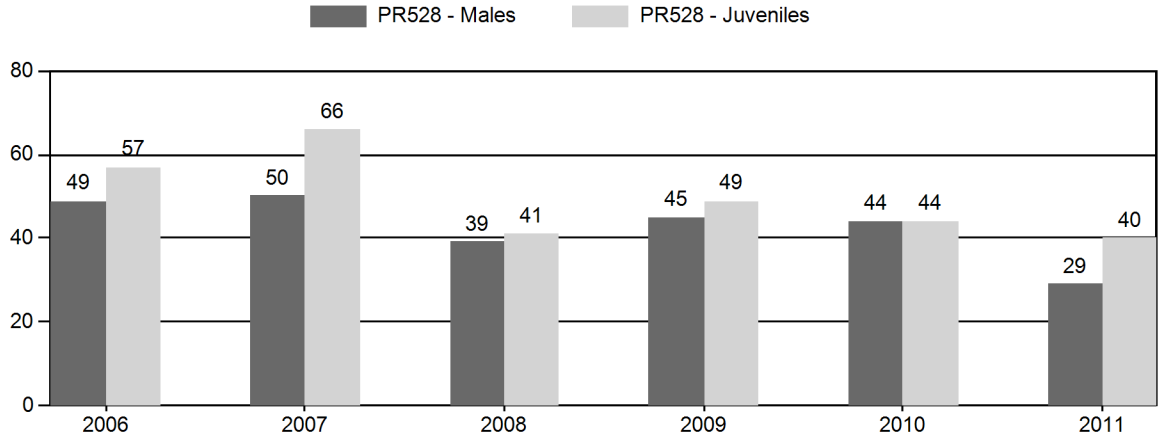
Active Licenses



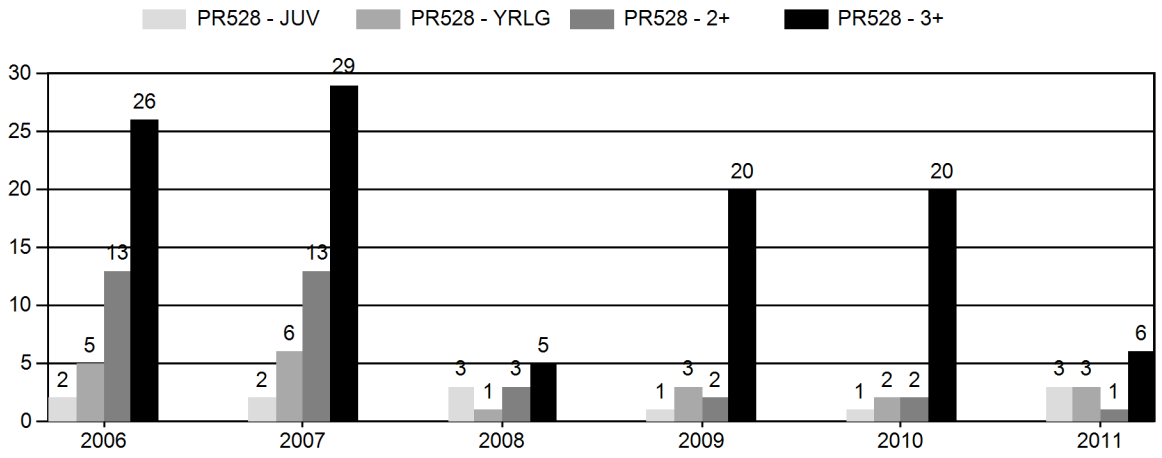
Days Per Animal Harvested



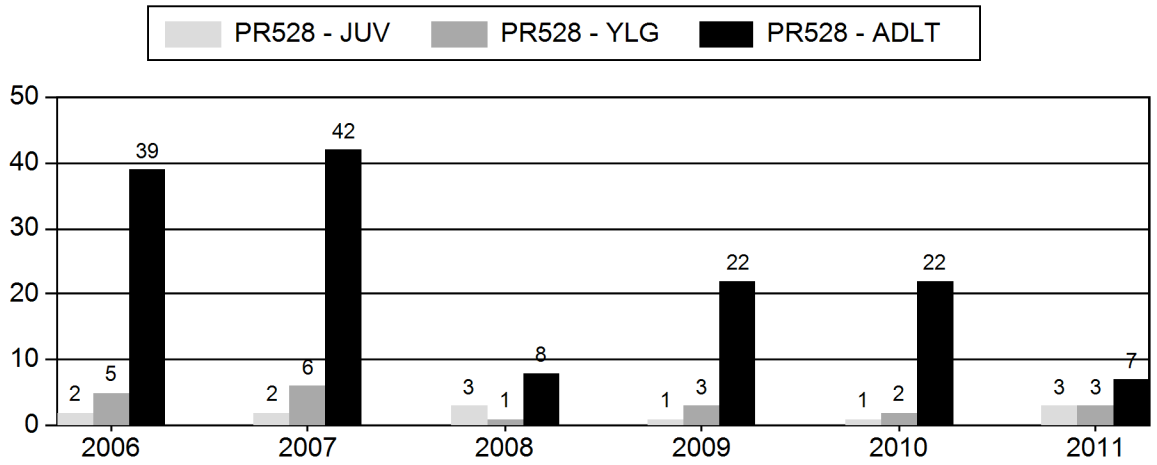
Preseason Animals per 100 Females



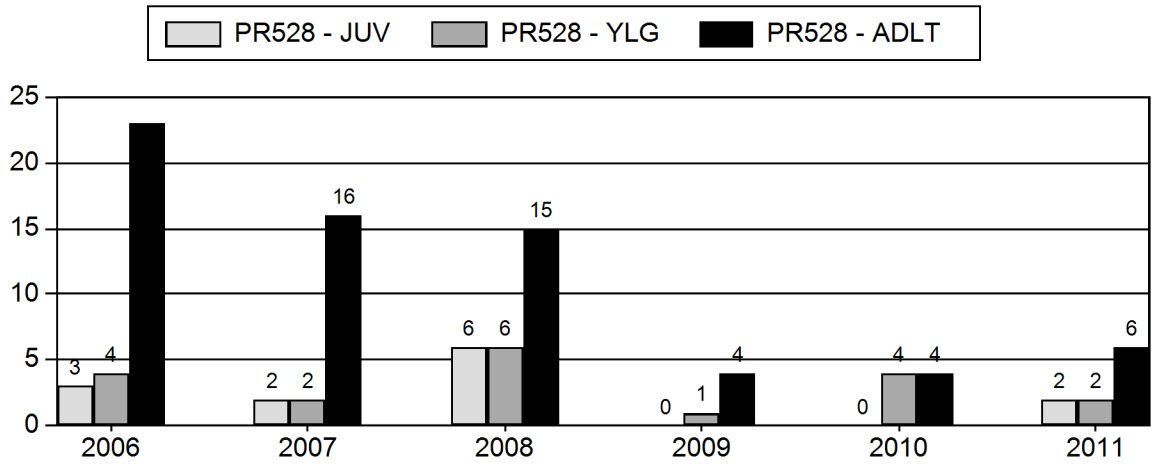
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2006 - 2011 Preseason Classification Summary

for Pronghorn Herd PR528 - ELK MOUNTAIN

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2006	11,000	0	0	530	24%	1,090	49%	620	28%	2,240	1,619	0	0	49	± 3	57	± 4	38
2007	10,000	52	164	216	23%	429	46%	284	31%	929	2,120	12	38	50	± 0	66	± 0	44
2008	9,900	84	234	318	22%	808	55%	331	23%	1,457	1,831	10	29	39	± 4	41	± 4	29
2009	10,395	111	272	383	23%	846	52%	412	25%	1,641	1,617	13	32	45	± 4	49	± 4	34
2010	11,168	91	305	396	23%	907	53%	396	23%	1,699	1,668	10	34	44	± 4	44	± 4	30
2011	9,829	82	140	222	17%	764	59%	303	24%	1,289	0	11	18	29	± 3	40	± 4	31

2011 HUNTING SEASONS

PR528 - ELK MOUNTAIN

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
50		Type 0	50	09/01 - 09/15	any antelope, muzzleloader only
50		Type 1	500	09/16 - 10/31	Any
50		Type 6	700	09/16 - 10/31	Reduced Price doe/fawn

Area	Type	Active Lic/Htrs	Buck	Doe	Fawn	Total	Success	Days/Harvest	Days	Licenses Sold
2011										
50 EK MOUNTAIN										
	Type 1	455	407	13	8	428	94.10%	3	1283	498
	Type 6	632	0	500	33	533	84.30%	4.2	2254	698
	Type 0	54	44	2	0	46	85.20%	3.6	166	57
Pooled Total		1048 (1141)*	451	515	41	1007	96.10% (88.3%)*	3.7	3703	
Pooled Resident		193	100	75	0	175	90.70%	4.6	805	
Pooled Nonresident		855	351	440	41	832	97.30%	3.5	2898	
2011 Hunt Area Total		1048 (1141)*	451	515	41	1007	96.10% (88.3%)*	3.7	3703	1253
2011 Herd Total		1048 (1141)*	451	515	41	1007	96.10% (88.3%)*	3.7	3703	1253

*Active Licenses

2006 - 2011 Harvest Age Structure

for Pronghorn Herd PR528 - ELK MOUNTAIN

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2006	2	5	11%	13	26	59%	46	0	0	46	3	4	15%	3	20	74%	30	0	0	30	76
2007	2	6	12%	13	23	55%	44	6	0	50	2	2	11%	4	7	54%	15	5	0	20	70
2008	3	1	11%	3	5	56%	12	0	4	16	6	6	29%	5	10	48%	27	0	15	42	58
2009	1	3	12%	2	5	50%	11	15	0	26	0	1	20%	0	2	67%	3	2	7	12	38
2010	1	2	8%	2	4	50%	9	16	1	26	0	4	50%	0	0	0%	4	4	39	47	73
2011	3	3	30%	1	0	0%	7	6	9	22	2	2	25%	1	3	50%	8	2	16	26	48

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

ELK MOUNTAIN PRONGHORN (PR528)
Hunt Area 50
2012 Season Recommendations

Hunt Area	Type	Date of Seasons Opens	Closes	Limitations
50	1	Sept. 16	Oct. 31	Limited quota; 500 licenses any antelope
	6	Sept. 16	Oct. 31	Limited quota; 700 licenses doe or fawn.
	0	Sept. 1	Sept. 15	Limited quota; 50 licenses any antelope, muzzle-loading firearms only
Archery		Aug. 15		Refer to Section 4 of this Chapter

Summary of Proposed Changes in License Numbers

Hunt Area	Type	Change From 2011
		No change

Management Evaluation

Estimates indicate the Elk Mountain herd is 74% over the management objective of 5,000. Hunter access to private lands is limited, particularly east of Elk Mountain, where most pronghorn in this herd unit are found during the hunting season. Private lands open to hunters receive a large amount of pressure. Preseason ratios for this herd were 29 bucks and 40 fawns/100does in 2011. Buck ratios and fawn ratios decreased in recent classification trend. Past classifications had been collected from fixed-wing aircraft. However, the 2011 classification survey was conducted from the ground and may have been biased in comparison to the previous surveys.

The 2011 postseason population estimate was 8,721 pronghorn. The current population estimate was derived from a POP-II population model with a 2010 end-of-year population estimate aligned to the results of a corresponding 2010 end-of-year line transect density estimate survey. We consider the POP-II population model for the Elk Mountain Herd Unit to be high quality because the model has been realigned at regular intervals with an independent population estimate derived from line transect density surveys. Preseason classification survey data have varied with effort but are generally considered adequate. Harvest survey information used in the POP-II model is generally considered reliable because of the sampling technique applied to a limited quota hunt area. Herd unit boundaries, although not impenetrable, appear very good geographically.

Harvest

Preliminary data for the 2011 hunting season indicated 1,007 pronghorn were harvested in which was an increase of 3% from 2010. Harvest success was 88% for 1,048 active licenses in 2011.

2012 Proposed Season

The 2012 season should provide an opportunity to continue to decrease this population towards the management objective. Landowners appear to be allowing more access for pronghorn harvest, especially doe and fawn harvest. The proposed season should decrease this population to a more desirable level.

Data Set: PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm Page 1

2012_PR528_Season
Data from 2004 to 2013 Simulation from 2007 to 2013

Age Class	Init Pop. Prop. Male	Init Pop. Prop. Female	Presn Mort% Male	Presn Mort% Female	Postsn Mort% Male	Postsn Mort% Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	90.0	90.0	50.0	50.0	55.0	55.0	1.00	1.00	1.00	1.00
1	11.9	21.2	2.0	2.0	5.0	5.0	0.25	1.00	0.75	1.00
2	9.2	16.9	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
3	7.1	13.5	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
4	5.4	10.8	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
5	4.2	8.7	2.0	2.0	5.0	5.0	1.00	1.00	1.00	1.00
6	3.2	6.9	2.0	2.0	15.0	5.0	1.00	1.00	1.00	1.00
7	2.5	5.5	2.0	2.0	25.0	10.0	1.00	1.00	1.00	1.00
8	1.9	4.4	2.0	2.0	50.0	15.0	1.00	1.00	1.00	1.00
9	1.5	3.6	2.0	2.0	75.0	20.0	1.00	1.00	1.00	1.00
10	1.1	2.8	2.0	2.0	95.0	25.0	1.00	1.00	1.00	1.00
11	0.9	2.3	2.0	2.0	97.0	50.0	1.00	1.00	1.00	1.00
12	0.7	1.8	2.0	2.0	99.0	75.0	1.00	1.00	1.00	1.00
13	0.5	1.5	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 330.0 Estimated Sum = 25130 Subadults: Ages 0 to 0

Data Set: PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm Page 2

Bio-Year	Preseason MSI	MSI Function is Linear Harvest // Des. Pop Size in NA Subadults#	Males#	Females#	Postseason MSI	Effort & Wound Set Used
2007	1.26	41	451	363	1.35	1
2008	1.51	46	405	391	0.67	1
2009	1.39	61	461	383	1.14	1
2010	1.47	48	453	477	1.00	1
2011	1.52	41	451	515	0.91	1
2012	1.42	50	450	500	1.09	1
2013	1.42	50	450	500	1.09	1
Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%	
Set 2	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%	

Data Set: PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm Page 3

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
2005	0.0	180.0	0.0	
2006	0.0	180.0	0.0	
2007	0.0	180.0	0.0	
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	180.0	0.0	
2014	0.0	180.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for PR528_2012_SEASONS.GN1, 03/03/2012 10:19 pm

Table 1. Population Size During Bio-Year for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
2007	25130	16194	15253	9940	-17.1
2008	20841	12300	11374	9912	-3.0
2009	20224	12772	11776	8923	-8.5
2010	18501	11190	10114	8046	-10.7
2011	**16529**	**9829**	**8721**	**7126**	**-11.9**
2012	14560	9072	7972	6033	-15.6
2013	12282	7668	6568	4933	-18.6

Table 2. Preseason Natural Mortality for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2007	8648	96	192	8936	35.6
2008	8240	98	203	8541	41.0
2009	7176	93	182	7452	36.8
2010	7048	89	173	7311	39.5
2011	**6455**	**84**	**160**	**6700**	**40.5**
2012	5285	71	132	5488	37.7
2013	4443	61	111	4614	37.6

Table 3. Harvest Mortality for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2007	41	451	363	855	5.3
2008	46	405	391	842	6.8
2009	61	461	383	905	7.1
2010	48	453	477	978	8.7
2011	**41**	**451**	**515**	**1007**	**10.2**
2012	50	450	500	1000	11.0
2013	50	450	500	1000	13.0

Table 4. Harvest Percentages for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
2007	0.8	12.1	4.9	5.28	7.2
2008	1.7	12.9	6.0	6.85	5.9
2009	1.9	14.1	6.0	7.09	7.5
2010	1.9	15.4	8.3	8.74	5.5
2011	**2.0**	**16.8**	**10.1**	**10.25**	**5.9**
2012	2.3	18.5	11.1	11.02	5.8
2013	2.8	21.6	13.2	13.04	5.7

Table 5. Postseason Natural Mortality for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2007	3723	631	960	5314	34.8
2008	962	160	340	1462	12.9
2009	1924	300	629	2853	24.2
2010	1362	225	482	2069	20.5
2011	**993**	**190**	**413**	**1596**	**18.3**
2012	1256	212	472	1939	24.3
2013	1050	170	415	1635	24.9

Table 6. Preseason Ratios for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2007	68.2	38.2	11.9	50.2
2008	40.9	38.7	9.6	48.3
2009	49.2	38.7	12.6	51.2
2010	44.2	41.7	9.7	51.4
2011	**39.7**	**42.1**	**10.6**	**52.7**
2012	47.8	43.3	10.7	54.1
2013	47.8	44.3	10.8	55.0

Table 7. Postseason Ratios for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2007	71.5	33.9	12.1	45.9
2008	43.0	34.5	9.9	44.4
2009	51.6	33.5	12.8	46.4
2010	47.7	36.8	10.2	47.0
2011	**43.7**	**37.1**	**11.2**	**48.3**
2012	53.1	37.6	11.5	49.0
2013	54.2	37.4	11.7	49.1

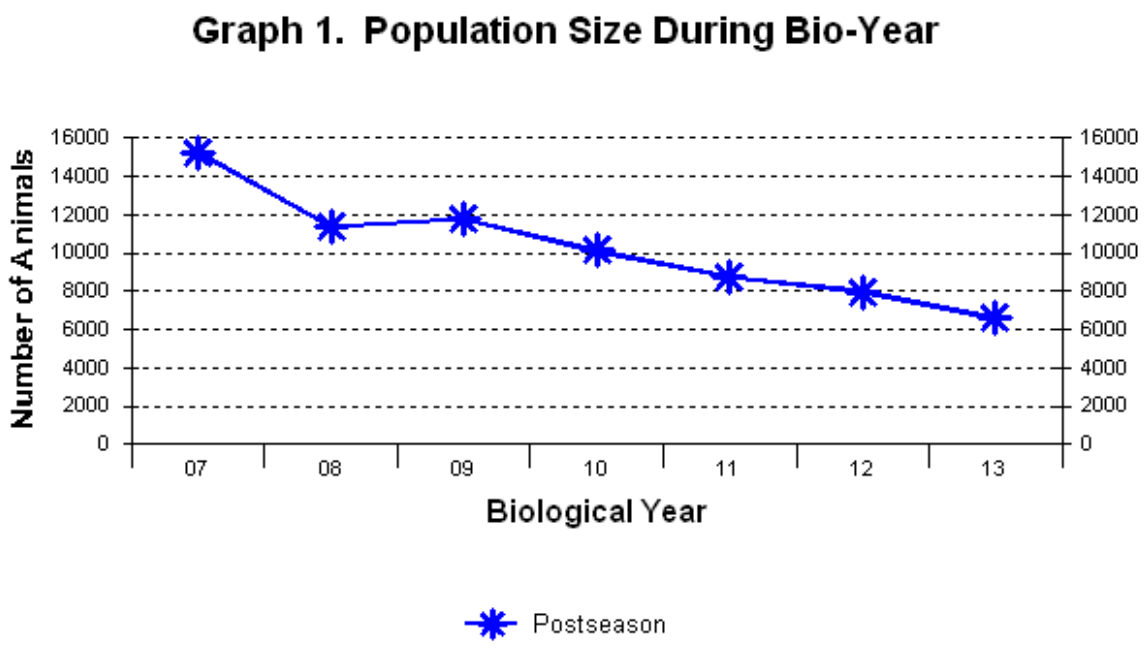
Table 8. End of Year Ratios for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

Bio-Year	Subadults /100 Adlts	Subadults /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2007	14.9	21.3	13.0	42.8
2008	19.9	28.8	10.1	44.2
2009	14.7	21.5	13.5	46.2
2010	16.1	23.6	10.6	47.1
2011	**16.1**	**24.0**	**11.8**	**48.5**
2012	16.1	24.2	12.3	49.6
2013	16.6	24.9	12.7	50.3

Table 9. Reproduction at Start of Bio-Year for PR528_2012_SEASONS.GN1 03/03/2012 10:19 pm

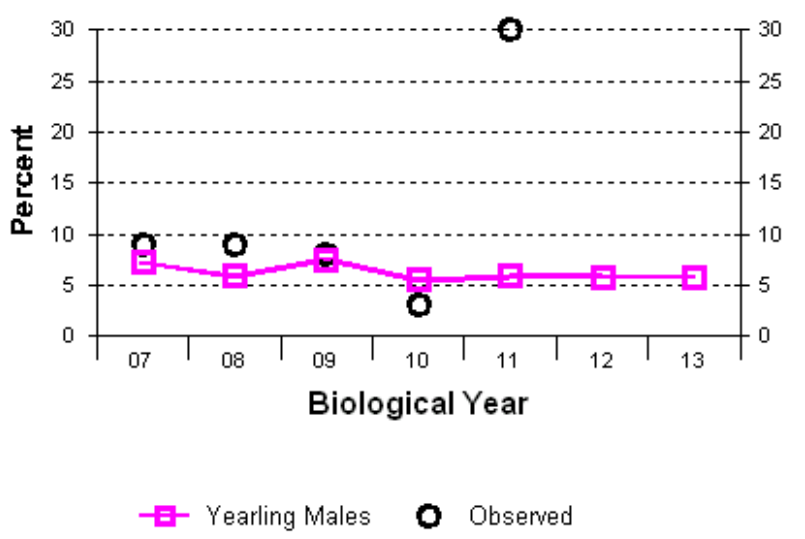
Bio-Year	Young / 100 AF 1 +	Sub-Ad. / 100 AF 1 +	Total Young	Total Sub-Adult	Total Females 1 +
2007	180	180	13707	13707	7608
2008	163	163	10901	10901	6702
2009	157	157	10313	10313	6553
2010	163	163	9578	9578	5893
2011	**161**	**161**	**8484**	**8484**	**5270**
2012	161	161	7434	7434	4626
2013	161	161	6249	6249	3891

POP-II (V1.2.9) Graph 1. Population Size During Bio-Year



PR528_2012_SEASONS.GN1, 03/03/2012 10:19 pm

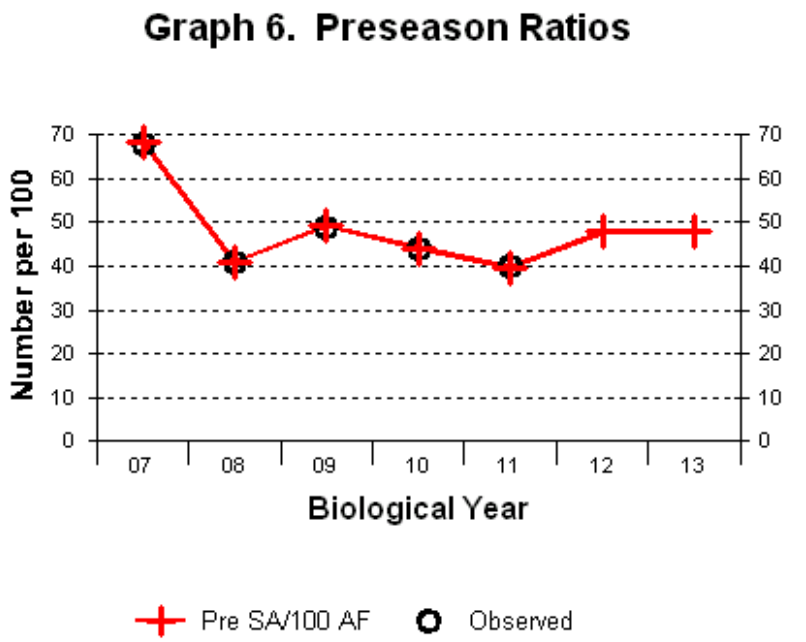
POP-II (V1.2.9) Graph 4. Harvest Percentages



YR	SIM	OBS
07	7	9
08	6	9
09	8	8
10	6	3
11	6	30
12	6	-----
13	6	-----
	AVERAGES	
of Col.	6	
of Pair	6	12

)12_SEASONS.GN1, 03/03/2012 10:19 pm, Correlation (R) = -0.16, GOF = 0.072

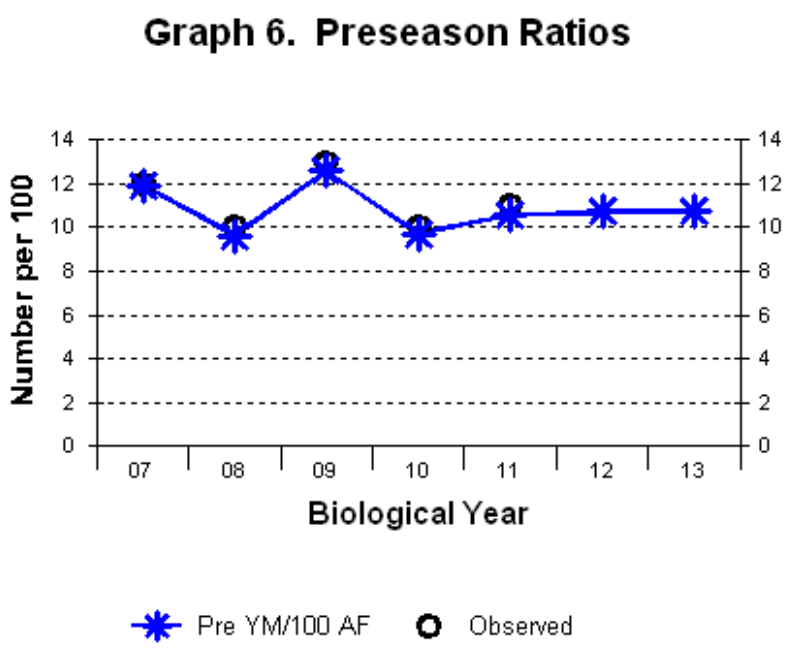
POP-II (V1.2.9) Graph 6. Preseason Ratios



_2012_SEASONS.GN1, 03/03/2012 10:19 pm, Correlation (R) = 1, GOF = 0.995

YR	SIM	OBS
07	68	68
08	41	41
09	49	49
10	44	44
11	40	40
12	48	-----
13	48	-----
	AVERAGES	
of Col.	48	
of Pair	48	48

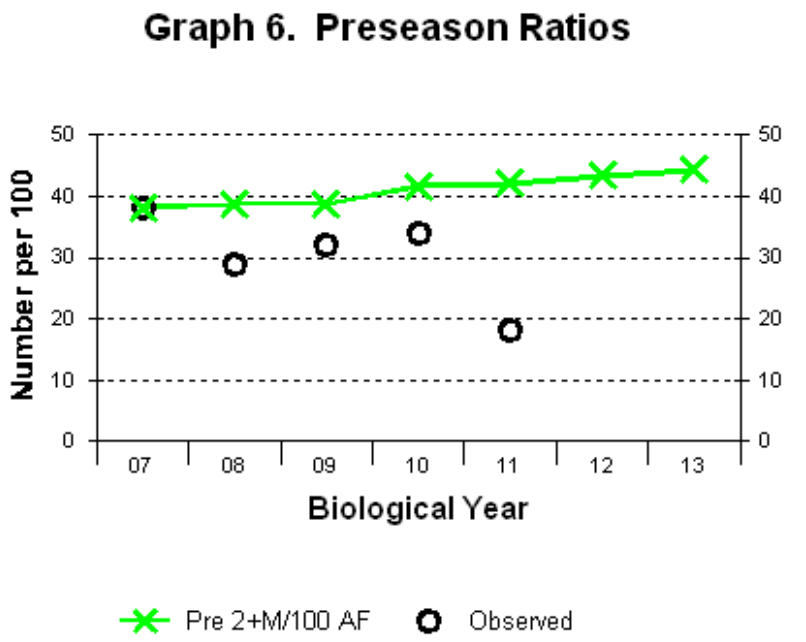
POP-II (V1.2.9) Graph 6. Preseason Ratios



12_SEASONS.GN1, 03/03/2012 10:19 pm, Correlation (R) = 0.994, GOF = 0.969

YR	SIM	OBS
07	12	12
08	10	10
09	13	13
10	10	10
11	11	11
12	11	-----
13	11	-----
	AVERAGES	
of Col.	11	
of Pair	11	11

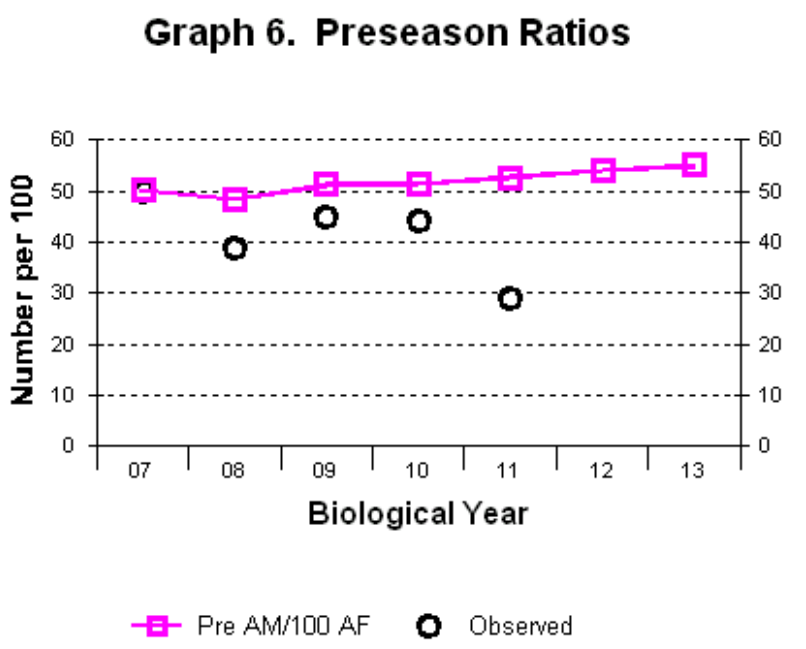
POP-II (V1.2.9) Graph 6. Preseason Ratios



I2_SEASONS.GN1, 03/03/2012 10:19 pm, Correlation (R) = -0.596, GOF = 0.587

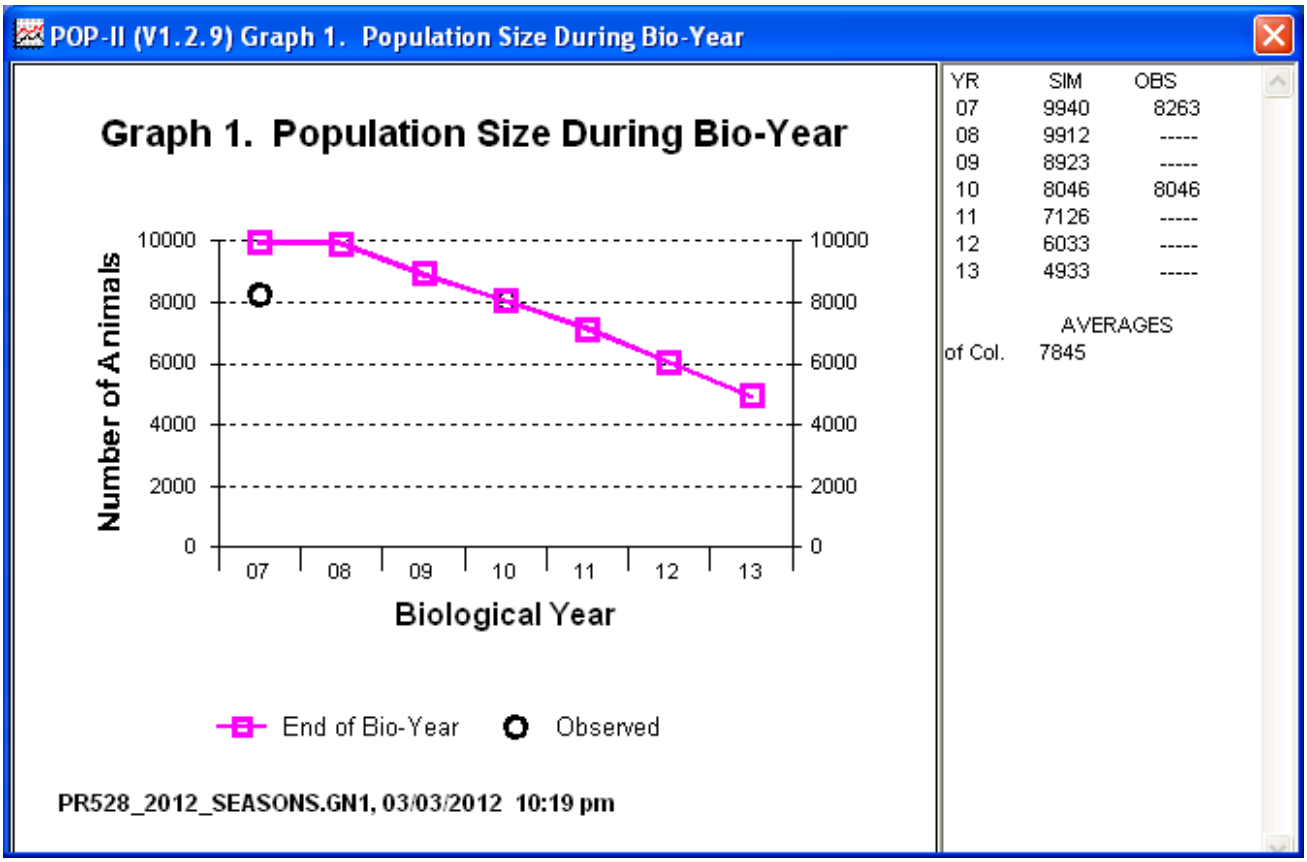
YR	SIM	OBS
07	38	38
08	39	29
09	39	32
10	42	34
11	42	18
12	43	-----
13	44	-----
	AVERAGES	
of Col.	41	
of Pair	40	30

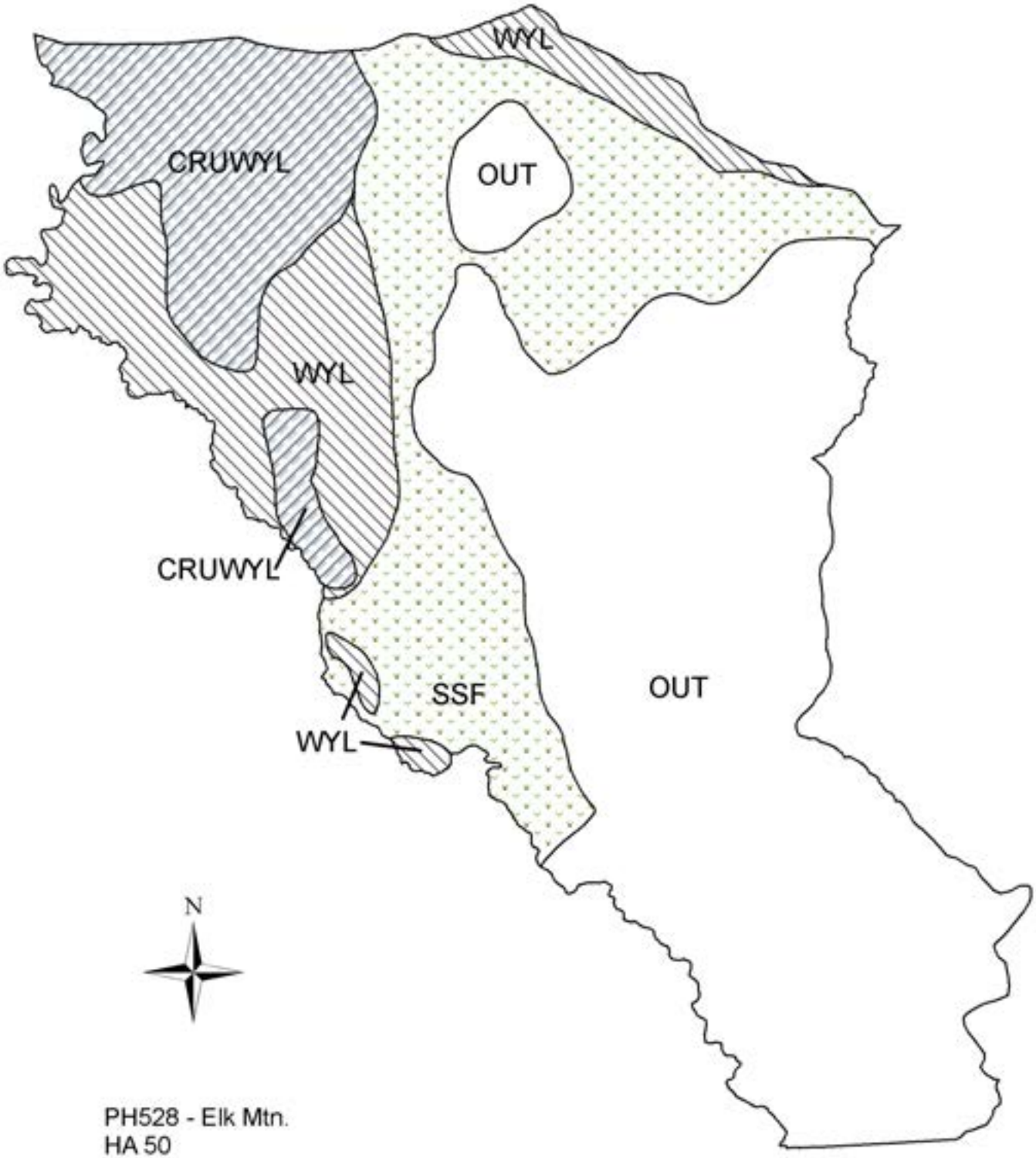
POP-II (V1.2.9) Graph 6. Preseason Ratios



I2_SEASONS.GN1, 03/03/2012 10:19 pm, Correlation (R) = -0.374, GOF = 0.706

YR	SIM	OBS
07	50	50
08	48	39
09	51	45
10	51	44
11	53	29
12	54	-----
13	55	-----
	AVERAGES	
of Col.	52	
of Pair	51	41


POP-II (V1.2.9) Graph 1. Population Size During Bio-Year
Graph 1. Population Size During Bio-Year
Number of Animals
10000
8000
6000
4000
2000
0
07
08
09
10
11
12
13
Biological Year
End of Bio-Year
Observed
PR528_2012_SEASONS.GN1, 03/03/2012 10:19 pm
YR SIM OBS
07 9940 8263
08 9912 -----
09 8923 -----
10 8046 8046
11 7126 -----
12 6033 -----
13 4933 -----
AVERAGES
of Col. 7845



PH528 - Elk Mtn.
HA 50
Revised - 8/87

2011 - JCR Evaluation Form

SPECIES: Pronghorn | PERIOD: 6/1/2011 - 5/31/2012

HERD: PR529 - BIG CREEK

HUNT AREAS: 51 | PREPARED BY: WILL SCHULTZ

	2006 - 2010 Average	2011	2012 Proposed
Population:	1,145	1,680	1,766
Harvest:	137	48	48
Hunters:	133	39	45
Hunter Success:	103%	123%	107%
Active Licenses:	159	49	50
Active License Percent:	86%	98%	96%
Recreation Days:	515	175	175
Days Per Animal:	3.8	3.6	3.6
Males per 100 Females	47	28	
Juveniles per 100 Females	42	34	

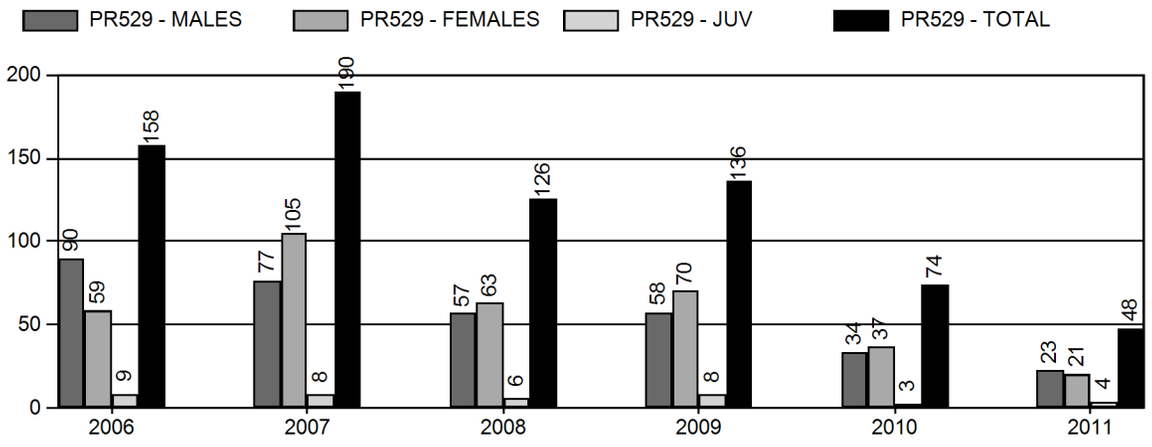
Population Objective:	600
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	180%
Number of years population has been + or - objective in recent trend:	2
Model Date:	03/05/2012

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

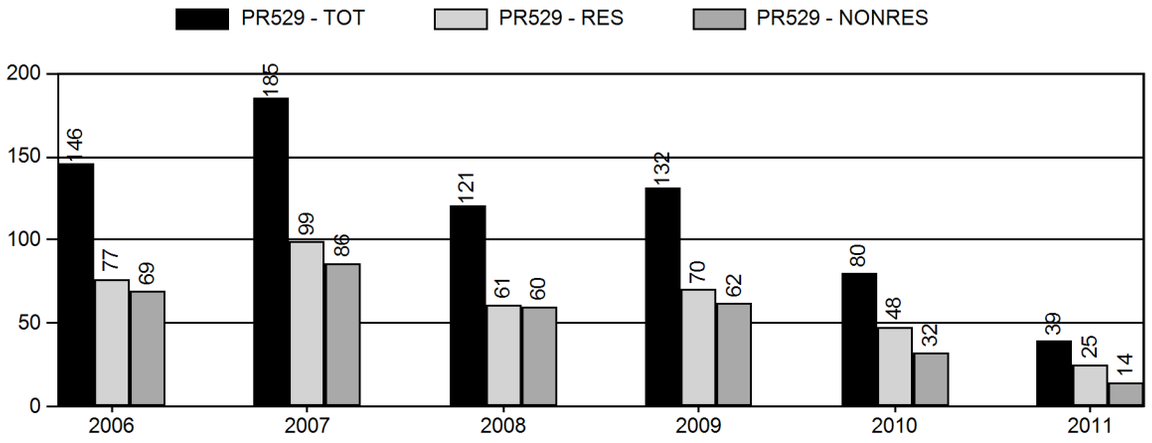
	JCR Year	Proposed
Females ≥ 1 year old:	2.2%	2.2%
Males ≥ 1 year old:	4.8%	4.9%
Juveniles (< 1 year old):	1.3%	1.1%
Total:	2.77%	2.75%
Proposed change in post-season population:	--7.2%	-3.0%

Population Size - Postseason

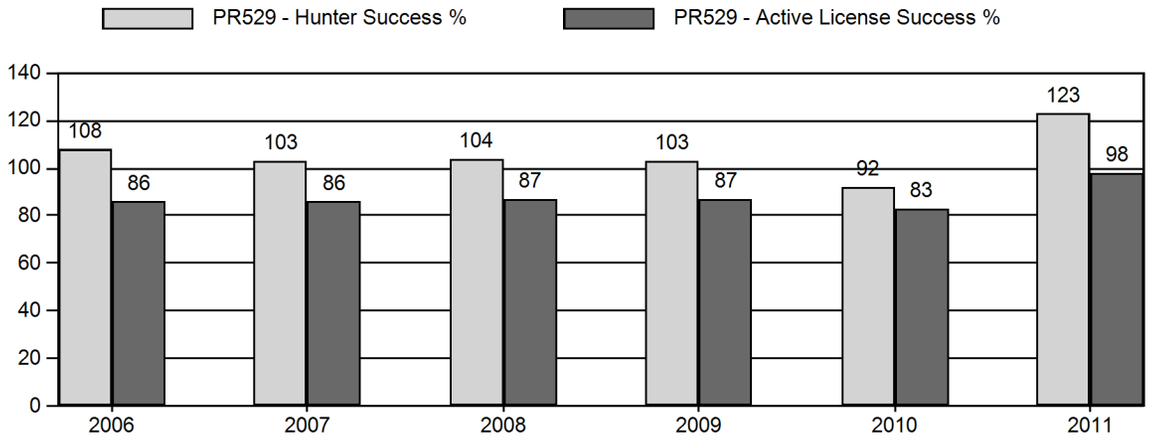
Harvest



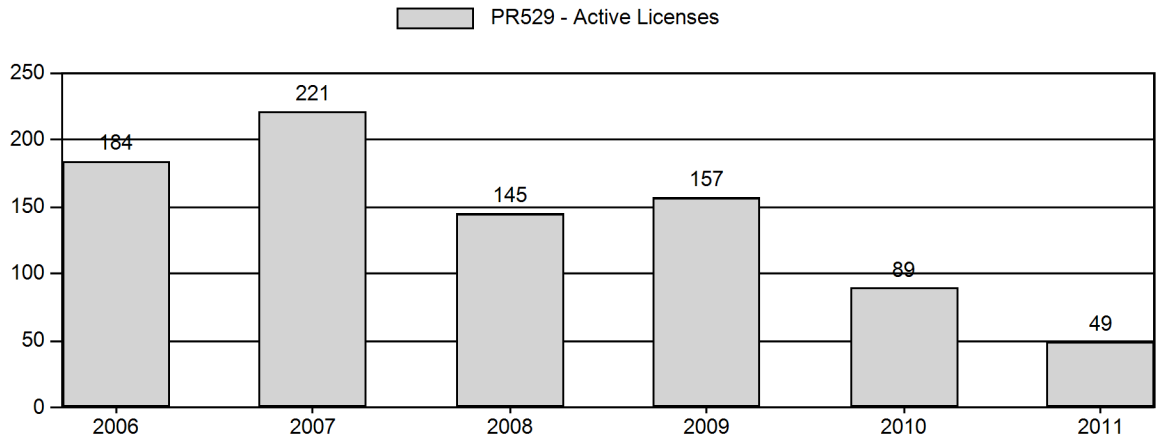
Number of Hunters



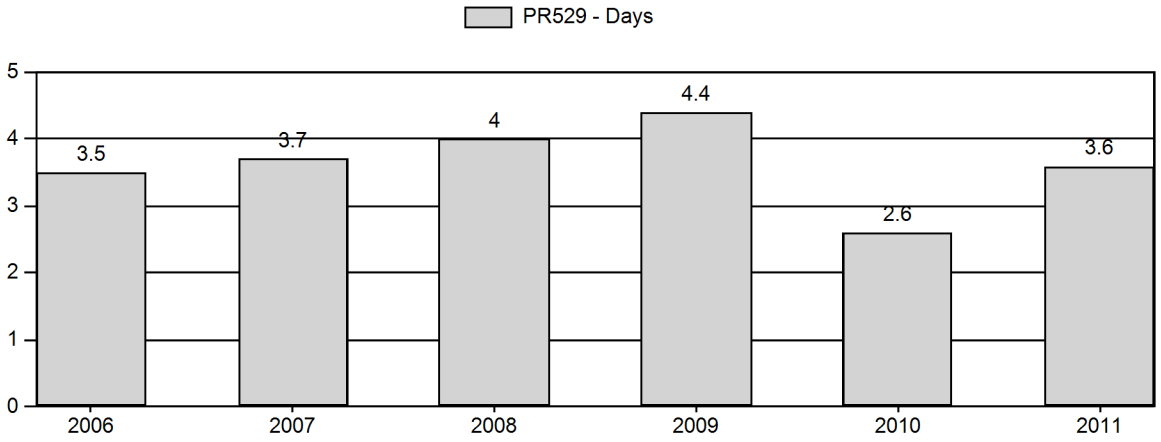
Harvest Success



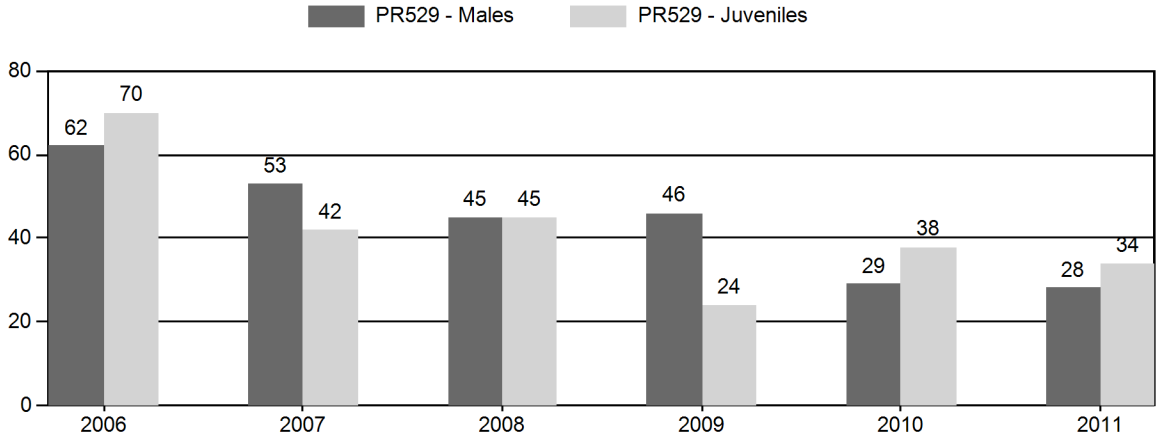
Active Licenses



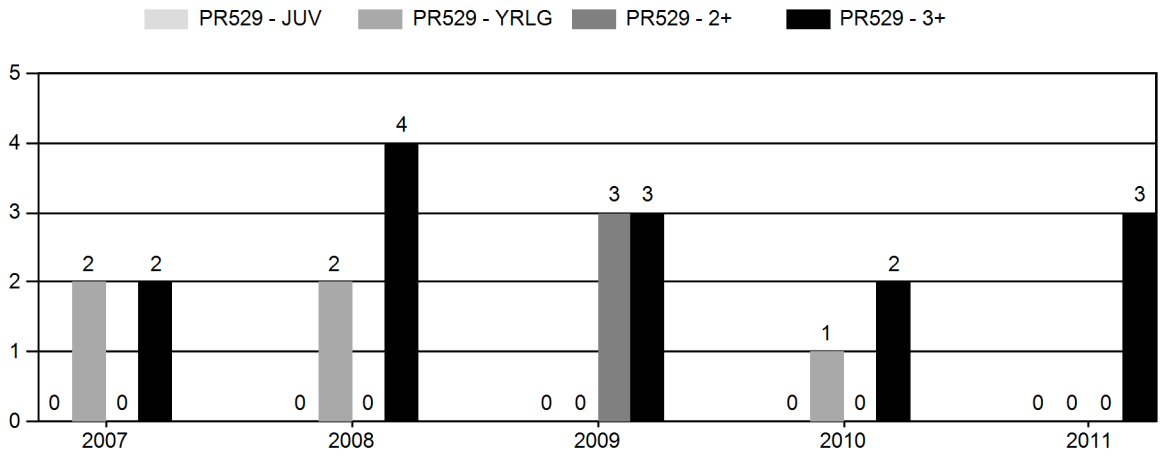
Days Per Animal Harvested



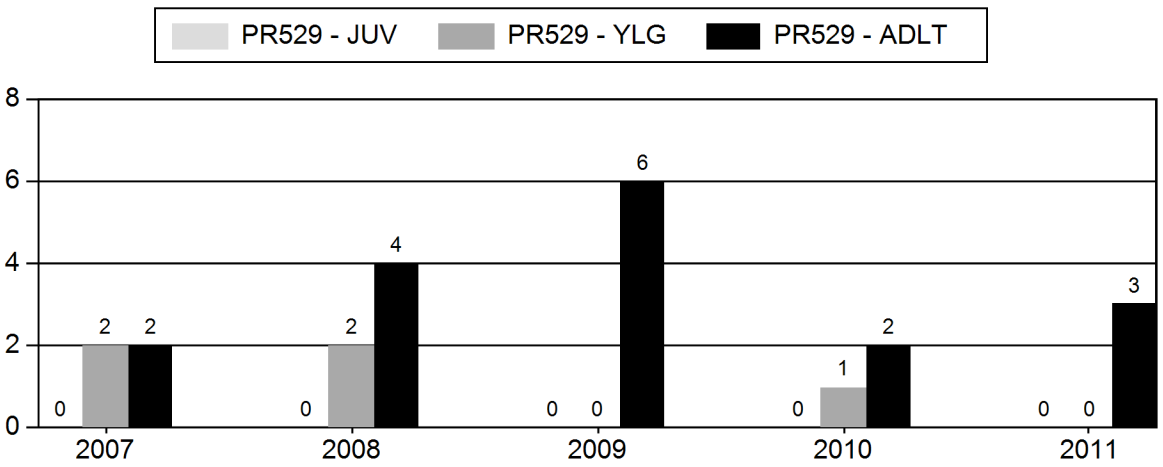
Preseason Animals per 100 Females



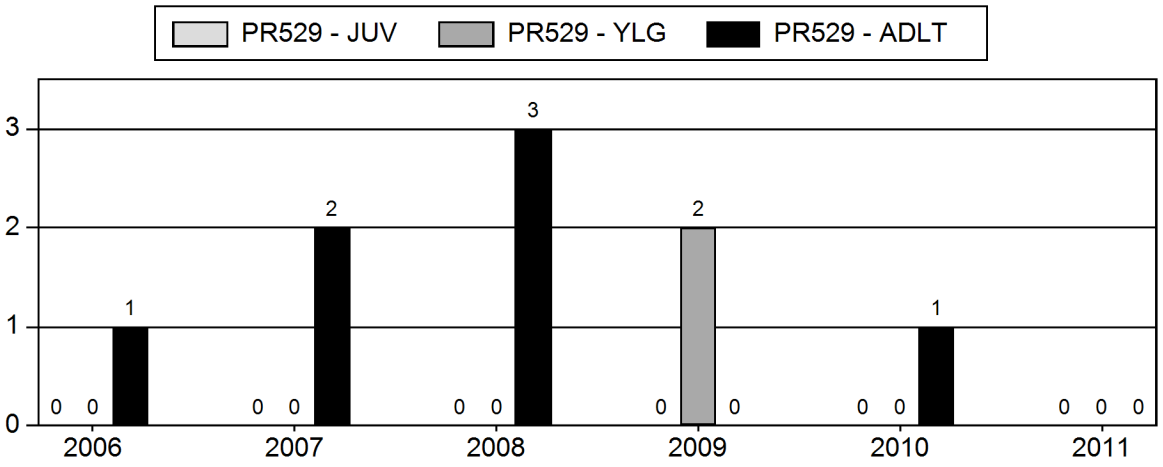
Age Structure of Field Checked Males



Age Structure Data (Field and Laboratory) - Male



Age Structure Data (Field and Laboratory) - Female



2006 - 2011 Preseason Classification Summary

for Pronghorn Herd PR529 - BIG CREEK

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Pre Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2006	1,500	0	0	115	27%	186	43%	130	30%	431	1,084	0	0	62	± 10	70	± 11	43
2007	1,900	28	58	86	27%	162	51%	68	22%	316	902	17	36	53	± 11	42	± 9	27
2008	900	9	25	34	24%	75	52%	34	24%	143	500	12	33	45	± 15	45	± 15	31
2009	650	42	84	126	27%	272	59%	64	14%	462	476	15	31	46	± 4	24	± 3	16
2010	1,731	13	49	62	17%	214	60%	82	23%	358	361	6	23	29	± 6	38	± 7	30
2011	1,733	15	33	48	17%	170	62%	57	21%	275	0	9	19	28	± 7	34	± 8	26

2011 HUNTING SEASONS

PR529 - BIG CREEK

Hunt Area	Add'l Hunt Areas	Type	Quota	Season Dates	Limitations
51		Type 1	25	09/16 - 11/14	Any
51		Type 6	25	09/16 - 11/14	Reduced Price doe/fawn

Area	Type	Active Lic/Htrs	Buck	Doe	Fawn	Total	Success	Days/Harvest	Days	Licenses Sold
2011										
51 BIG CREEK										
	Type 1	23	23	0	0	23	100%	4	91	25
	Type 6	26	0	21	4	25	96.20%	3.4	84	29
Pooled Total		39 (49)*	23	21	4	48	123.10% (98.0%)*	3.6	175	
Pooled Resident		25	18	10	3	31	124%	3.7	115	
Pooled Nonresident		14	5	11	1	17	121.40%	3.5	60	
2011 Hunt Area Total		39 (49)*	23	21	4	48	123.10% (98.0%)*	3.6	175	54
2011 Herd Total		39 (49)*	23	21	4	48	123.10% (98.0%)*	3.6	175	54

*Active Licenses

2006 - 2011 Harvest Age Structure

for Pronghorn Herd PR529 - BIG CREEK

	Males										Females										Herd
Year	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Juv	1	% 1 *	2	3 ^	% 3 **	Total Aged ++	Not Aged +++	Unk	Total Chkd	Total
2006	0	0	0%	0	0	0%	0	0	0	0	0	0	0%	0	1	100%	1	0	0	1	1
2007	0	2	50%	0	2	50%	4	0	0	4	0	0	0%	0	1	100%	1	1	0	2	6
2008	0	2	33%	0	3	60%	5	1	0	6	0	0	0%	1	2	67%	3	0	0	3	9
2009	0	0	0%	3	0	0%	3	3	0	6	0	2	100%	0	0	0%	2	0	1	3	9
2010	0	1	33%	0	1	50%	2	1	0	3	0	0	0%	0	0	0%	0	1	1	2	5
2011	0	0	0%	0	3	100%	3	0	0	3	0	0	0%	0	0	0%	0	0	2	2	5

* Percent of aged animals (including unaged adults but excluding juveniles) 1 1/2 years old

^ Number of animals three years old and older. Animals aged older than three (excluding unaged adults) are lumped into this three plus category

** Percent of aged animals (not including juveniles or unaged adults) three years old or older

++ includes juveniles

+++ Unaged adults - unaged animals older than yearlings

BIG CREEK PRONGHORN (PR529)
Hunt Area 51
2012 Season Recommendations

Hunt Area	Type	Date of Seasons Opens	Closes	Limitations
51	1	Sept. 16	Nov. 14	Limited quota; 25 licenses any antelope
	6	Sept. 16	Nov. 14	Limited quota; 25 licenses doe or fawn.
Archery		Aug. 15		Refer to Section 4 of this Chapter

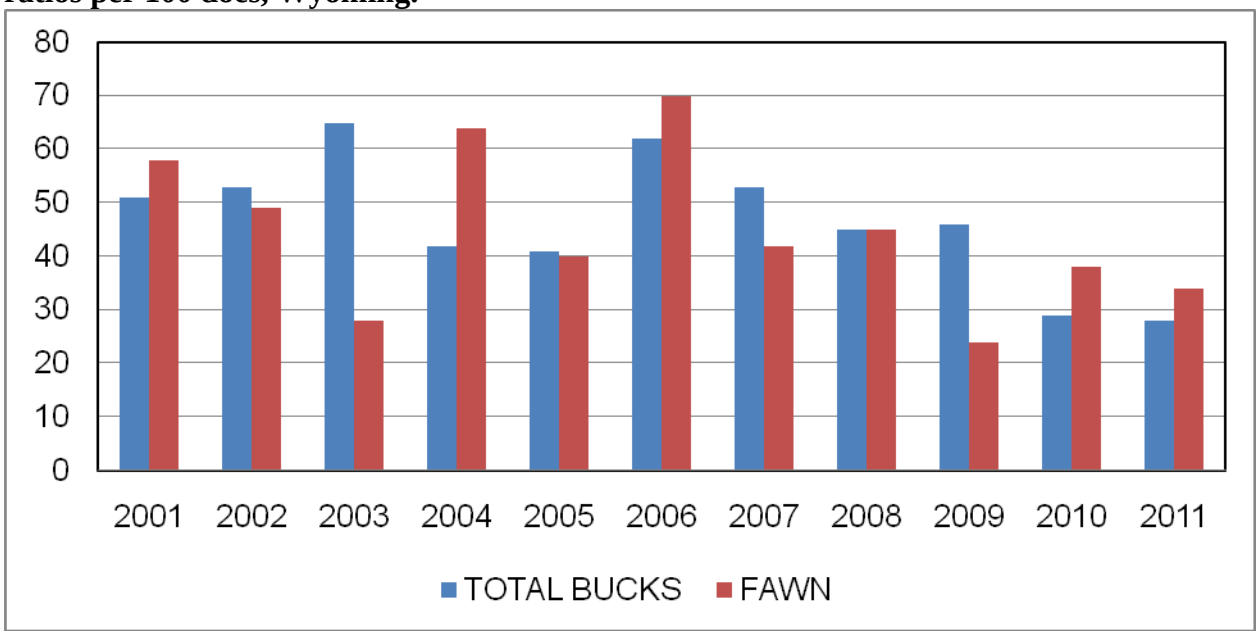
Summary of Proposed Changes in License Numbers

Hunt Area	Type	Change From 2011
none		

Management Evaluation

The 2010 preseason ratios were 28 bucks and 34 fawns per 100 does. The preseason classification sample (n=275) was collected from a ground survey. Preseason buck ratios decreased in 2011, while fawn ratios were decreased by 4 fawns. Both buck and fawn ratios have declined in trend during the past 6 years (Figure 1).

Figure 1. 2001-2011 Big Creek Pronghorn Herd Unit preseason buck and fawn ratios per 100 does, Wyoming.



The 2011 postseason POP-II population estimate was 1,680 pronghorn. The current population estimate was derived from a POP-II population model with the 2010 end-of-year population estimate aligned to the results of a corresponding 2010 end-of-year line transect density estimate survey. The line transect survey is suspect of over estimating the density of this small herd unit. We consider the POP-II population model for the Big Creek Herd Unit to be low quality due to bias in line transect estimate because of a low number of groups on which the density estimate is based upon. The POP-II model has been realigned at regular intervals with an independent population estimate derived from line transect density surveys. However, seasonal movement of pronghorn between Wyoming and Colorado, as well as other herd units in Wyoming, complicate population estimates and management. Preseason classification survey data have varied with effort but are generally considered adequate. Harvest survey information used in the POP-II model is generally considered reliable because of the small pool of hunters permitted in this herd unit and the sampling technique applied to limited quota hunt areas.

Pronghorn damage to alfalfa crops has diminished due to the low number of pronghorn observed in this herd unit. Access is difficult except for on those private lands receiving damage. Recent changes in land use have been observed in this herd unit. Several sections of abandoned wheat fields have been converted into cattle pastures which have been grazed intensively. Development in the Trail Run subdivision is also continuing.
In the past these areas provided pronghorn with seasonal habitat and the observed changes in land use appear to be displacing pronghorn into other areas.

Harvest

Preliminary data for the 2011 hunting season indicated a total of 48 pronghorn were harvested with 98% success for 49 active licenses.

2012 Season Proposal

We propose to maintain both the Type 1 and Type 6 licenses at 25 licenses for each type in the Big Creek Herd Unit. This season proposal will slow the rate of population decline attributed to poor fawn recruitment.

Data Set: PR529_2012_SEASON.GN1 03/05/2012 10:28 am Page 1

PR529_2012_SEASON
Data from 2007 to 2012 Simulation from 2007 to 2012

Age Class	Init Pop. Male	Init Pop. Female	Prop. Presn Male	Prop. Presn Female	Mort% Postsn Male	Mort% Postsn Female	Effort Set 1 Male	Effort Set 1 Female	Effort Set 2 Male	Effort Set 2 Female
0	90.0	90.0	50.0	50.0	45.0	35.0	1.00	1.00	1.00	1.00
1	17.1	21.2	2.0	2.0	10.0	5.0	1.00	1.00	0.67	1.00
2	11.6	16.9	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
3	7.9	13.5	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
4	5.4	10.8	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
5	3.7	8.7	2.0	2.0	10.0	5.0	1.00	1.00	1.00	1.00
6	2.5	6.9	2.0	2.0	25.0	5.0	1.00	1.00	1.00	1.00
7	1.7	5.5	2.0	2.0	50.0	10.0	1.00	1.00	1.00	1.00
8	1.1	4.4	2.0	2.0	60.0	15.0	1.00	1.00	1.00	1.00
9	0.8	3.6	2.0	2.0	70.0	20.0	1.00	1.00	1.00	1.00
10	0.5	2.8	2.0	2.0	80.0	25.0	1.00	1.00	1.00	1.00
11	0.4	2.3	2.0	2.0	90.0	50.0	1.00	1.00	1.00	1.00
12	0.2	1.8	2.0	2.0	95.0	75.0	1.00	1.00	1.00	1.00
13	0.2	1.5	2.0	2.0	100.0	100.0	1.00	1.00	1.00	1.00

Sum = 333.0 Estimated Sum = 4258 Subadults: Ages 0 to 0

Data Set: PR529_2012_SEASON.GN1 03/05/2012 10:28 am Page 2

Bio-Year	Preseason MSI	MSI Function is Linear: Harvest Subadults#	Des. Pop Size in NA: Males#	Des. Pop Size in NA: Females#	Postseason MSI	Effort & Wound Set Used
2007	**1.55**	**11**	**40**	**71**	**1.00**	**1**
2008	**1.44**	**19**	**50**	**79**	**0.65**	**1**
2009	**1.69**	**8**	**58**	**70**	**1.29**	**1**
2010	**1.56**	**3**	**34**	**37**	**1.25**	**1**
2011	**1.59**	**4**	**23**	**21**	**0.60**	**1**
2012	**1.54**	**4**	**25**	**21**	**0.60**	**1**

Set 1	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%
Set 2	Wounding Loss	10.%	10.%	10.%	Yearling Male 10.%

Data Set: PR529_2012_SEASON.GN1 03/05/2012 10:28 am Page 3

Bio-Year	Young/100 Fems Age 1 - 1	Young/100 Fems Age 2 - 13	Young/100 Fems Disabled	Sex Ratio: 50 : 50
2008	0.0	180.0	0.0	
2009	0.0	180.0	0.0	
2010	0.0	180.0	0.0	
2011	0.0	180.0	0.0	
2012	0.0	180.0	0.0	
2013	0.0	180.0	0.0	

POP-II (V1.2.9) Simulation Output Tables for PR529_2012_SEASON.GN1, 03/05/2012 10:28 am

Table 1. Population Size During Bio-Year for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Start	Pre-Season	Post Season	End	%Growth
2007	4258	2414	2279	1858	-12.5
2008	3725	2327	2164	1916	0.5
2009	3744	2135	1985	1599	-11.0
2010	3332	1931	1849	1462	-9.7
2011	**3007**	**1733**	**1680**	**1512**	**1.8**
2012	3061	1821	1766	1567	2.3

Table 2. Preseason Natural Mortality for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2007	1784	21	40	1844	43.3
2008	1345	19	35	1398	37.5
2009	1545	24	41	1609	43.0
2010	1351	18	32	1401	42.1
2011	**1228**	**16**	**31**	**1275**	**42.4**
2012	1193	16	30	1239	40.5

Table 3. Harvest Mortality for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2007	11	40	71	122	5.1
2008	19	50	79	148	6.4
2009	8	58	70	136	6.4
2010	3	34	37	74	3.8
2011	4	23	21	48	2.8
2012	4	25	21	50	2.7

Table 4. Harvest Percentages for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	Yearling Males
2007	2.1	6.1	5.7	5.05	32.2
2008	3.6	7.9	6.8	6.36	21.2
2009	2.8	8.5	6.0	6.37	25.1
2010	0.8	6.2	3.7	3.83	10.3
2011	**1.3**	**4.8**	**2.2**	**2.77**	**16.6**
2012	1.1	4.9	2.2	2.75	21.6

Table 5. Postseason Natural Mortality for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Sub-Adults	Adult Males	Adult Females	Total	% of Pop
2007	202	97	122	422	18.5
2008	131	53	65	248	11.5
2009	142	115	129	386	19.4
2010	189	92	106	387	20.9
2011	**75**	**43**	**50**	**168**	**10.0**
2012	84	54	61	199	11.3

Table 6. Preseason Ratios for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2007	41.8	36.0	17.1	53.2
2008	44.8	43.0	11.6	54.6
2009	24.2	43.8	14.7	58.4
2010	37.9	48.6	5.5	54.1
2011	**33.9**	**43.0**	**8.6**	**51.6**
2012	37.4	42.1	11.6	53.6

Table 7. Postseason Ratios for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

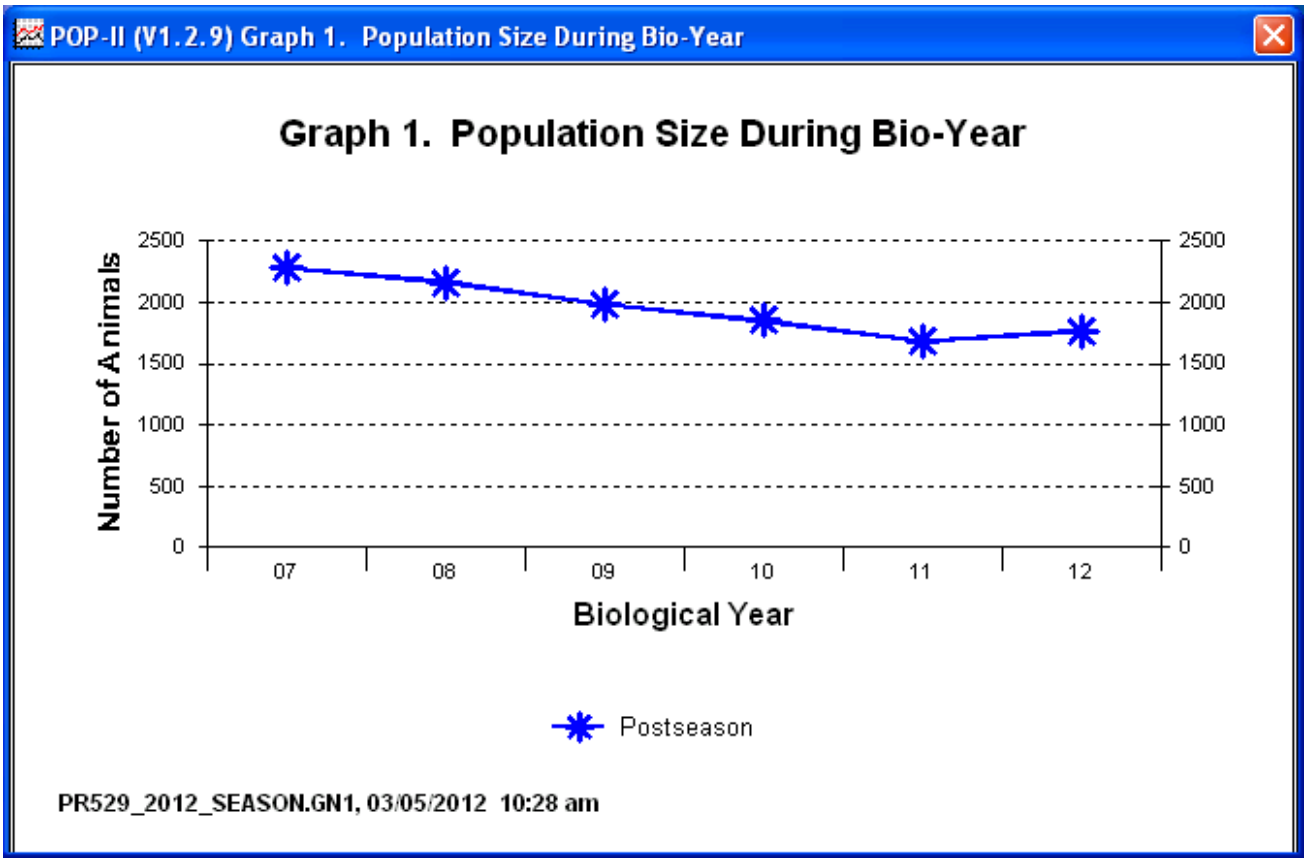
Bio-Year	Subadults /100 1+F	2+ Males /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2007	43.6	35.9	17.0	52.9
2008	46.5	42.4	11.4	53.9
2009	25.2	42.5	14.3	56.7
2010	39.2	47.2	5.4	52.5
2011	**34.3**	**41.8**	**8.3**	**50.1**
2012	37.8	40.8	11.2	52.0

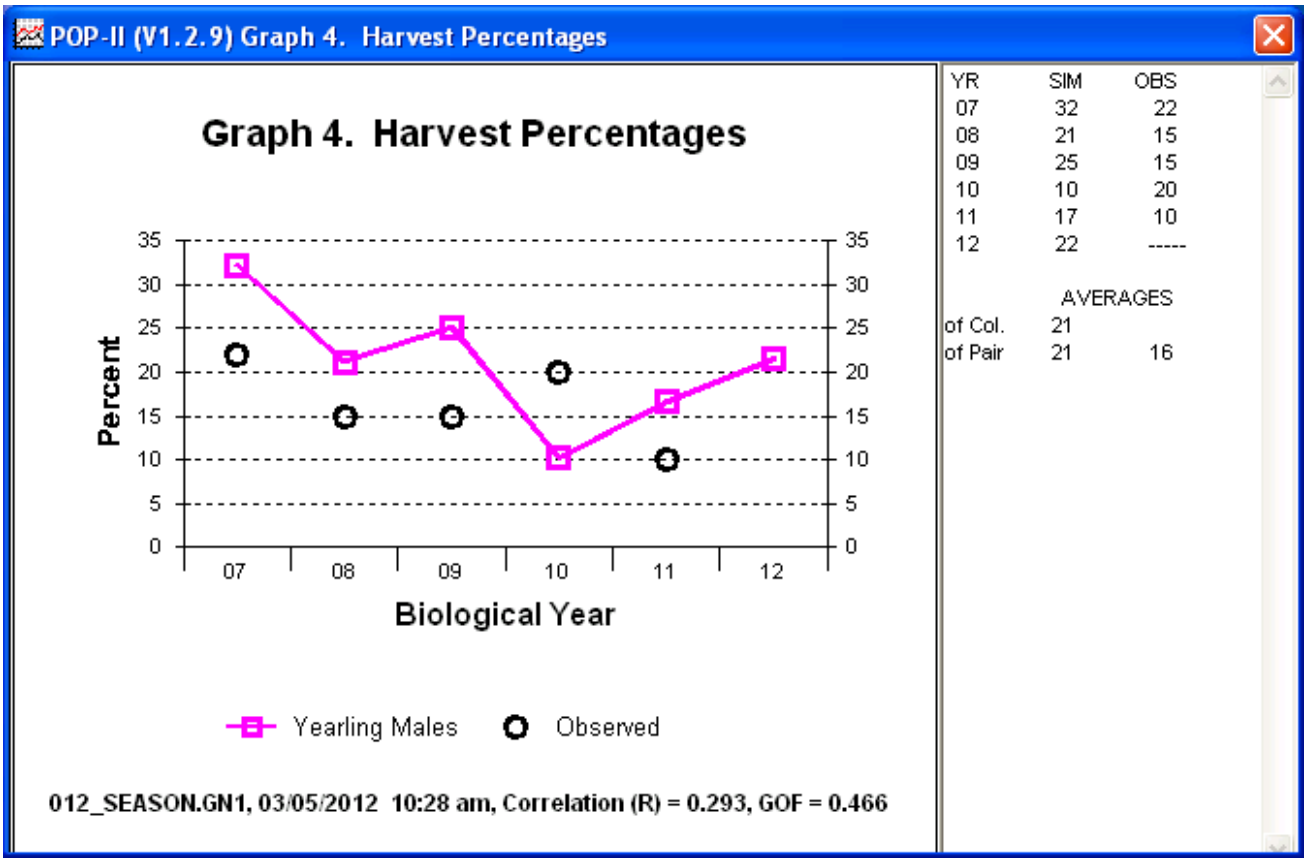
Table 8. End of Year Ratios for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Subadults /100 Adlts	Subadults /100 1+F	Yr. Males /100 1+F	Ad Males /100 1+F
2007	19.5	29.3	17.2	49.8
2008	24.0	36.6	11.4	52.1
2009	9.1	13.8	14.1	52.4
2010	14.8	22.0	5.3	48.4
2011	**18.6**	**27.6**	**8.3**	**48.1**
2012	20.6	30.8	11.3	49.5

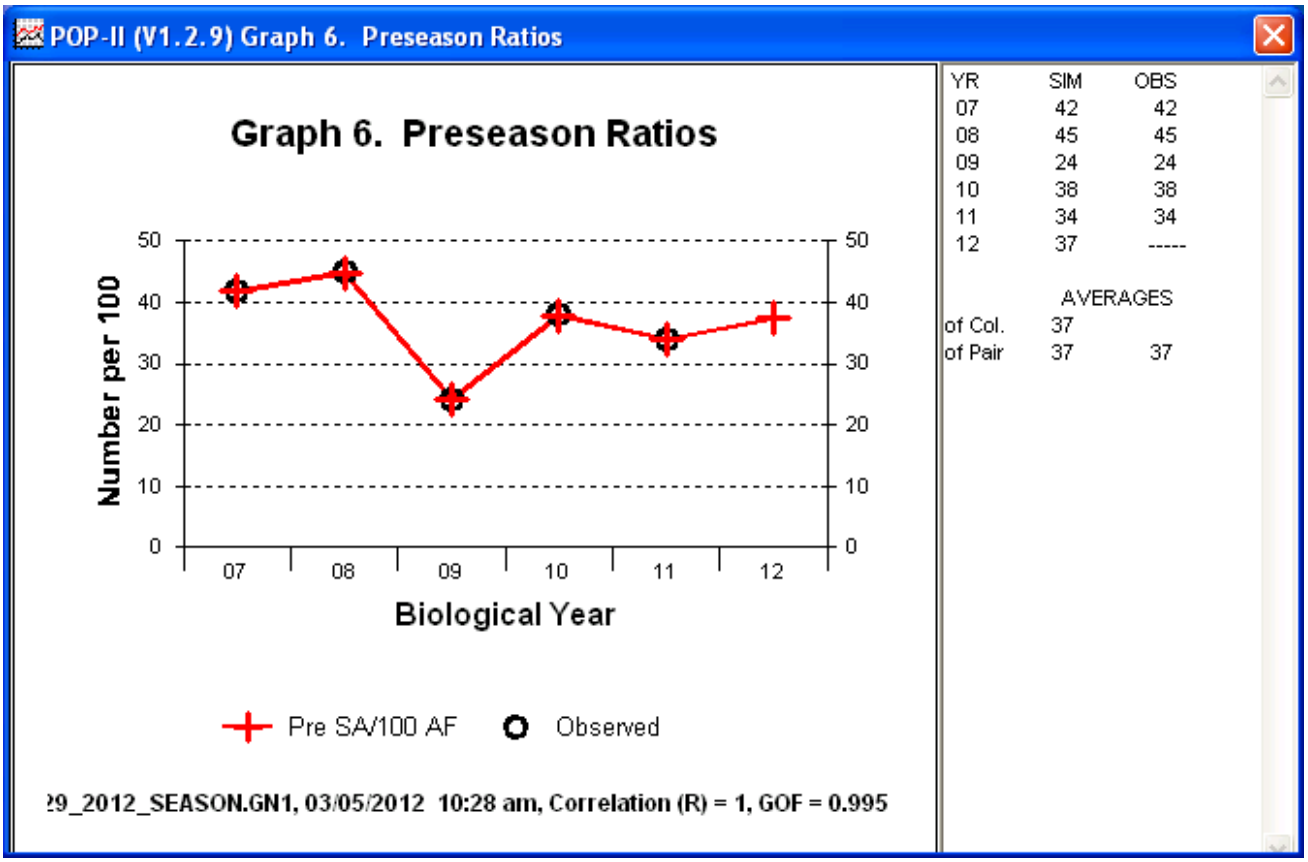
Table 9. Reproduction at Start of Bio-Year for PR529_2012_SEASON.GN1 03/05/2012 10:28 am

Bio-Year	Young / 100 AF 1 +	Sub-Ad. / 100 AF 1 +	Total Young	Total Sub-Adult	Total Females 1 +
2007	180	180	2302	2302	1277
2008	155	155	1867	1867	1202
2009	151	151	1828	1828	1209
2010	167	167	1732	1732	1038
2011	**160**	**160**	**1545**	**1545**	**965**
2012	157	157	1549	1549	984

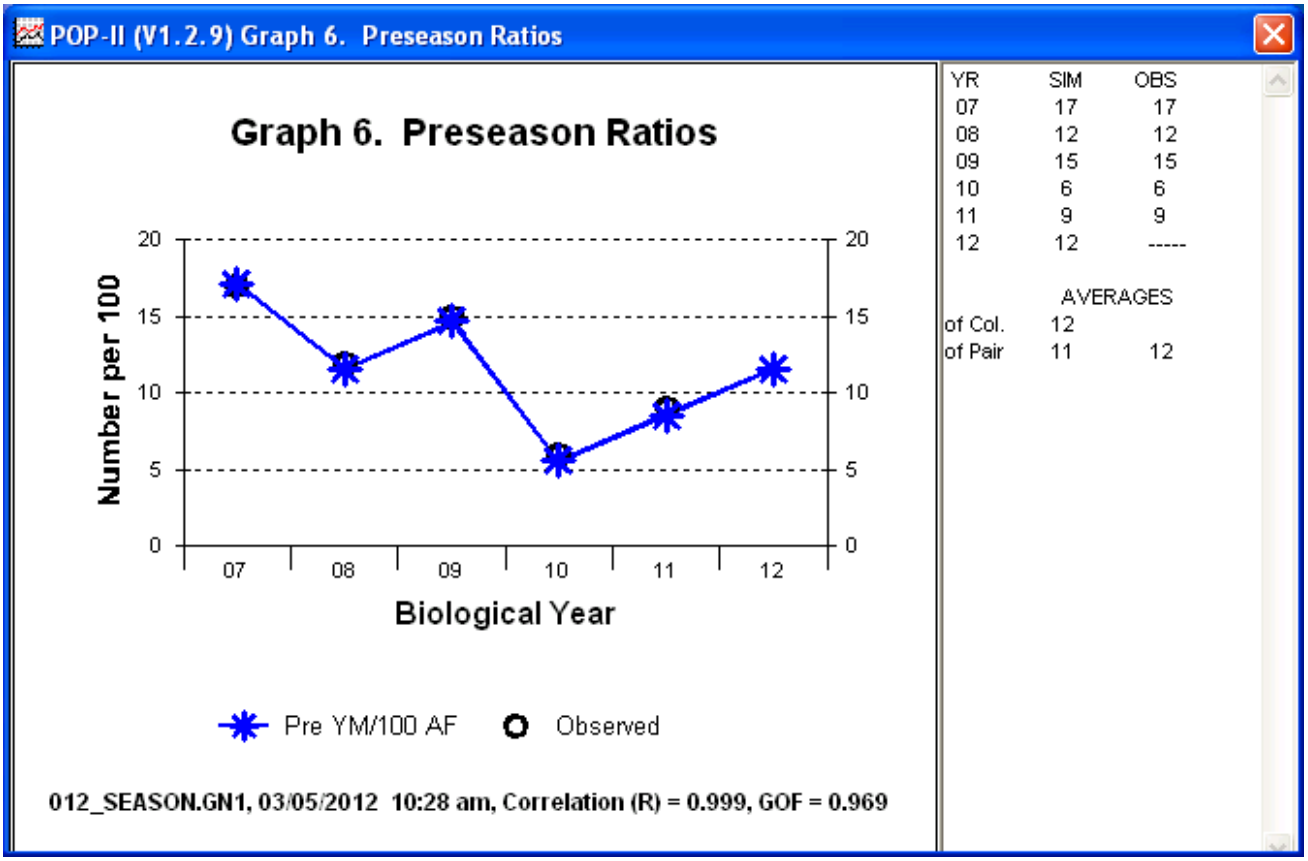




YR	SIM	OBS
07	32	22
08	21	15
09	25	15
10	10	20
11	17	10
12	22	-----
	AVERAGES	
of Col.	21	
of Pair	21	16

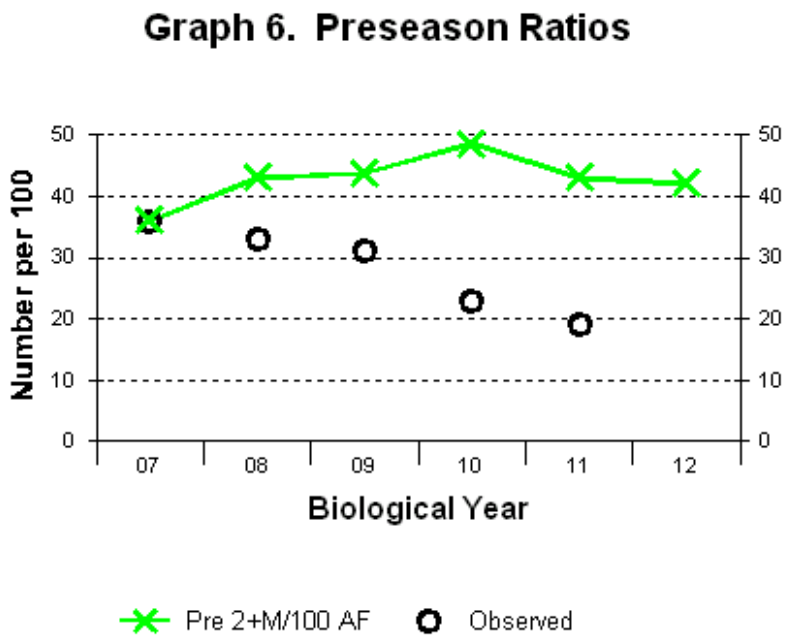


YR	SIM	OBS
07	42	42
08	45	45
09	24	24
10	38	38
11	34	34
12	37	-----
	AVERAGES	
of Col.	37	
of Pair	37	37



YR	SIM	OBS
07	17	17
08	12	12
09	15	15
10	6	6
11	9	9
12	12	-----
	AVERAGES	
of Col.	12	
of Pair	11	12

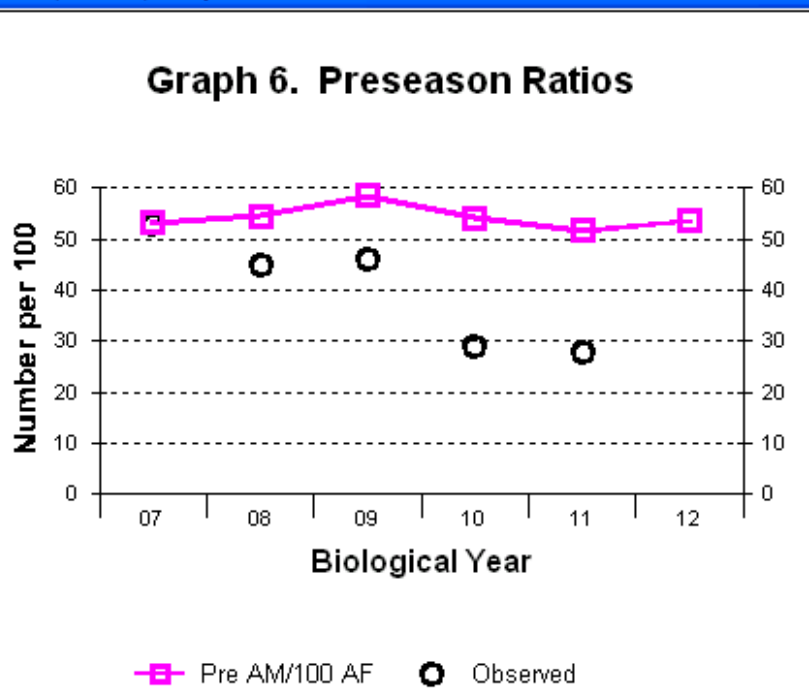
POP-II (V1.2.9) Graph 6. Preseason Ratios



012_SEASON.GN1, 03/05/2012 10:28 am, Correlation (R) = -0.638, GOF = 0.391

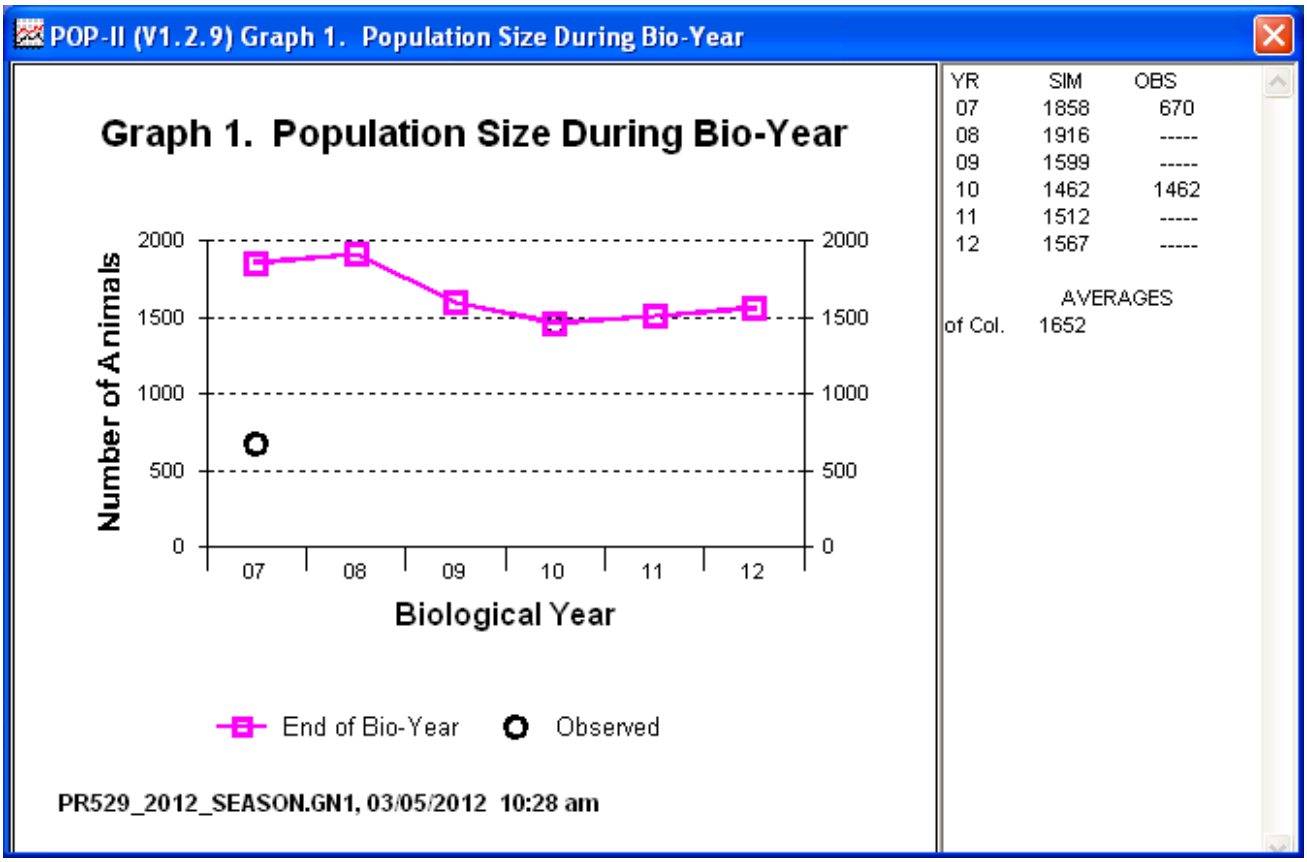
YR	SIM	OBS
07	36	36
08	43	33
09	44	31
10	49	23
11	43	19
12	42	-----
	AVERAGES	
of Col.	43	
of Pair	43	28

POP-II (V1.2.9) Graph 6. Preseason Ratios



012_SEASON.GN1, 03/05/2012 10:28 am, Correlation (R) = 0.402, GOF = 0.579

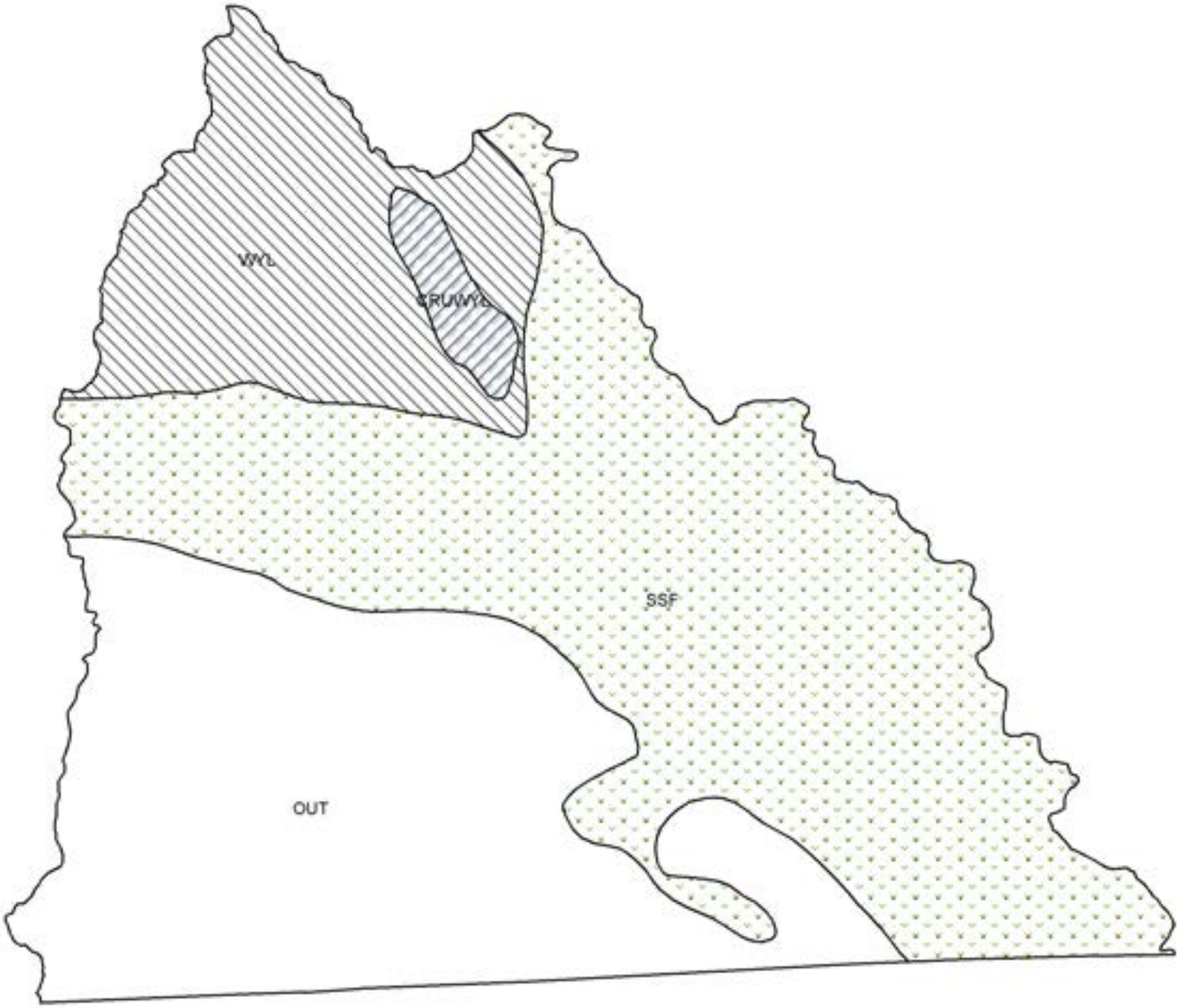
YR	SIM	OBS
07	53	53
08	55	45
09	58	46
10	54	29
11	52	28
12	54	-----
	AVERAGES	
of Col.	54	
of Pair	54	40



YR	SIM	OBS
07	1858	670
08	1916	-----
09	1599	-----
10	1462	1462
11	1512	-----
12	1567	-----

AVERAGES

of Col. 1652



PH529 - Big Creek
HA 51
Revised - 7/87