

APPENDICES

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Appendix A

Summary of 2015 Landowner Survey

Perceived Status of Big Game Populations and Suggested Hunting Season Strategies

Sheridan Biologist District

Pronghorn Antelope Areas 10, 15, 16, 109

White-tailed and Mule Deer Areas 23, 24, 26

Elk Areas 37, 38, 129

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It is imperative that the Wyoming Game & Fish Department (WGFD) works closely with private landowners to manage wildlife populations, specifically deer and pronghorn antelope, in areas that are predominately private lands. In order to gauge landowner perceptions and opinions in an effective manner, the WGFD conducted a survey of landowners who historically allow hunting following the 2015 hunting season. We solicited perceived population status of big game herds and suggestions for 2016 hunting season strategies. A total of 179 landowners within the Sheridan Biologist District were queried on their perceptions of pronghorn antelope, mule deer, white-tailed deer and elk populations on their properties, as well as what hunting season adjustments they would suggest for the 2016 seasons.

Landowners were given the opportunity to choose between three options based on their perception of big game populations (i.e. below, at, or above "desired" levels) for their property. "Desired population" is a measure of landowner acceptance or tolerance of wildlife, and not necessarily correlated to the post-season population management objective established by the WGFD. Landowners were given three options for suggested season strategies (i.e. more conservative, same, or more liberal). Landowners were given the opportunity to provide any additional comments. Attached is a copy of the survey sent to landowners.

Surveys were mailed to 179 landowners with self-addressed, stamped envelopes. Five surveys were returned as undeliverable. Seventy-three useable surveys were returned for a response rate of 42%. Results are provided below. Not all landowners responded to each question or for all species. Some landowners are credited with a response in more than one hunt area. Therefore, total responses may exceed the number of actual survey returns.

Pronghorn Antelope

Table 1. Summary of survey results for pronghorn antelope grouped by hunt area and herd unit.

Hunt Area	Population			Season		
	Below Desired Level	At Desired Level	Above Desired Level	More Conserv Season	Same Season	More Liberal Season
10	2	4	2	0	8	0
15	0	13	11	0	13	10
16	0	4	1	0	6	0
SubTot (n=37)	2 (5%)	21 (57%)	14 (38%)	0 (0%)	27 (73%)	10 (27%)
109 (n=23)	0 (0%)	9 (39%)	14 (61%)	0 (0%)	14 (67%)	7 (33%)
2015 (n=60)	2 ((3%)	30 (50%)	28 (47%)	0 (0%)	41 (71%)	17 (29%)
2014 (n=68)	2 (3%)	41 (60%)	25 (37%)	1 (1%)	37 (62%)	22 (37%)
2013 (n=71)	5 (7%)	35 (49%)	31 (44%)	4 (6%)	40 (56%)	27 (38%)
2012 (n=74)	7(9%)	46 (62%)	21 (28%)	1 (1%)	48 (69%)	20 (30%)
2011 (n=41)	5 (12%)	19 (46%)	17 (41%)	2 (5%)	25 (61%)	14 (34%)
2010 (n=53)	5 (9%)	26 (49%)	22 (42%)	1 (2%)	36 (68%)	16 (30%)
2009 (n=58)	10 (17%)	29 (50%)	19 (33%)	4 (7%)	40 (69%)	14 (24%)
2008 (n=29)	5 (17%)	11 (38%)	13 (45%)	2 (7%)	16 (55%)	11 (38%)
2007 (n=53)	5 (9%)	27 (51%)	21 (40%)	0 (0%)	35 (66%)	18 (34%)
2006 (n=36)	2 (6%)	18 (50%)	16 (44%)	1 (3%)	21 (60%)	13 (37%)
2005 (n=39)	6 (15%)	20 (51%)	13 (33%)	2 (5%)	22 (58%)	14 (37%)
2004 (n=37)	3 (8%)	26 (70%)	8 (22%)	1 (3%)	37 (73%)	9 (24%)
2003 (n=54)	9 (17%)	29 (54%)	16 (30%)	2 (4%)	38 (75%)	11 (21%)
2002 (n=55)	15 (27%)	31 (56%)	9 (16%)	7 (13%)	36 (69%)	9 (17%)
2001 (n=57)	19 (33%)	32 (58%)	5 (9%)	8 (15%)	40 (77%)	4 (8%)
2000 (n=56)	25 (45%)	28 (50%)	3 (5%)	13 (23%)	38 (68%)	5 (9%)

Leiter Herd Unit (hunt areas 10, 15, and 16): The Leiter Herd Unit was created in 2014 when the Ucross Herd Unit (hunt areas 10, 16) was combined with the Clearmont Herd Unit (hunt area 15). We received 37 responses from landowners in this herd unit, a slight decline from recent years. Most responses (95%) indicated the pronghorn population is at or above desired levels. All landowners suggested maintaining (73%) or liberalizing (27%) the current season strategy. The current population simulation estimates this population relatively high and harvest the past 2 years is highest in 30+ years. Most pronghorn within this herd unit occur on private lands, with limited opportunities for public land hunting. Some hunting opportunity is provided on a Walk-In Area and small scattered parcels of public lands.

Beckton Herd Unit (hunt area 109): We received 23 responses from landowners in this herd unit, similar to recent years. All landowners indicated the population was at or above desired levels. The pronghorn population has likely at least stabilized in recent years has harvest has continued to increase annually. This population will likely never be reduced to desired levels for some landowners due to limited access and urban development which hinders safe hunting opportunities. All landowners favored maintaining (67%) or liberalizing (33%) season strategies.

Mule Deer

Table 2. Summary of survey results for mule deer grouped by hunt area and herd unit.

Hunt Area	Population			Season		
	Below Desired Level	At Desired Level	Above Desired Level	More Conserv Season	Same Season	More Liberal Season
23	6	13	5	2	15	6
26	8	6	0	5	8	1
SubTot (n=38)	14 (37%)	19 (50%)	5 (13%)	7 (19%)	23 (62%)	7 (19%)
24 (n=32)	11 (34%)	19 (59%)	2 (6%)	7 (2%)	20 (63%)	5 (16%)
2015 (n=70)	25 (36%)	38 (54%)	7 (10%)	14 (20%)	43 (62%)	12 (17%)
2014 (n=74)	30 (40%)	36 (49%)	8 (11%)	17 (24%)	46 (64%)	9 (12%)
2013 (n=74)	35 (47%)	32 (43%)	7 (10%)	23 (31%)	38 (51%)	13 (18%)
2012 (n=75)	35 (47%)	29 (39%)	11 (15%)	23 (33%)	42 (57%)	9 (12%)
2011 (n=62)	28 (45%)	26 (42%)	8 (13%)	11 (17%)	43 (69%)	8 (13%)
2010 (n=59)	27 (46%)	20 (34%)	12 (20%)	13 (22%)	36 (61%)	10 (17%)
2009 (n=59)	27 (46%)	20 (34%)	12 (20%)	13 (22%)	36 (61%)	10 (17%)
2008 (n=28)	4 (14%)	19 (68%)	5 (18%)	1 (4%)	24 (86%)	3 (11%)
2007 (n=59)	20 (34%)	33 (56%)	6 (10%)	10 (17%)	39 (66%)	10 (17%)
2006 (n=41)	15 (37%)	15 (37%)	11 (27%)	5 (12%)	27 (65%)	9 (22%)
2005 (n=46)	7 (16%)	23 (51%)	15 (33%)	4 (9%)	27 (59%)	15 (33%)
2004 (n=48)	12 (25%)	21 (44%)	15 (31%)	7 (8%)	27 (56%)	14 (29%)
2003 (n=65)	15 (24%)	34 (55%)	13 (21%)	8 (12%)	42 (65%)	15 (23%)
2002 (n=65)	31 (48%)	23 (35%)	11 (17%)	16 (25%)	37 (59%)	10 (16%)
2001 (n=79)	38 (48%)	34 (43%)	7 (9%)	19 (25%)	47 (62%)	10 (13%)
2000 (n=67)	22 (32%)	38 (57%)	7 (11%)	15 (24%)	45 (71%)	3 (5%)

North Bighorn Herd Unit (hunt area 24): We received 32 responses from landowners in this herd area. Nineteen respondents (59%) thought the population was at desired levels while six (6%) respondents thought the population was above desired levels and 11 (34%) thought the population was below desired levels. This is a change from recent years where most landowners felt the population was at or above desired levels. This likely reflects localized decreased in the mule deer numbers due to environmental conditions, increased doe/fawn harvest, and EHD. Current population simulations estimate the population is below the post-season population management objective as established by the WGFD. Most landowners (63%) suggested maintaining current season strategies (i.e. 30 September archery season, 10 day general deer season in October and doe/fawn permits) while the other respondents were split between more conservative (2%) and more liberal (16%) season structure.

Powder River Herd Unit (hunt areas 23, 26): We received 38 responses from landowners within these hunt areas. Most respondents (63%) thought the population was at or above desired levels, while 37% thought the population was below desired levels. This is similar to the past few years. Current population simulations estimate the population is below the post-season population management objective as established by the WGFD. Most landowners (62%) favored maintaining the current season structure (i.e. 30 day September archery season, 15 day general deer season in October and an extended doe/fawn season).

White-tailed Deer

Table 3. Summary of survey results for white-tailed deer grouped by hunt area and herd unit.

Hunt Area	Population			Season		
	Below Desired Level	At Desired Level	Above Desired Level	More Conserv Season	Same Season	More Liberal Season
23	4	9	9	3	10	9
24	2	10	19	0	21	9
26	1	3	8	0	5	7
2015 (n=65)	7 (11%)	22 (34%)	36 (55%)	3(5%)	36 (56%)	25 (39%)
2014 (n=61)	3 (5%)	22 (36%)	36 (59%)	4 (7%)	32 (55%)	22 (38%)
2013 (n=47)	6 (9%)	19 (29%)	41 (62%)	5 (8%)	28 (42%)	33 (50%)
2012 (n=72)	3 (4%)	18 (25%)	51 (71%)	0	30 (41%)	42 (59%)
2011(n=63)	2(3%)	19(30%)	42(67%)	0	26(41%)	37(59%)
2010 (n=55)	2(4%)	16(29%)	37(67%)	0	23(42%)	32(58%)
2009 (n=53)	4 (7%)	19 (36%)	30 (57%)	1(2%)	29 (55%)	23 (43%)
2008 (n=26)	5 (19%)	8 (31%)	13 (50%)	2 (8%)	12 (46%)	12 (46%)
2007 (n=48)	8 (17%)	14 (29%)	26 (54%)	3 (6%)	22 (46%)	23 (48%)
2006 (n=36)	4 (11%)	11 (31%)	21 (58%)	1 (3%)	19 (53%)	16 (44%)
2005 (n=40)	3 (8%)	11 (28%)	26 (65%)	2 (5%)	20 (51%)	17 (44%)
2004 (n=37)	2 (5%)	11 (30%)	24 (65%)	0	14 (38%)	23 (62%)
2003 (n=57)	6 (10%)	14 (25%)	37 (65%)	4 (7%)	25 (45%)	27 (48%)
2002 (n=58)	11 (19%)	19 (33%)	28 (48%)	7 (13%)	28 (50%)	21 (37%)
2001 (n=68)	13 (19%)	30 (44%)	25 (37%)	6 (9%)	45 (66%)	17 (25%)
2000 (n=58)	11 (19%)	21 (36%)	26 (45%)	6 (10%)	31 (53%)	21 (37%)

Powder River Herd Unit (hunt areas 23, 24, 26): We received 65 responses from landowners in these hunts areas. The majority (89%) thought the white-tailed deer population was at or above desired levels, while seven landowners (11%) felt the population was below desired levels. Favorable environmental conditions have allowed this population to remain at relatively high levels despite record harvest levels. Most (95%) landowners suggested maintaining or liberalizing current season strategies. During the 2015 season, hunters could harvest any white-tailed deer for up to 91 days, including the 30-day September archery season, with additional time allowed for doe/fawn harvest, depending on hunt area. .

Numerous landowners have expressed concern and frustration with the number of white-tailed deer, especially in the Bighorn area. It is common to see several hundred deer in one field. Landowners in these areas have committed to increasing access for hunters to harvest antlerless deer. The number of deer – vehicle collisions has also increased, most notably along the Big Goose Road and Highway 87/335 from Sheridan to Bighorn.

Elk

Table 4. Summary of survey results for elk.

Hunt Area	Population			Season		
	Below Desired Level	At Desired Level	Above Desired Level	More Conserv Season	Same Season	More Liberal Season
37	0	6	5	0	8	3
38	0	6	1	0	7	0
Sub Tot (n=18)	0 (0%)	12 (67%)	6 (33%)	0 (0%)	15 (83%)	3 (17%)
129 (n=10)	2 (20%)	5 (50%)	3 (30%)	1 (10%)	7 (70%)	2 (20%)
2015 (n=28)	2 (7%)	17 (61%)	9 (32%)	1 (4%)	22 (79%)	5 (18%)
2014 (n=31)	8 (26%)	17 (55%)	6 (19%)	4 (13%)	23 (74%)	4 (13%)
2013 (n=35)	12 (34%)	15 (43%)	8 (23%)	4 (12%)	18 (55%)	11 (33%)
2012 (n=27)	10 (37%)	10 (37%)	7 (26%)	2 (8%)	13 (50%)	11 (42%)
2011 (n=20)	7 (35%)	8 (40%)	5 (25%)	4 (20%)	11 (55%)	5 (25%)
2010 (n=19)	10(53%)	5(26%)	4(21%)	7(37%)	7(37%)	5(26%)
2009 (n=19)	10 (53%)	5 (26%)	4 (21%)	7 (37%)	7 (37%)	5 (26%)
2008 (n=12)	6 (50%)	3 (25%)	3 (25%)	1 (8%)	10 (83%)	1 (18%)
2007 (n=16)	5 (31%)	6 (38%)	5 (31%)	2 (13%)	8 (50%)	5 (31%)
2006 (n=20)	8 (40%)	7 (35%)	5 (25%)	5 (25%)	8 (40%)	7 (35%)
2005 (n=18)	4 (22%)	10 (56%)	4 (22%)	4 (22%)	9 (50%)	5 (28%)
2004 (n=12)	3 (25%)	9 (75%)	0	0	10 (83%)	2 (17%)
2003 (n=17)	5 (31%)	9 (56%)	2 (13%)	3 (21%)	9 (64%)	2 (14%)
2002 (n=20)	4 (20%)	12 (60%)	4 (20%)	1 (5%)	16 (80%)	3 (15%)
2001 (n=23)	6 (26%)	12 (52%)	5 (22%)	4 (17%)	14 (61%)	5 (22%)
2000 (n=10)	3 (30%)	4 (40%)	3 (30%)	1 (10%)	7 (70%)	2 (20%)

North Bighorn Herd Unit (hunt areas 37, 38): We received 18 responses from landowners in these hunt areas, most (61%) from landowners in hunt area 37. Most landowners (67%) thought the elk population was at desired levels, while the rest (33%) thought elk numbers were above desired levels. No landowners thought elk numbers were below desired levels. All landowners supported similar (83%) or more liberal (17%) season strategies. Landowners in Area 38 were specifically asked about their desire for an extended antlerless season. Of the 5 landowners who responded, 2 supported an extended season and 3 opposed an extended season. Seasons were extended in 2014 and 2015 to address damage concerns to stored hay crops. A specific license (Type 6) was created to address these problems. This should help reduce damage concerns without creating too many hunter phone calls.

Hunt Area 129: We received responses from 10 landowners in this hunt area. Area 129 encompasses all lands in Campbell, Johnson, and Sheridan counties outside an established elk hunt area. This area was established in 2001 to address expanding elk numbers outside established hunt areas and herd units. Responses were mixed, with some landowners desiring more elk while others want longer seasons so they can kill more elk and reduce their numbers. The WGFD does not wish to actively manage elk in these areas. Most (70%) landowners favored maintaining the current season structure.

Appendix B

**Summary of
2015 Landowner Survey**

**Perceived Status of Deer and Pronghorn Populations
And Suggested Hunting Season Strategies**

Gillette Biologist District

May 2016

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Overview

Questionnaire surveys of landowners within the Gillette Biologist District have been conducted after each hunting season from 1996 through 2015. Questionnaires were included with a mailing of the landowner coupon form. Approximately 300 surveys are mailed each year. Landowners completed the surveys and returned them with their coupon forms to their local game warden by March 1st of the following year.

The questions asked for each of the surveys were essentially the same with only slight variation between the first survey and the subsequent surveys. Landowners were asked if the pronghorn and deer herds on their ranches were below desired levels, at desired levels, or above desired levels. They were also asked if they thought that the next year's hunting season should be more conservative, about the same, or more liberal than the previous hunting season.

A brief summary of the 2015 responses relative to the 2016 hunting season is as follows.

Pronghorn Questionnaire Responses

Area 1

- 50% of respondents think that pronghorn are at desired levels with 35% stating they were below.
- 94% of respondents desire the same season for 2016.

Area 3

- 100% of respondents believe that numbers are at or below objective.
- 75% of landowners desire the same season for 2016.

Area 17

- 71% of landowners surveyed think that pronghorn are at desired levels.
- 76% of landowners favor the same season for 2016.

Area 18

- 50% of landowners think that pronghorn numbers on their property are at desired levels.
- 100% of landowners favor the same season for 2016.

Area 19

- 1 respondent. Respondent felt that they were below desired levels.
- Respondent felt that a similar season was desired for 2016

Area 23

- 71% of landowners surveyed believe that pronghorn numbers on their property are at or above desired levels.
- 69% of landowners favor the same or a more liberal season for 2016.

Area 24

- 80% of landowners surveyed believe that pronghorn numbers on their property are at desired levels.
- 80% wanted the same season for 2016.

Area 27

- The 2 respondents were split and wanted the same or a more liberal season for 2016.

Overall Pronghorn Survey Results

- Sample size of 71 landowners answered the portion on pronghorn (some incomplete, only answering either the portion regarding population or season and not both, some not indicating hunt area).
- 62% of total respondents think that pronghorn numbers on their property are at desired levels with 30% indicating that pronghorn numbers on their property are below desired levels and 8% indicating that pronghorn numbers on their property are above desired levels.
- Most (80%) favor the same season for 2016 with 9% favoring a more liberal and 11% favoring a more conservative season for 2016. Responses were fairly similar as compared to the 2015 season responses.

Relationship to 2015 Post-season Population Estimate, Its Objective and Landowner Desires for the 2016 Hunting Season

- North Black Hills Herd Unit is estimated to be below objective. Overall, 46% of landowners think pronghorn are below the desired level and want either the same or a more conservative season for 2016.
- Gillette Herd Unit is estimated to be only slightly below objective. The majority of landowners believe the herd is at desired levels and most want the same season for 2016.
- Pumpkin Buttes Herd Unit is estimated to be above objective. 69% of all respondents want the same or a more liberal season for 2016.
- Winter conditions were moderate in the winter of 2015-2016 with periods of cold followed by periods of melting at times. The 2016 seasons address lower pronghorn numbers in those areas that have been impacted by past severe winter conditions, while continuing with persistent harvest in areas where winter conditions were less severe. Thus, seasons should still be reasonable in the Gillette District.

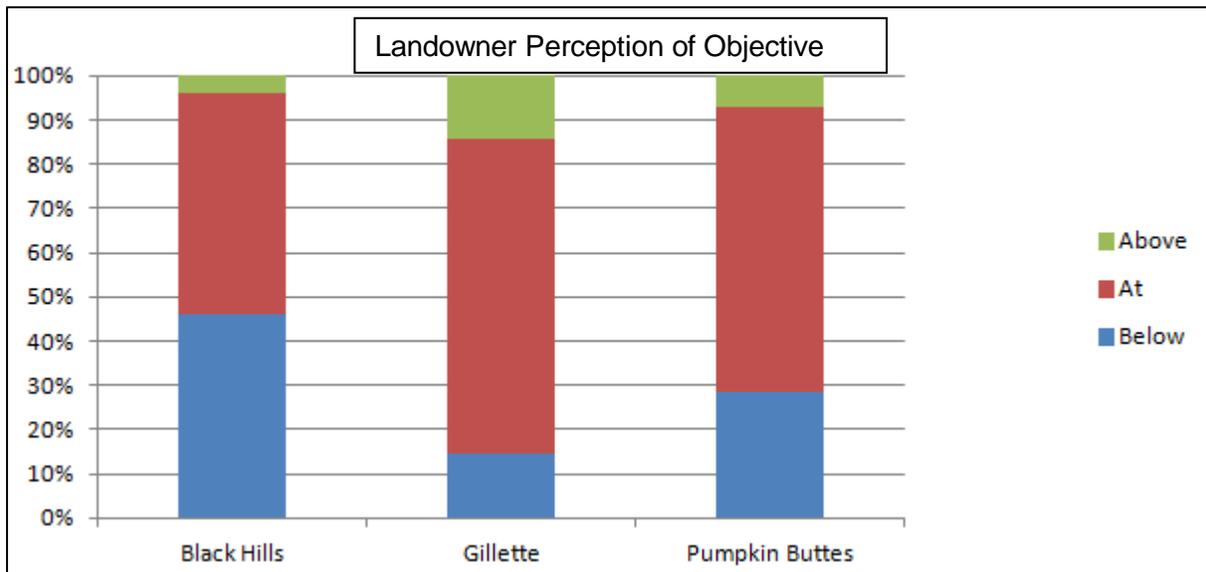


Figure 1. 2015 landowner survey results by herd unit regarding pronghorn herd size compared to herd objective.

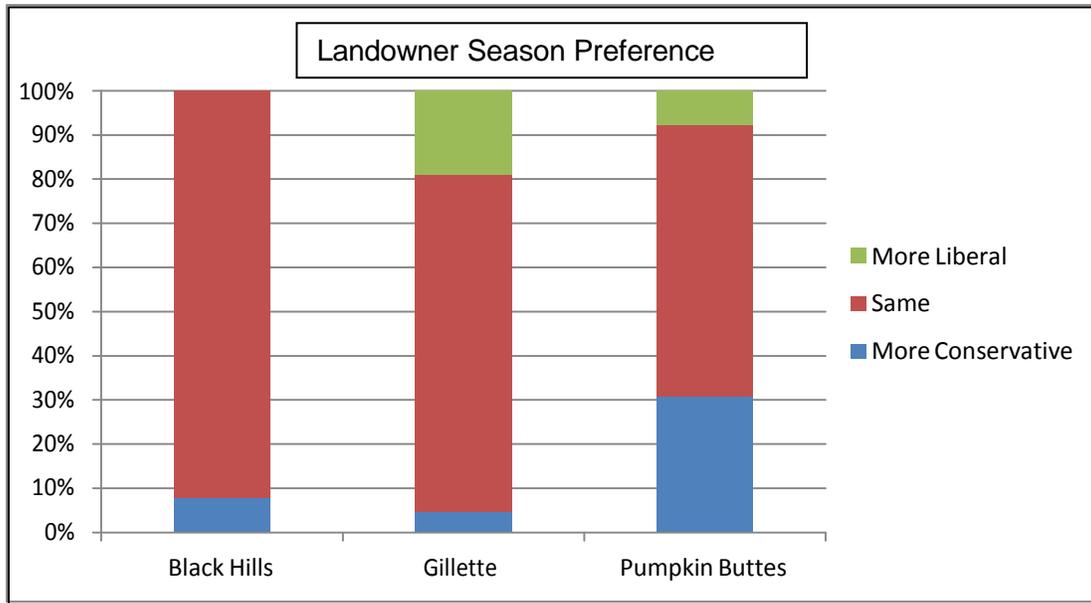


Figure 2. 2015 landowner survey results by herd unit regarding desired 2016 pronghorn hunting seasons.

Table 1. 2015 landowner survey results, and results by year 1997-2015

Hunt Area	Population			Season		
	Below Desired Level	At Desired Level	Above Desired Level	More Conserv Season	Same Season	More Liberal Season
1	6	10	1	1	16	0
3	3	1	0	1	3	0
17	3	15	3	1	16	4
18	2	2	0	0	4	0
19	1	0	0	0	1	0
23	4	9	1	4	8	1
24	1	4	0	1	4	0
27	0	1	1	0	1	1

YEAR						
*2015	20(29%)	42(62%)	6(9%)	8(12%)	53(79%)	6(9%)
2014	22(26%)	49(58%)	13(16%)	19(23%)	49(61%)	13(16%)
2013	31(47%)	29(44%)	6(9%)	32(48%)	29(44%)	5(8%)
2012	72(44%)	82(50%)	11(6%)	47(29%)	103(64%)	11(7%)
2011	30 (37%)	47 (57%)	5 (6%)	25 (32%)	49 (62%)	5 (6%)
2010	30 (33%)	45 (49%)	16 (18%)	21 (23%)	52 (57%)	18 (20%)
2009	19 (18%)	60 (56%)	29 (27%)	15 (14%)	72 (66%)	22 (20%)
2008	7 (6%)	55 (50%)	48 (44%)	9 (8%)	60 (56%)	39 (36%)
2007	7 (6%)	58 (48%)	55 (46%)	4 (3%)	69 (57%)	46 (39%)
2006	14 (11%)	58 (44%)	61 (46%)	6 (5%)	74 (56%)	53 (40%)
2005	6 (10%)	22 (35%)	34 (55%)	4 (7%)	31 (53%)	23 (40%)
2004	28 (16%)	86 (50%)	59 (34%)	12 (7%)	98 (57%)	63 (36%)
2003	30 (17%)	105 (60%)	43 (24%)	11 (6%)	109 (62%)	56 (32%)
2002	24 (18%)	78 (58%)	33 (24%)	17 (13%)	80 (59%)	38 (28%)
2001	27 (21%)	74 (59%)	25 (20%)	23 (18%)	73 (58%)	30 (24%)
2000	50 (40%)	58 (46%)	17 (14%)	33 (27%)	65 (52%)	26 (21%)
1999	48 (46%)	37 (35%)	20 (19%)	30 (29%)	47 (46%)	25 (25%)
1998	49 (37%)	64 (48%)	21 (16%)	31 (23%)	73 (54%)	31 (23%)
1997	68 (49%)	60 (43%)	11 (8%)	56 (41%)	63 (46 %)	18 (13%)

*Note-Totals of Hunt Area may not equal total for 2015. This is due to some landowners not reporting what area they are in or answering only portions of the survey. Their opinions were factored into the total, but not by Hunt Area.

Deer Questionnaire Responses

Area 1

- 83% believe deer numbers on their property are at or above desired levels.
- 73% favor the same season for 2016.

Area 3

- 100% of landowners that responded believe deer numbers on their property are at or below desired levels.
- All favor the same season for 2016.

Area 10

- There were only 3 respondents. All of them felt deer were below where they would like to see them.
- All favored a more conservative season for 2016.

Area 17

- 50% believe deer numbers on their property are at desired levels while 45% felt they were below.
- 53% favor a more conservative season for 2016.

Area 18

- Respondents were equally split on below, at or above where they would like to see the deer numbers.
- 50% favor the same season for 2016.

Area 19

- 100% believe deer numbers on their property are at or below desired levels.
- 71% favor the same season for 2016.

Area 21

- 75% believe deer numbers on their property are at or below desired levels.
- 75% favor the same or more conservative season for 2016.

Overall Deer Survey Results

- 79 landowners answered the deer portion of the survey (some incomplete, only answering either the portion regarding population or season and not both, some not indicating hunt area).
- Most (53%) think that deer numbers are at desired levels with 34% of the respondents indicating that the herds are below desired levels and 13% indicating that herds are above desired levels.
- Most (61%) favor the same season for 2016, with 26% desiring a more conservative season, and the remaining 13% indicating the need for a more liberal season.

Relationship to 2015 Post-season Population Estimate, Its Objective and Landowner Desires for the 2016 Hunting Season

- Powder River Herd Unit is far below objective. Landowners generally desire a higher population of deer in the herd unit and prefer the same or more conservative season in 2016.
- Pumpkin Buttes Herd Unit is at objective. The annual landowner survey results show that landowners continue to desire a higher deer population. Although 47% are satisfied with current deer numbers, the remaining 53% prefer an increase in numbers.
- Black Hills Herd Unit is slightly below objective. The Sheridan Region portion of the herd unit shows landowners indicating that the herd is at or below desired levels for mule deer. Most want to see the same or more conservative season in 2016.
- Cheyenne River Deer herd unit is below objective. The Sheridan Region portion of the herd unit shows landowners indicating that the herd at or below desired levels and favor the same or more conservative seasons for 2016.

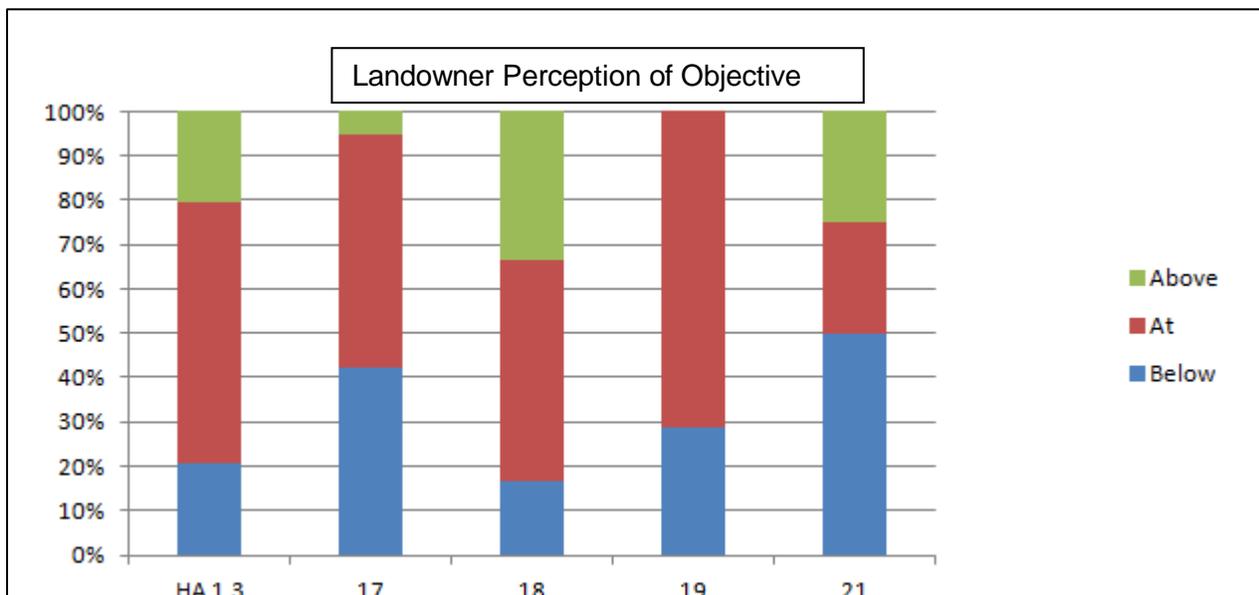


Figure 3. 2015 landowner survey results by herd unit regarding deer herd size compared to herd objective

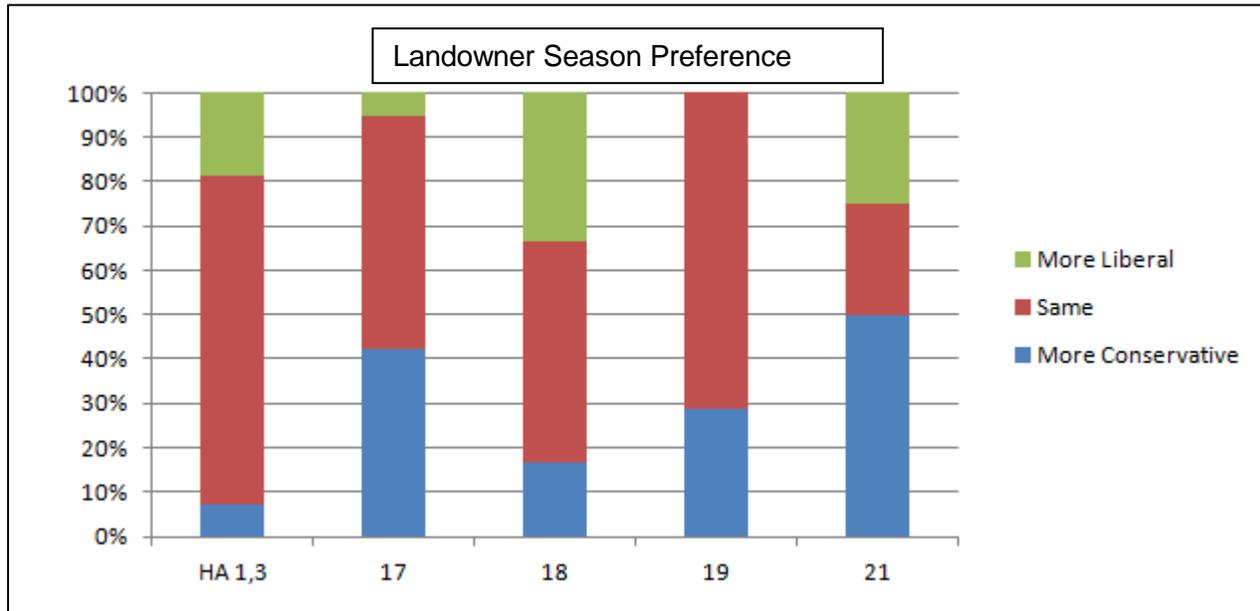


Figure 4. 2015 landowner survey results by herd unit regarding desired 2016 deer hunting seasons.

Table 2. Summary of responses by landowners regarding deer population levels and opinions for deer hunting seasons 1997– 2015 and summary of 2015.

Hunt Area	Population			Season		
	Below Desired Level	At Desired Level	Above Desired Level	More Conserv Season	Same Season	More Liberal Season
1	4	13	6	1	16	5
3	2	4	0	1	4	0
10	3	0	0	3	0	0
17	9	10	1	8	10	1
18	2	2	2	1	3	2
19	5	9	0	4	10	0
21	2	1	1	2	1	1

YEAR						
*2015	27(36%)	39(51%)	10(13%)	20(28%)	44(60%)	9(12%)
*2014	39(49%)	33(42%)	7(9%)	33(43%)	37(49%)	6(8%)
*2013	43(65%)	23(35%)	0	37(57%)	23(35%)	5(8%)
*2012	106(66%)	46(29%)	8(5%)	80(52%)	65(42%)	8(5%)
2011	52 (71%)	20 (28%)	1 (1%)	41 (59%)	27 (39%)	1 (1%)
2010	56 (57%)	38 (39%)	4 (4%)	40 (51%)	49 (41%)	8 (8%)
2009	64 (57%)	43 (38%)	5 (4%)	50 (45%)	58 (52%)	6 (5%)
2008	28 (26%)	72 (67%)	7 (7%)	17 (16%)	78 (72%)	13 (12%)
2007	22 (18%)	83 (66%)	20 (16%)	13 (10%)	88 (70%)	24 (19%)
2006	24 (18%)	75 (57%)	32 (24%)	14 (11%)	77 (58%)	41 (31%)
2005	18 (19%)	54 (56%)	25 (26%)	14 (14%)	60 (61%)	25 (25%)
2004	52 (29%)	98 (55%)	29 (16%)	30 (17%)	117 (67%)	29 (16%)
2003	57 (30%)	110 (58%)	23 (12%)	34 (19%)	108 (61%)	35 (20%)
2002	43 (32%)	76 (56%)	17 (13%)	30 (22%)	84 (62%)	22 (16%)
2001	44 (35%)	65 (52%)	17 (13%)	34 (27%)	74 (59%)	18 (14%)
2000	38 (29%)	73 (57%)	18 (14%)	34 (26%)	66 (51%)	30 (23%)
1999	30 (29%)	56 (55%)	16 (16 %)	26 (25%)	56 (55%)	20 (20%)
1998	60 (47%)	63 (49%)	6 (5%)	51 (39%)	65 (50%)	15 (11%)
1997	64 (47%)	56 (41%)	16 (12%)	57 (42%)	61 (45%)	18 (13%)

*Note-Totals of Hunt Area may not equal total for 2015. This is due to some landowners not reporting what area they are in or answering only portions of the survey. Their opinions were factored into the total, but not by Hunt Area.

APPENDIX C

2015 Buffalo / Kaycee Landowner Survey

May 27, 2016

Prepared by Dan Thiele
Buffalo Wildlife Biologist
Wyoming Game & Fish Department

The 17th Buffalo/Kaycee landowner postseason survey was conducted following the 2015 hunting season. About 165 landowners were queried on their perceptions of antelope, mule deer, white-tailed deer and elk populations as well as what hunting season adjustments they recommend for the 2016 hunting seasons. The survey was mailed along with a landowner coupon form and information on submitting landowner coupons for reimbursement. Landowners were asked the following questions for each species that occupies their ranches (antelope, mule deer, white-tailed deer, and elk):

Overall for your area, is the (*species*) population:

- Below or less than desired levels
- At or about right at desired levels
- Above or higher than desired levels

For next year, would you like to see the (*species*) hunting seasons:

- More conservative with fewer licenses
- About the same as this year
- More liberal with more licenses

Beginning in 2005, landowners were also asked if they were willing to provide free access for doe/fawn antelope and/or deer hunting. General comments were also requested.

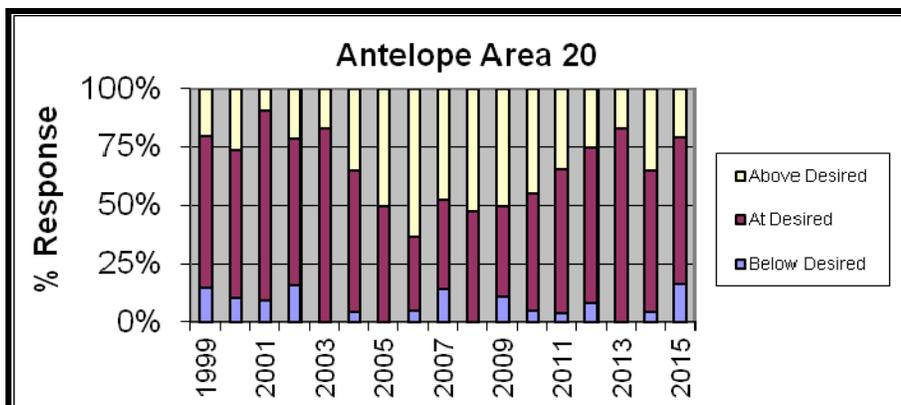
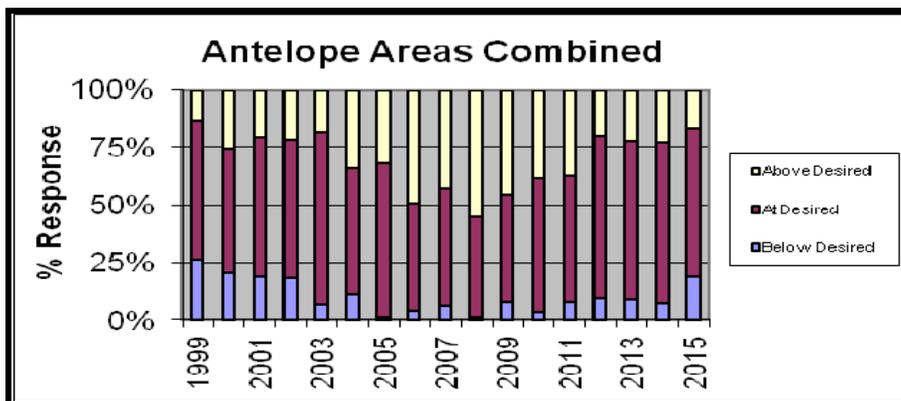
Seventy-five responses were received for a response rate of 45%. This compares to 45% in 2014, 34% in 2013, 40% in 2012, and 47% in 2011. Results of the 2015 survey and 17-year trends are provided below. Not all landowners responded to each question or for each species. Some landowners are credited with a response in more than one hunt area because of landownership patterns. Therefore, total responses may exceed the number of actual survey returns. The total (*n*) references the number of landowners who responded for the respective species followed by the totals for all hunt areas. Samples are generally low at the hunt area level limiting the confidence in the results.

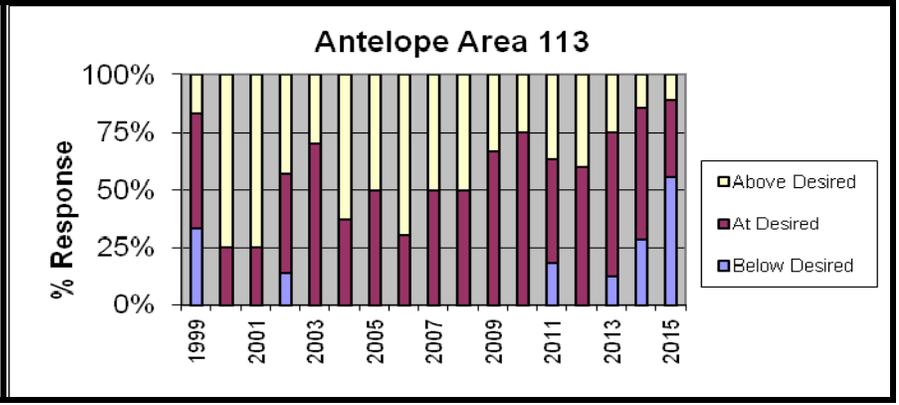
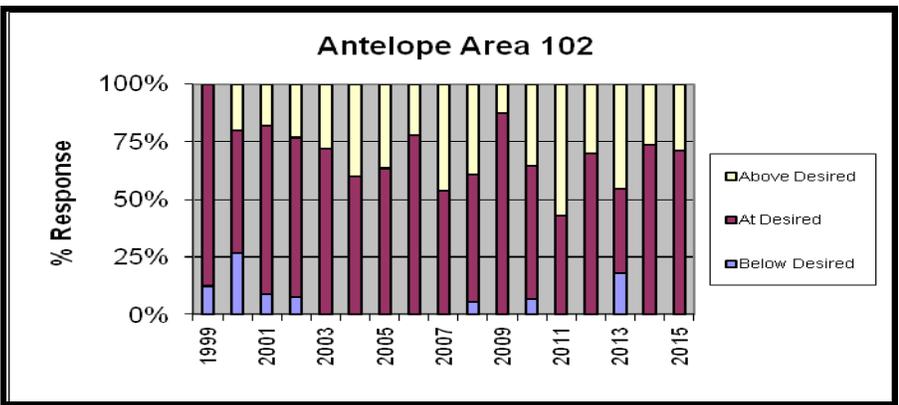
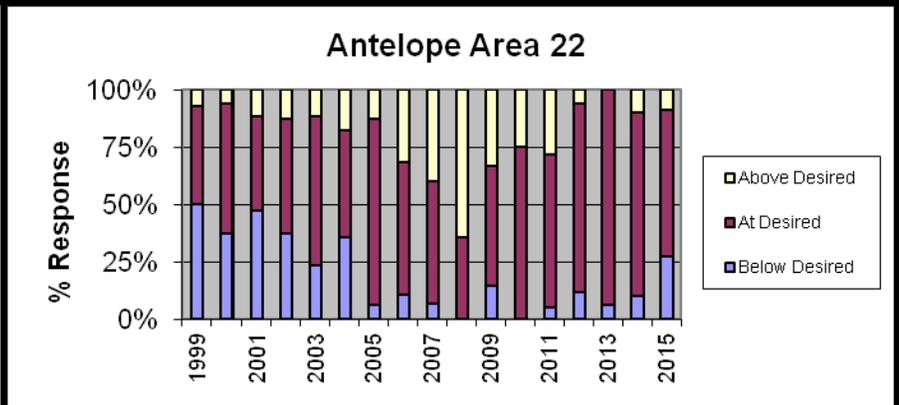
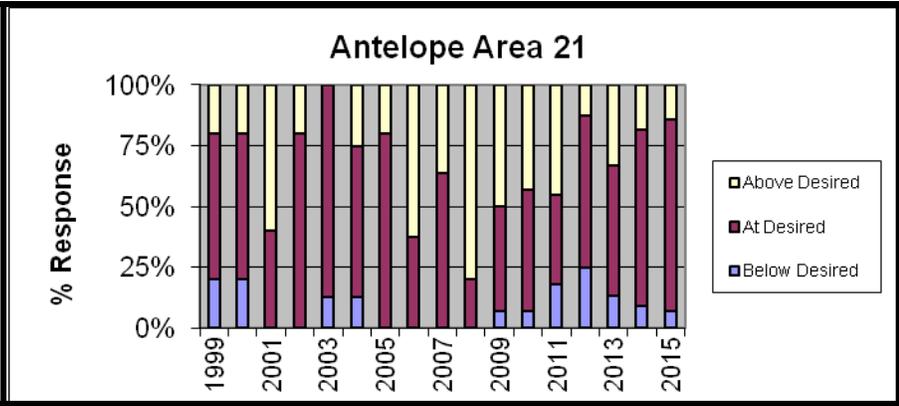
Some interpretation of survey responses was needed as some landowners responded for species they do not have, or, have limited numbers of. For example, a landowner who has low potential for antelope on a ranch and responded they are below desired numbers was not included in the final results.

Combining all hunt area responses by species indicates that landowners believe antelope numbers have decreased since 2008. Responses for mule deer suggest deer numbers have been relatively stable the last six years with a slight increase in 2015. However, a majority of landowners want more mule deer. From 2010 to 2015 the percentage of landowners responding that mule deer numbers were too low ranged from 62% to 70%. Responses for white-tailed deer indicate numbers are down noticeably in several hunt areas due to a 2013 EHD outbreak and liberal hunting seasons. Combined responses show the percentage of landowners responding that white-tailed deer numbers are too high dropped from 74% in 2010 to 43% in 2013. Responses suggest white-tail deer numbers increased slightly the last two years. The combined hunt area response for elk indicates that numbers have remained relatively stable the last seven years although sample size is somewhat limited. The 2015 survey shows 57% of responding landowners are satisfied with current elk numbers even though mid-winter trend counts have increased. A number of factors can influence landowner responses including population size, annual precipitation and depredation problems.

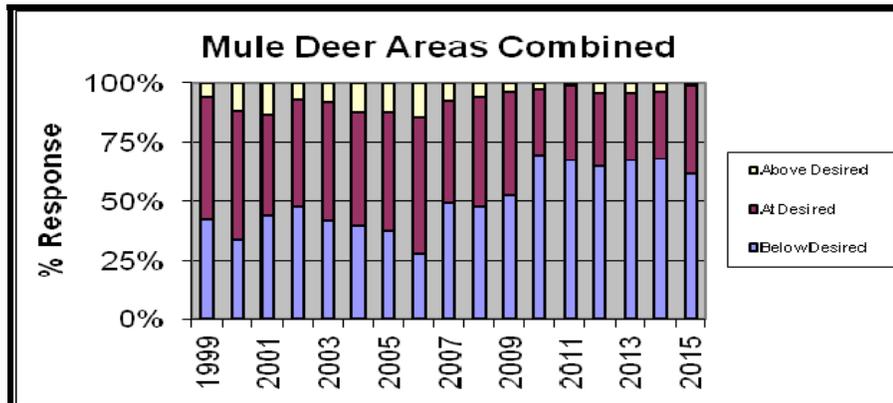
Only one landowner responded they would accept doe/fawn hunters free of charge for one or more species.

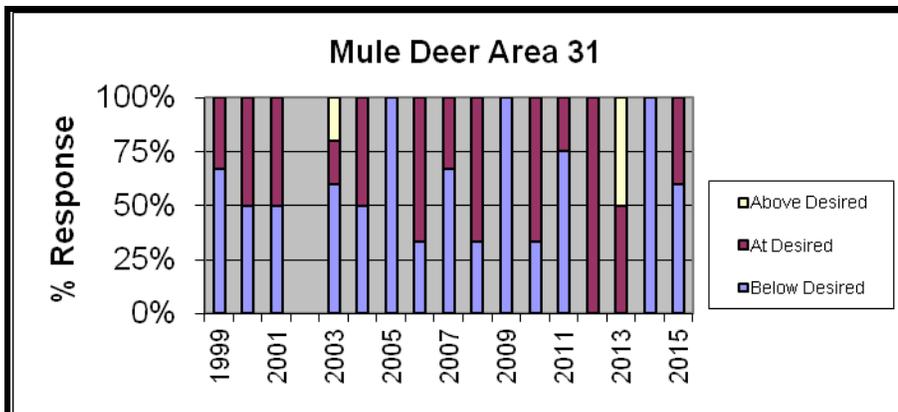
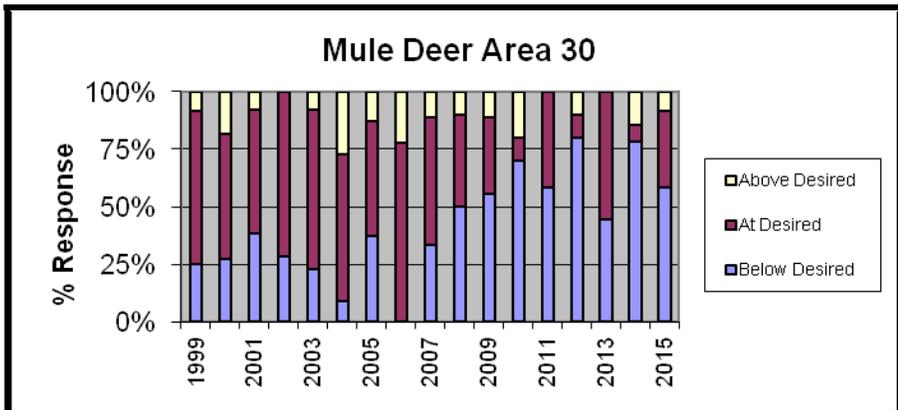
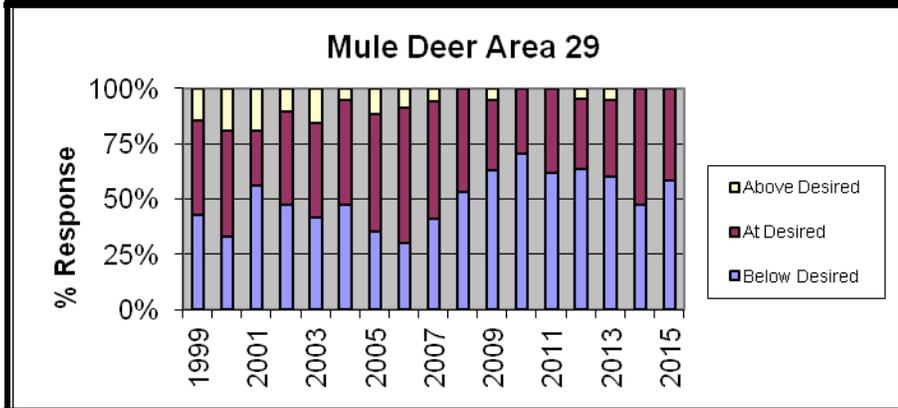
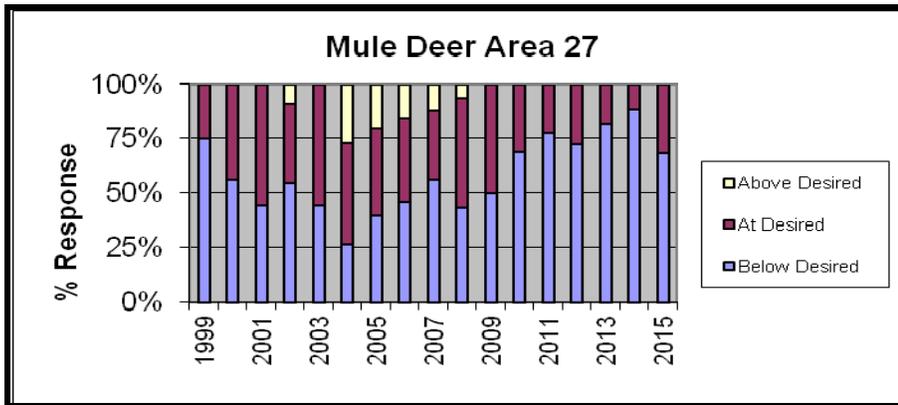
Antelope	Population			Seasons		
Hunt Area	Below Desired Levels	At Desired Levels	Above Desired Levels	More Conserv Seasons	Same Seasons	More Liberal Seasons
20	4	15	5	4	18	2
21	1	11	2	2	11	1
22	6	14	2	7	15	0
102	0	10	4	0	11	3
113	5	3	1	4	4	1
2015 (n=71)	16 (19%)	53 (64%)	14 (17%)	17 (21%)	59 (71%)	7 (8%)
2014 (n=72)	6 (7%)	56 (70%)	18 (23%)	8 (10%)	58 (73%)	13 (17%)
2013 (n=61)	6 (9%)	47 (69%)	15 (22%)	6 (9%)	45 (69%)	14 (22%)
2012 (n=56)	6 (10%)	45 (71%)	12 (19%)	6 (10%)	45 (71%)	12 (19%)
2011 (n=65)	6 (8%)	42 (55%)	28 (37%)	5 (7%)	51 (67%)	20 (26%)
2010 (n=60)	3 (4%)	46 (61%)	27 (35%)	3 (4%)	55 (74%)	16 (22%)
2009 (n=66)	6 (8%)	35 (47%)	34 (45%)	4 (5%)	44 (59%)	27 (36%)
2008 (n=62)	1 (1%)	30 (44%)	38 (55%)	1 (2%)	39 (58%)	27 (40%)
2007 (n=61)	4 (6%)	33 (51%)	28 (43%)	4 (6%)	39 (60%)	22 (34%)
2006 (n=60)	3 (4%)	32 (47%)	34 (49%)	3 (4%)	39 (57%)	27 (39%)
2005 (n=52)	1 (2%)	38 (67%)	18 (32%)	0 (0%)	42 (75%)	14 (25%)
2004 (n=61)	8 (11%)	39 (55%)	24 (34%)	8 (11%)	39 (56%)	23 (33%)
2003 (n=65)	5 (7%)	53 (75%)	13 (18%)	7 (10%)	52 (74%)	11 (16%)
2002 (n=59)	11 (18%)	36 (60%)	13 (22%)	9 (15%)	40 (68%)	10 (17%)
2001 (n=52)	11 (19%)	35 (60%)	12 (21%)	9 (16%)	42 (75%)	5 (9%)
2000 (n=59)	13 (21%)	34 (54%)	16 (25%)	9 (14%)	39 (62%)	15 (24%)
1999 (n=46)	14 (27%)	32 (60%)	7 (13%)	13 (25%)	36 (69%)	3 (6%)

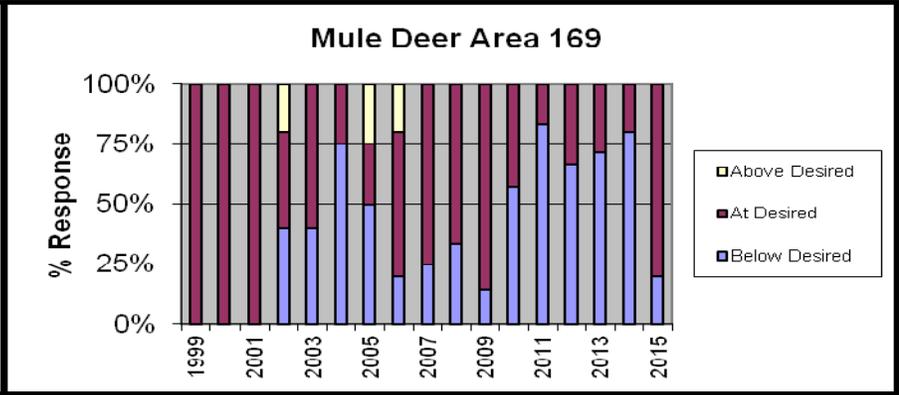
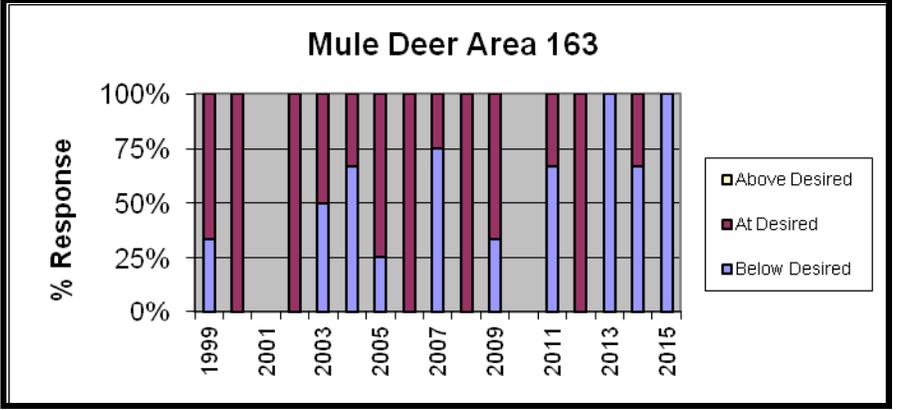
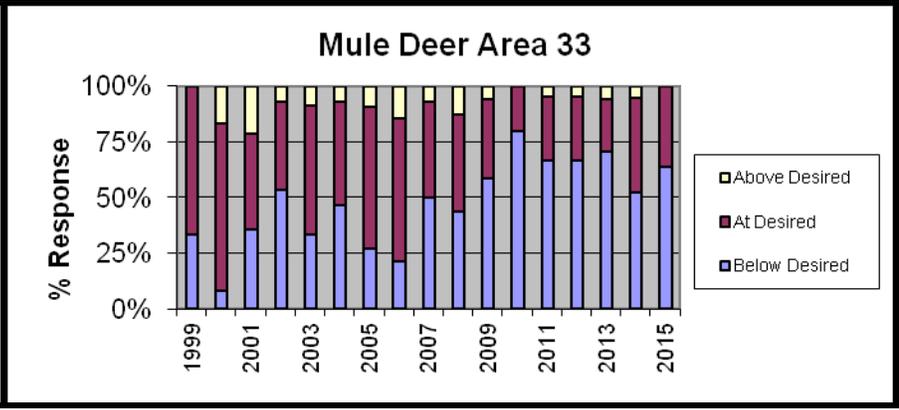
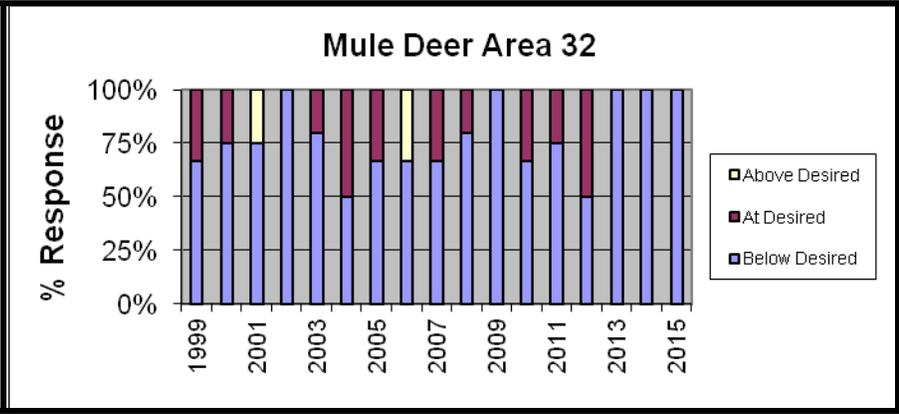




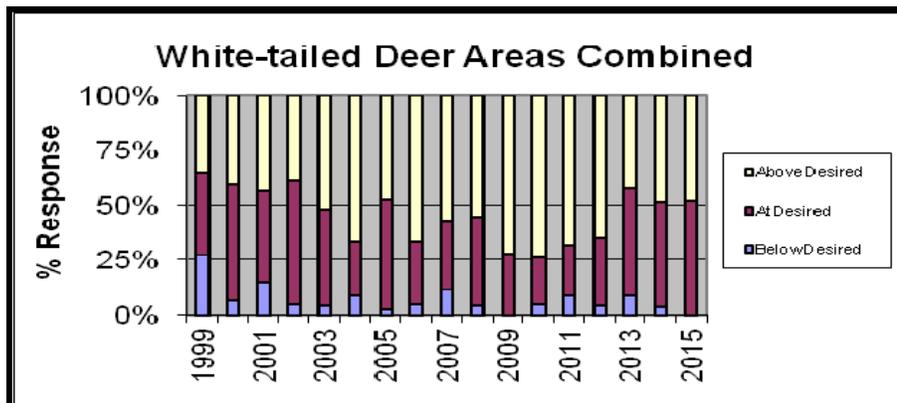
Mule Deer Hunt Area	Population			Seasons		
	Below Desired Levels	At Desired Levels	Above Desired Levels	More Conserv Seasons	Same Seasons	More Liberal Seasons
27	11	5	0	6	10	0
29	14	10	0	13	12	0
30	7	4	1	2	7	1
31	3	2	0	1	4	0
32	2	0	0	2	0	0
33	14	8	0	11	10	0
163	3	0	0	2	1	0
169	1	4	0	0	4	0
2015 (n=73)	55 (62%)	33 (37%)	1 (1%)	37 (43%)	48 (56%)	1 (1%)
2014 (n=69)	55 (68%)	23 (28%)	3 (4%)	41 (54%)	31 (41%)	4 (5%)
2013 (n=61)	50 (68%)	21 (28%)	3 (4%)	46 (64%)	23 (32%)	3 (4%)
2012 (n=55)	48 (65%)	23 (31%)	3 (4%)	30 (45%)	33 (49%)	4 (6%)
2011 (n=66)	54 (68%)	25 (31%)	1 (1%)	48 (64%)	25 (33%)	2 (3%)
2010 (n=61)	51 (70%)	20 (27%)	2 (3%)	30 (44%)	37 (54%)	1 (2%)
2009 (n=64)	41 (53%)	33 (43%)	3 (4%)	21 (30%)	42 (61%)	6 (9%)
2008 (n=62)	33 (48%)	32(46%)	4 (6%)	17 (25%)	47 (69%)	4 (6%)
2007 (n=62)	34 (49%)	30 (44%)	5 (7%)	26 (39%)	33 (50%)	7 (11%)
2006 (n=59)	20 (28%)	42 (58%)	10 (14%)	15 (22%)	45 (64%)	10 (14%)
2005 (n=50)	22 (38%)	29 (50%)	7 (12%)	16 (32%)	34 (68%)	5 (10%)
2004 (n=64)	30 (40%)	36 (48%)	9 (12%)	21 (31%)	36 (52%)	12 (17%)
2003 (n=66)	33 (42%)	40 (51%)	6 (7%)	23 (29%)	46 (59%)	9 (12%)
2002 (n=69)	34 (48%)	32 (45%)	5 (7%)	24 (34%)	45 (63%)	2 (3%)
2001 (n=52)	27 (44%)	26 (43%)	8 (13%)	17 (29%)	37 (63%)	5 (8%)
2000 (n=63)	24 (34%)	39 (55%)	8 (11%)	19 (27%)	40 (56%)	12 (17%)
1999 (n=47)	23 (43%)	28 (52%)	3 (5%)	18 (32%)	34 (61%)	4 (7%)

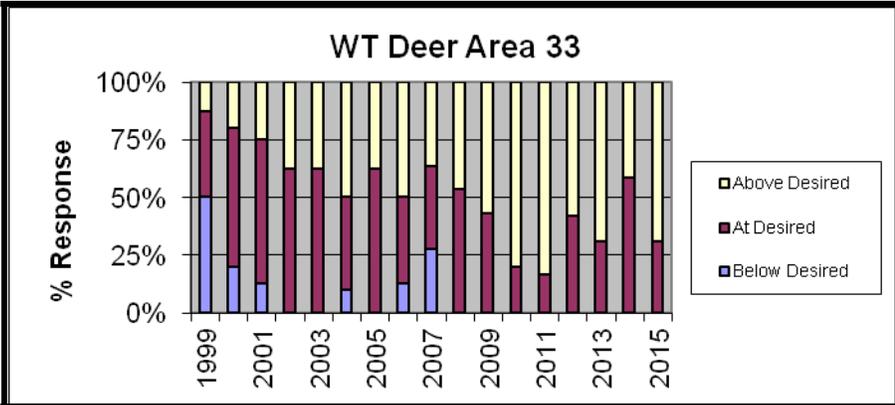
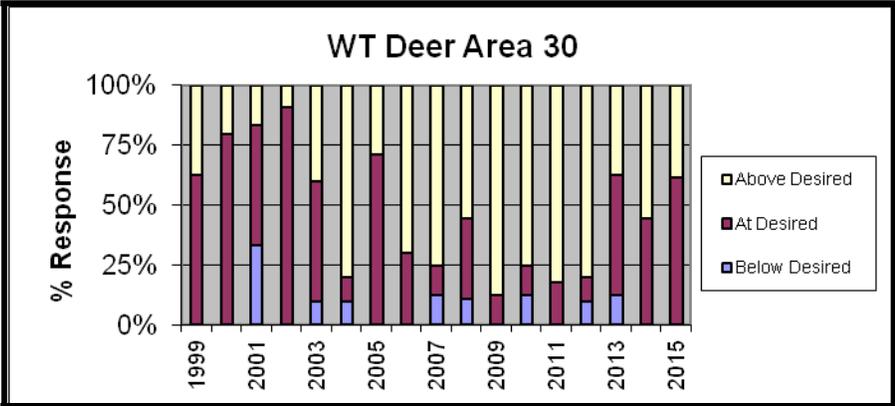
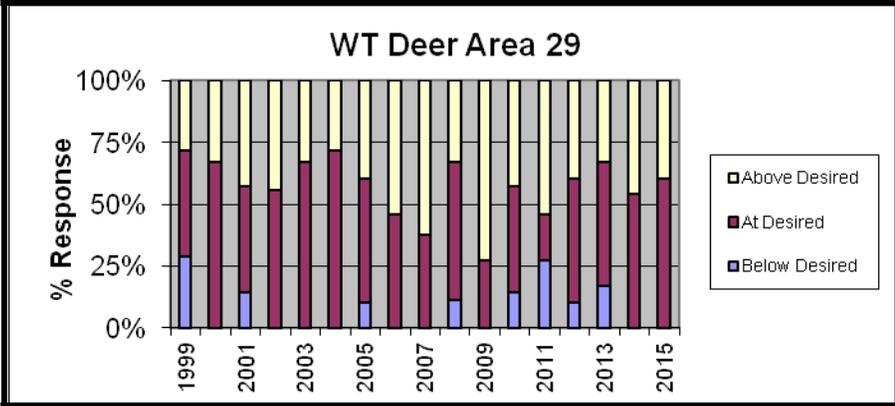
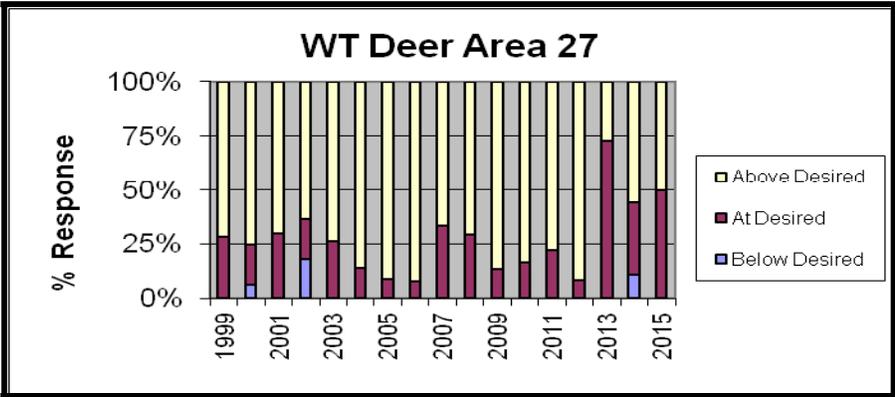




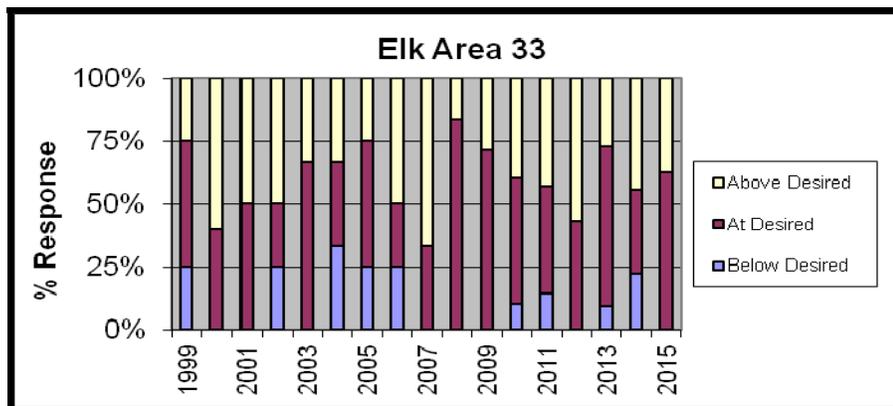
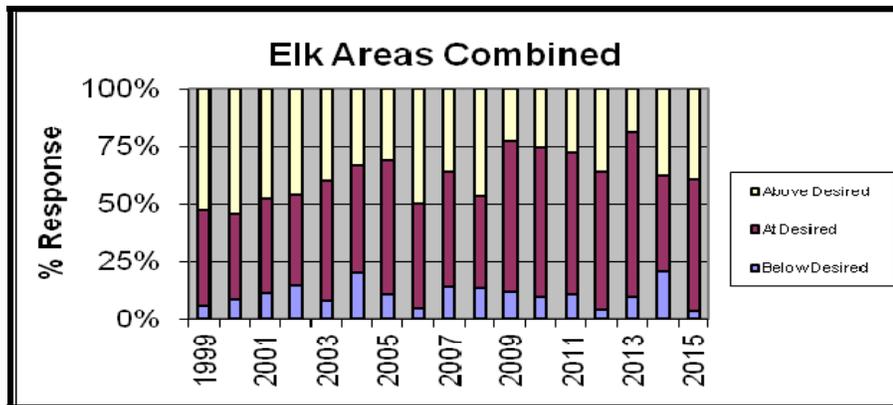


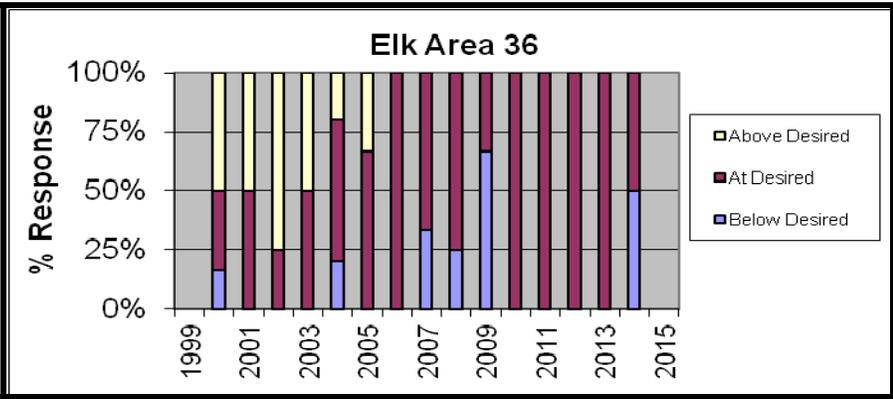
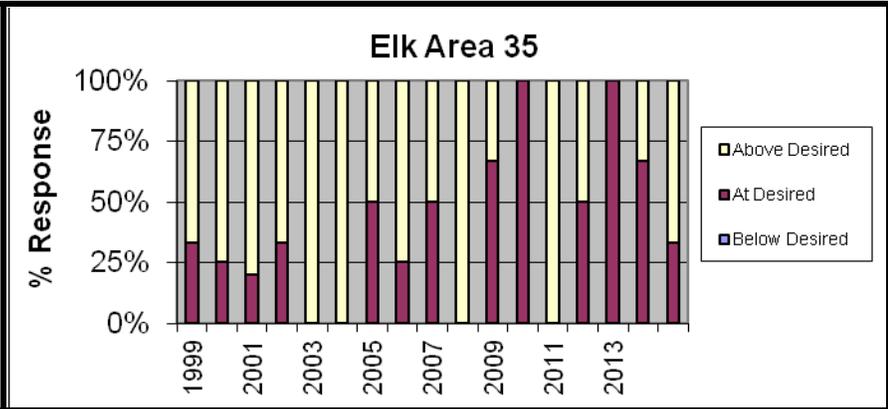
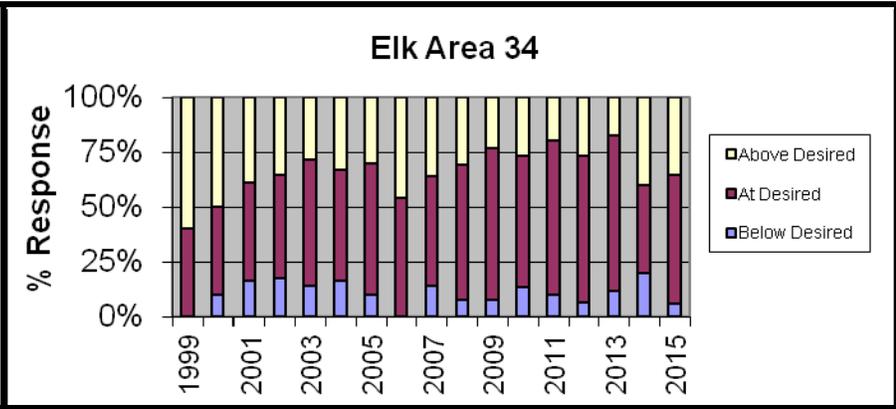
WT Deer Hunt Area	Population			Seasons		
	Below Desired Levels	At Desired Levels	Above Desired Levels	More Conserv Seasons	Same Seasons	More Liberal Seasons
27	0	8	8	0	10	5
29	0	6	4	0	8	1
30	0	8	5	0	10	3
31	0	0	0	0	0	0
32	0	0	1	0	0	1
33	0	4	9	0	10	4
163	0	2	0	0	2	0
169	0	1	0	0	0	0
2015 (n=54)	0 (0%)	29 (52%)	27 (48%)	0 (0%)	40 (74%)	14 (26%)
2014 (n=51)	2 (4%)	26 (47%)	27 (49%)	3 (6%)	31 (57%)	20(37%)
2013 (n=43)	4 (8%)	23 (49%)	20 (43%)	5 (11%)	32 (68%)	10 (21%)
2012 (n=45)	2 (4%)	15 (31%)	32 (65%)	2 (4%)	26 (53%)	21 (43%)
2011 (n=47)	4 (8%)	11 (23%)	33 (69%)	4 (9%)	18 (39%)	24 (52%)
2010 (n=43)	2 (4%)	10 (22%)	34 (74%)	1 (2%)	20 (47%)	22 (51%)
2009 (n=49)	0 (0%)	14 (27%)	37 (73%)	0 (0%)	16 (33%)	32 (67%)
2008 (n=49)	2 (4%)	22 (41%)	30 (55%)	1 (2%)	27 (50%)	26 (48%)
2007 (n=50)	5 (11%)	14 (31%)	26 (58%)	2 (5%)	18 (44%)	21 (51%)
2006 (n=48)	2 (4%)	13 (29%)	30 (67%)	2 (4%)	17 (39%)	25 (57%)
2005 (n=37)	1 (2%)	20 (50%)	19 (48%)	1 (2%)	20 (50%)	19 (48%)
2004 (n=46)	4 (8%)	12 (25%)	32 (67%)	4 (9%)	13 (28%)	30 (64%)
2003 (n=47)	2 (4%)	21 (44%)	25 (52%)	3 (6%)	19 (40%)	26 (54%)
2002 (n=43)	2 (4%)	25 (57%)	17 (39%)	4 (9%)	26 (59%)	14 (32%)
2001 (n=41)	6 (15%)	17 (41%)	18 (44%)	5 (13%)	17 (43%)	18 (45%)
2000 (n=45)	3 (6%)	25 (53%)	19 (41%)	2 (4%)	28 (60%)	17 (36%)
1999 (n=41)	10 (27%)	14 (38%)	13 (35%)	4 (11%)	22 (59%)	11 (30%)





Elk Hunt Area	Population			Seasons		
	Below Desired Levels	At Desired Levels	Above Desired Levels	More Conserv Seasons	Same Seasons	More Liberal Seasons
33	0	5	3	1	7	0
34	1	10	6	0	14	2
35	0	1	2	0	2	1
36	0	0	0	0	0	0
2015 (n=31)	1 (4%)	16 (57%)	11 (39%)	1 (4%)	23 (85%)	3 (11%)
2014 (n=27)	6 (21%)	12 (41%)	11 (38%)	4 (14%)	17 (58%)	8 (28%)
2013 (n=34)	3 (10%)	22 (71%)	6 (19%)	3 (10%)	25 (80%)	3 (10%)
2012 (n=23)	1 (4%)	15 (60%)	9 (36%)	1 (4%)	18 (75%)	5 (21%)
2011 (n=31)	3 (10%)	18 (62%)	8 (28%)	2 (7%)	21 (72%)	6 (21%)
2010 (n=30)	3 (10%)	20 (64%)	8 (26%)	3 (10%)	22 (73%)	5 (17%)
2009 (n=30)	3 (12%)	17 (65%)	6 (23%)	1 (4%)	19 (73%)	6 (23%)
2008 (n=25)	2 (8%)	16 (64%)	7 (28%)	0 (0%)	19 (76%)	6 (24%)
2007 (n=22)	3 (14%)	11 (50%)	8 (36%)	5 (24%)	8 (38%)	8 (38%)
2006 (n=22)	1 (5%)	10 (45%)	11 (50%)	2 (9%)	13 (59%)	7 (32%)
2005 (n=19)	2 (10%)	11 (58%)	6 (32%)	1 (5%)	15 (79%)	3 (16%)
2004 (n=30)	6 (20%)	14 (47%)	10 (33%)	3 (10%)	20 (69%)	6 (21%)
2003 (n=25)	2 (8%)	13 (52%)	10 (40%)	0 (0%)	14 (58%)	10 (42%)
2002 (n=28)	4 (14%)	11 (39%)	13 (47%)	6 (21%)	16 (57%)	6 (21%)
2001 (n=25)	3 (11%)	11 (41%)	13 (48%)	3 (11%)	16 (59%)	8 (30%)
2000 (n=33)	3 (9%)	13 (37%)	19 (54%)	3 (8%)	22 (61%)	11 (31%)
1999 (n=17)	1 (6%)	7 (41%)	9 (53%)	3 (18%)	11 (65%)	3 (18%)





APPENDIX D

Shrub Monitoring Results for the Sheridan Region

Shrub monitoring was again conducted during fall 2015 in the Sheridan Region to provide baseline habitat trend data to increase the awareness of habitat condition/trend among wildlife biologists and game wardens as they manage wildlife populations. These surveys were designed to:

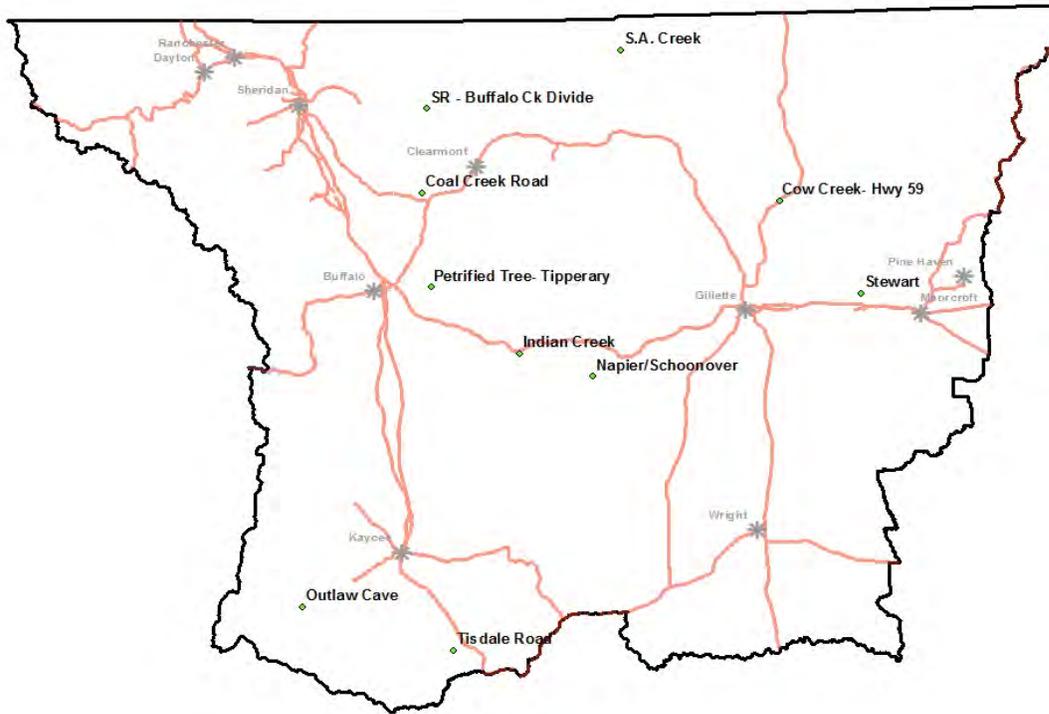
- Monitor “key” or “indicator” areas that appear to reflect what is occurring within the larger area and where the vegetation community may show reactions or changes to population management.
- Use vegetation and habitat trend data to assist with justification of season recommendations and population objectives.
- Increase awareness of wildlife biologists, game wardens and the public of annual vegetation condition and long-term trends.
- Keep the process relatively simple for annual monitoring and assessment and include a minimum of one transect for each warden district and two transects for each wildlife biologist district. Each transect should be visited twice each year with data collected in the fall and in the spring. Historical transect locations and coordination with other land management agencies should be considered.
- Vegetation monitoring priority is in sagebrush and sagebrush steppe communities, however, other shrub communities and other vegetation type communities will be monitored as identified by Regional personnel.

Basic data collection techniques are referenced in Appendix XII of the Handbook of Biological Techniques, WGFD 2007, pages 7-17. Minimum data collection requirements for the monitoring stations established regardless of vegetation community type or specific plant species include:

1. Measure annual production on a minimum of 5 leaders from at least 50 plants at paced intervals in late summer/fall after plant growth and prior to leaf drop or loss.
2. Repeat photos (3 photos) collected in the fall.
3. Nearby weather station summaries or on-site data if collected.
4. Permanent 4’x4’ hog wire cage to show large ungulate non-use as compared to use areas.
5. Shrub/tree age class categories for a minimum of 50 plants collected in the fall. Categories for describing shrub classes range from 1-4, with 1=young, 2=mature, 3= decadent, and 4= dead.
6. Shrub/tree hedging class categories for a minimum of 50 plants collected in the fall. Categories for describing shrub hedging range from 1-3, with 1=light, 2=moderate, and 3=severe.

Nine sagebrush transects and one curlleaf mountain mahogany transect were established at locations presented in Figure 1. Precipitation data is taken from four NOAA/NWS cooperative observer precipitation sites located at Leiter, Buffalo, Kaycee, and Gillette.

Figure 1. Locations of Sheridan Region Shrub Transects.



Leader Production

Sheridan Area

In the Sheridan area, leader production estimates were taken on two Wyoming big sagebrush transects, SA Creek and Coal Creek. Average leader production measured during the fall 2015 at SA Creek was 6.2 cm and 5.5 cm at Coal Creek. There were no leader growth measurements taken on the SR Buffalo Creek transect in 2015. Leader production was slightly higher than the ten year average at the SA Creek site, noticeably higher than average on Coal Creek. Precipitation in the Sheridan area for 2015 was 13.33 inches, which was slightly lower than the ten year average. See graphs in Fig. 2.

Buffalo Area

In the Buffalo area, leader production estimates were taken on two Wyoming big sagebrush transects, Indian Creek and Napier/Schoonover. Average leader production measured during fall 2015 for Indian Creek and Napier/Schoonover was 5 and 3.8 cm, respectively. There were no

leader production estimates taken on the Petrified Tree-Tipperary transect in 2015. Indian Creek and Napier/Schoonover leader production were both noticeably higher than the ten year average for those respected sites. Precipitation in the Buffalo area for 2015 was 14.37 inches, which was higher than the ten year average. See graphs in Fig. 2.

Kaycee Area

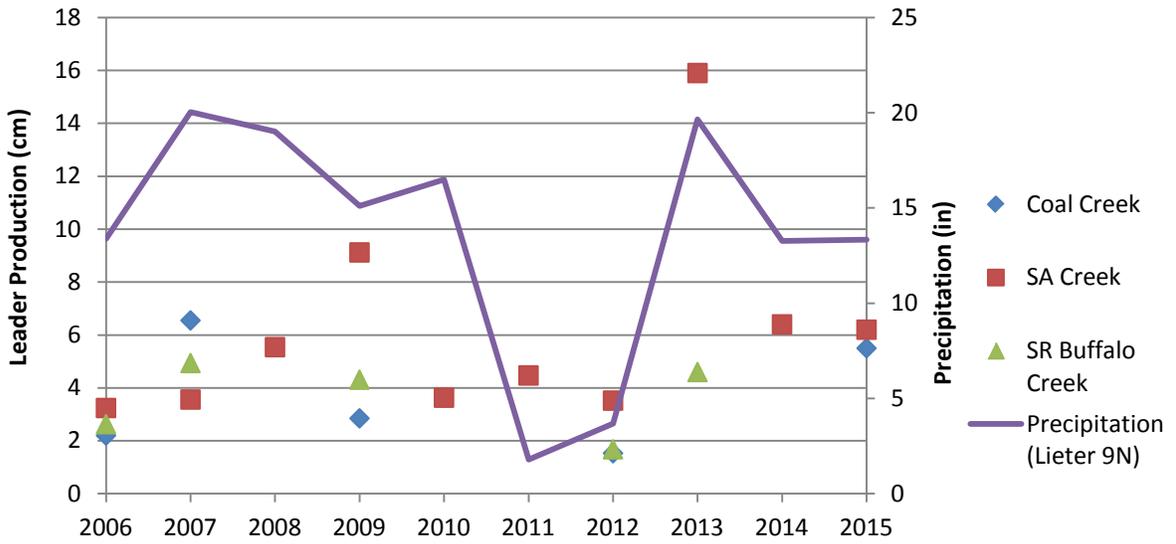
In the Kaycee area, leader production estimates were taken on one Wyoming big sagebrush transect, Tisdale Road, and a curl-leaf mountain mahogany transect, Outlaw Cave. Average leader production measured during fall 2015 was 4.8 and 3.5 cm, respectively. Leader production at both sites was considerably higher than the ten year average for those respective sites. Precipitation in the Kaycee area for 2015 was 11.99 inches, which was noticeably higher than the ten year average. See graphs in Fig. 2.

Gillette Area

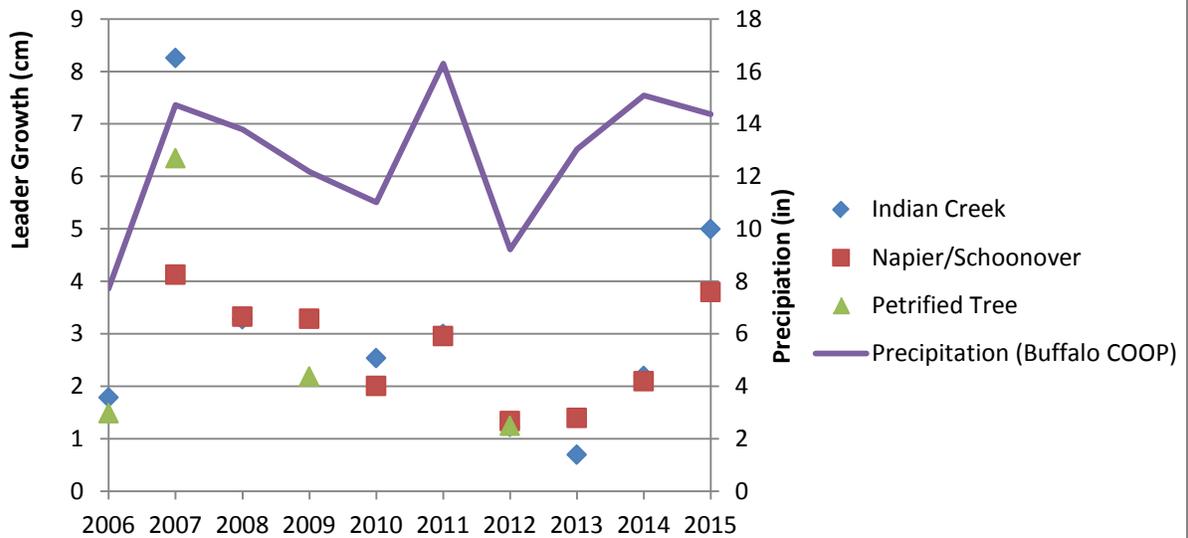
In the Gillette area, leader production estimates were taken on two Wyoming big sagebrush transects, Cow Creek and Stewart Road. Average leader production measured during fall 2015 was 5.3 and 6.3 cm, respectively. Cow Creek and Stewart leader production was considerably higher than the ten year average for those respective sites. Precipitation in the Gillette area was 18.77 inches, which was slightly higher than the ten year average. See graphs in Fig. 2.

Figure 2. Sheridan Region Browse Leader Production.

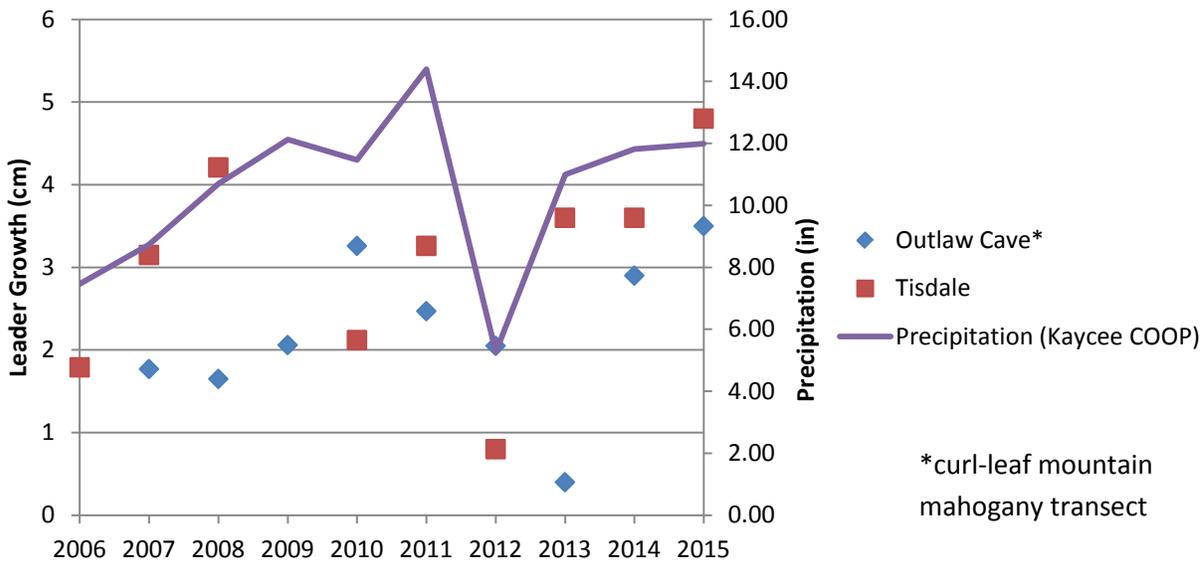
Sheridan Area Sagebrush Leader Production



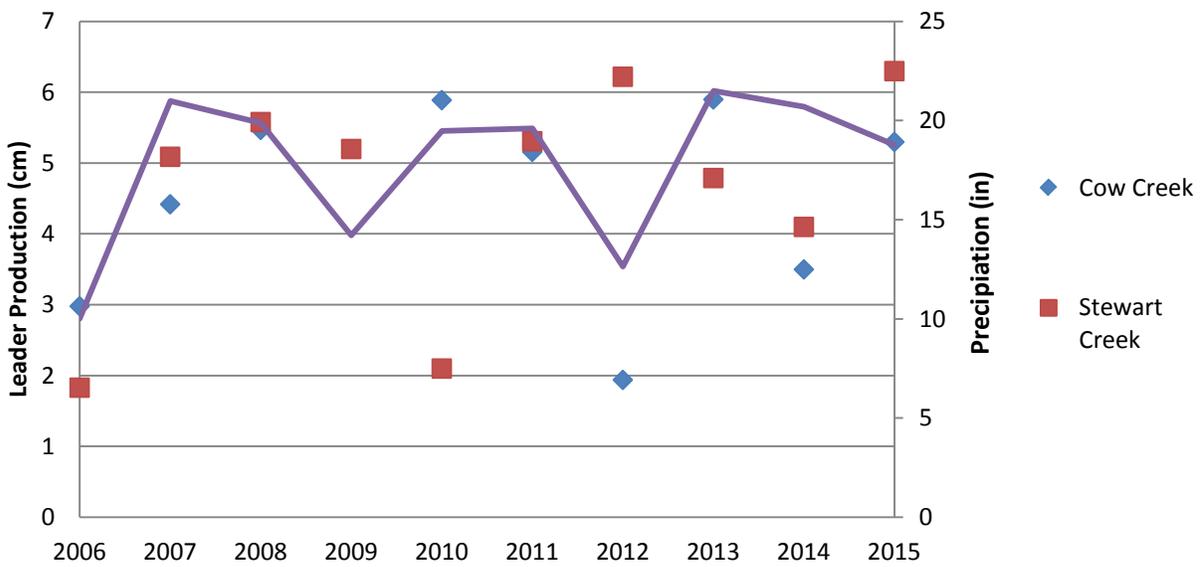
Buffalo Area Sagebrush Leader Production



Kaycee Area Browse Leader Production



Gillette Area Sagebrush Leader Production



Age Class

Sheridan Area

In the Sheridan area, age class estimates were taken on two Wyoming big sagebrush transect, SA Creek and Coal Creek. The age class estimate for the SA Creek transect was 2.39 and Coal Creek was 1.98. There were no age class estimates taken on SR Buffalo Creek transect in 2015. Age class estimates were slightly higher than the ten year average for SA Creek and considerably lower for the Coal Creek transect. See table in Fig. 3.

Buffalo Area

In the Buffalo area, age class estimates were taken on two Wyoming big sagebrush transects, Indian Creek and Napier/Schoonover. Age class estimates were 2.16 and 2.38, respectively. There were no age class estimates taken on the Petrified Tree-Tipperary transect in 2015. Indian Creek and Napier/Schoonover age class estimates were higher than the ten year average for those sites. See table in Fig. 3.

Kaycee Area

In the Kaycee area, age class estimates were taken on one Wyoming big sagebrush transect, Tisdale Road, and a curl-leaf mountain mahogany transect, Outlaw Cave. Age class estimates were 2.08 and 2.12, respectively. Tisdale Road and Outlaw Cave age class estimates were slightly lower than the ten year average for those respective sites. See table in Fig. 3.

Gillette Area

In the Gillette area, age class estimates were taken on two Wyoming big sagebrush transects, Cow Creek and Stewart. The age class estimate for Cow Creek and Stewart was 2.18 and 2.54, respectively. Cow Creek age class estimates were slightly lower than the ten year average for that site. Stewart age class estimates were higher than the ten year average for that site. See table in Fig. 3.

Figure 3. Sheridan Region Shrub Age Class

Year	2005	2006	2007	2008	2009	2010	2011	2012	2014	2015	10 Year Average
Sheridan Area											
Coal Creek	2.48	2.41	-	2.54	-	-	2.52	-	-	1.98	2.39
SA Creek	2.42	2.44	2.4	2.28	2.26	2.25	2.06	2.14	2.12	2.39	2.28
SR Buffalo Creek	2.42	2.27	-	2.37	-	-	2.34	2.29	-	-	2.27
Buffalo Area											
Indian Creek	2.26	1.92	2.16	-	2.00	2.16	2.02	2.12	2.16	2.16	2.11
Napier/Schoonover	-	2.31	2.18	2.07	2.04	2.11	2.00	2.08	1.98	2.38	2.13
Petrified Tree	-	2.56	-	2.15	-	-	2.34	-	-	-	2.35
Kaycee Area											
Outlaw Cave*	2.25	2.34	2.28	2.12	2.12	2.00	2.2	2.2	1.96	2.12	2.16
Tisdale	2.62	2.26	2.22	-	2.12	2.22	2.32	2.18	2.06	2.08	2.23
Gillette Area											
Cow Creek	2.04	2.1	2.6	-	2.42	2.33	2.02	-	1.96	2.18	2.21
Stewart Creek	2.18	2.04	2.12	1.94	2.1	2.14	2.14	2.14	2.20	2.54	2.15

- No data

* Curl-leaf mountain mahogany transect

Hedging Class

Sheridan Area

In the Sheridan area, a hedging score was taken on two Wyoming big sagebrush transects, SA Creek and Coal Creek. The hedging scores were 1.18 at SA Creek and 1.14 at Coal Creek. There were no hedging scores taken on the SR Buffalo Creek transect in 2015. The hedging scores for SA Creek and Coal Creek were higher than the ten year average for those respective sites. See table in Fig. 4.

Buffalo Area

In the Buffalo area, hedging scores were taken on two Wyoming big sagebrush transects, Indian Creek and Napier/Schoonover. Hedging scores were 1.38 and 1.36, respectively. No hedging scores were taken on the Petrified Tree-Tipperary transect in 2015. Indian Creek had a slightly lower hedging score than the ten year average for that respective site, while the hedging score for the Napier/Schoonover transect was noticeably higher than the ten year average for that site. See table in Fig. 4.

Kaycee Area

In the Kaycee area, hedging scores were taken on one Wyoming big sagebrush transect, Tisdale Road, and a curl-leaf mountain mahogany transect, Outlaw Cave. Hedging scores were 1.32 and 1.39, respectively. Hedging on Tisdale Road and Outlaw Cave was noticeably lower than the ten year average for those sites. See table in Fig. 4.

Gillette Area

In the Gillette area, hedging scores were taken on two Wyoming big sagebrush transects, Cow Creek and Stewart. Hedging scores were 1.2 and 1.32, respectively. Cow Creek and Stewart hedging scores were both lower than the ten year average for those respective sites. See table in Fig. 4.

Figure 4. Sheridan Region Hedging Scores

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10 Year Average
Sheridan Area											
Coal Creek	1.92	1.6	-	1.24	-	-	1.2	-	-	1.14	1.42
SA Creek	-	1.18	2.04	1.23	1.02	1.32	1.52	2.14	2.06	1.18	1.52
SR Buffalo Creek	1.74	1.56	-	1.52	-	-	1.62	1.9	-	-	1.65
Buffalo Area											
Indian Creek	1.76	1.12	1.85	-	1.22	1.71	1.22	1.8	1.4	1.38	1.5
Napier/Schoonover	-	2.34	1.82	1.95	2.00	1.08	2.00	1.26	1.98	1.36	1.75
Petrified Tree	-	1.52	-	2.09	-	-	1.3	-	-	-	1.64
Kaycee Area											
Outlaw Cave*	2.04	1.96	2.26	1.94	1.99	1.62	1.68	1.18	1.98	1.39	1.8
Tisdale	2.14	2.17	1.9	-	1.83	1.84	1.9	1.26	1.34	1.32	1.74
Gillette Area											
Cow Creek	1.24	1.82	1.76	-	1.36	1.47	1.44	1.04	1.22	1.2	1.39
Stewart Creek	-	2.27	1.96	2.41	1.04	1.63	1.24	1.08	1.34	1.32	1.59

- No data

* Curl-leaf mountain mahogany transect

Conclusions

Leader Production

Leader production in the Sheridan Region was higher than the ten year average for all sites. This result was expected, due to the higher than average precipitation that occurred throughout the region during 2015.

Age Class

Age class trend estimates in the Sheridan region appear to be fairly stable, to slightly increasing, which reflects that the majority of our browse species are mature plants that continue to age, with little to no young sagebrush recruitment observed in our transects.

Hedging Scores

Hedging scores taken in 2015 in the Sheridan Region appear to reflect a decrease in use by ungulates compared to the ten year average. This appears to reflect the overall trend of decreased hedging seen in most shrub transects in the Sheridan Region. Mule deer and pronghorn populations have been low in the Sheridan Region for a couple of years, and this is most likely the explanation for the decrease in shrub hedging. With past consecutive years in row of good precipitation and higher fawn production, we may start to observe more hedging in the future, but as of present hedging appears to be minimal across the region.

APPENDIX E

CAMPBELL COUNTY HUNTER ASSISTANCE SERVICE 2015 SUMMARY OF ACTIVITIES

Operations

2015 was the 32nd year for the Campbell County Hunter Assistance Service (here after “the Service”). The program was started in 1983 as an effort to better coordinate private land availability with prospective hunters. The Service has since evolved to include both private land hunting coordination as well as public land hunting information.

In 2015, the Hunter Assistance Service was operated from the Campbell County Visitor’s Center (here after “The Visitor’s Center”), located at Highway 59 and Interstate 90. Prior to 2000, the Service was conducted at both the Visitor’s Center and the Campbell County Chamber of Commerce in downtown Gillette. With a consolidated operation at one location, the Service is better able to maximize limited resources as well as provide better service to the hunting community, as all the information is located at one readily accessible and centrally located site.

During the past 15 years, the Service has also provided information for the Department’s Walk-in Access areas. In 2000, a temporary position was funded by the Department to work at the Visitor’s Center from late September through early November. A Game and Fish Department Access Yes grant was used from 2003-2009 to fund the position. The focus of this position was to promote Walk-in Access areas within Campbell County, distribute Walk-in Access guides, to contact landowners in the Gillette District to find those ranches seeking additional hunters, and to keep an active list of those ranches available at the Visitor’s Center for hunters seeking hunting opportunities. In previous years, the temporary employee had spent considerable time contacting landowners to inquire about big game hunting opportunities on private land. Those with open dates to take additional hunters were kept on a calling list to be distributed to hunters seeking such opportunity. The hired employee also worked at the Visitor’s Center during peak visitation periods, answering hunter questions and recommending appropriate departmental publications.

For the 2015 hunting season, coverage was provided by the Gillette Wildlife Biologist and Game Wardens, the Sheridan Information and Education Specialist, and by employees of the Visitor’s Center. It is hoped that this position will be refilled in future seasons when funding is available, as it is a valuable addition to the Hunter Assistance Service and provides the hunting public with additional information.

The Service has greatly expanded during the past few years to become more than just an opportunity to provide hunter assistance during the peak fall season. The Campbell County Visitor’s Center now fields hunter inquiries year-round. The permanent staff at the Visitor’s Center has become well-versed in hunting and fishing opportunities within the region and are able to provide this information to nonresident tourists and residents throughout the year. If unable to directly assist the public with hunting and fishing information, The Visitor’s Center forwards requests to either local Department personnel or the Regional Office in Sheridan. The Department has benefited greatly from this added service. The number of Department customers the Visitor’s Center has assisted points to the need for a permanent Game and Fish public office in Gillette, should funding become available.

Various Department publications were made available for free distribution during service operations, including hunting regulations, fishing guides, and various specialty publications of the Department.

The Bureau of Land Management (BLM) land status maps (1:100,000) have been available at the Visitor's Center for the past nine years for resale to the hunting public. Sportsmen were assisted with understanding these maps by using a map display of Northeast Wyoming, which included marked public access roads. The display maps were updated to show changes in land ownership due to sales of state lands and exchanges of USFS and BLM lands. Display maps were located outside the building. Specific information on public lands hunting, map reading, and hunter ethics was also posted to the outside wall. The availability of critical hunting information along the outside wall of the Visitor's Center provided full-time support to the hunting community, even when the Visitor's Center was closed. The "big map" has become a popular stop for non-resident hunters. Hunters can update their own field maps and ask questions of WGFD and Visitor's Center staff before going into the field, and have mentioned that they appreciate and enjoy the service. Hunters also mention that they are very pleased with the "one-stop shopping" opportunity they have to purchase maps, reference the large map, and pick up regulations, and have their questions addressed at the Visitor's Center.

Results and Discussion

Personnel focused on fielding questions from the multitude of hunters that stopped in at the Visitor's Center and educating sportspersons about available public land and Walk-in hunting opportunities.

Visitor's Center personnel were very good in documenting hunter participation with the Hunter Assistance Service. During peak visitation periods when there were typically 10 to 20 hunters at the Visitor's Center at one time, it could be challenging to document detailed visitation information. Hunter information posted outside of the building meant that many hunters were never directly contacted by the Visitor's Center staff inside. Self-service information was very good for the customers, but the approach does not lend itself well to documenting actual total visitation and assistance provided. Additionally, some hunters were seen using the outside map and services during times when the Visitor's Center was closed. Overall, the Visitor's Center personnel did a commendable job in sampling the visiting hunter population; however the total numbers reported are recognized as being less than the actual total number of hunters using the Service in past years, due to the staffing limitations.

The recorded visitation in 2015 totaled approximately 476 hunters (Table 1). This total is likely lower than the actual total of visiting hunters, as some individuals that visited during September were not tallied by Visitor's Center staff and for reasons mentioned in the previous paragraph. It is conservatively estimated that at least 1,000 hunters actually used the Hunter Assistance Service in some fashion during the 2015 season.

Table 1. Gillette Hunter Assistance Service summary from 1984 to 2015.

Year	Landowners	Total Hunters
1984	45	741
1985	36	554

1986	24	923
1987	24	1,131
1988	22	737
1989	28	501
1990	28	236
1991	43	442
1992	46	695
1993	31	727
1994	24	681
1995	33	701
1996	28	651
1997	19	626
1998	27	573
1999	19	620
2000	29	1,776
2001	22	1,316
2002	17	1,346
2003	29	1,237
2004	35	1,711
2005	18	845
2006	12	481
2007	17	1,034
2008	12	922
2009	10	600
2010	0	1,007
2011	0	903
2012	0	853
2013	0	593
2014	0	540
2015	0	476

Peak visitation tends to occur just prior to the start of the rifle season and remains high following the October 1st season opener for about 3 to 7 days. Many nonresident hunters feel that they must hunt the opening days of a season despite efforts to inform them that such a strategy is not necessary for a successful Wyoming hunt. The Gillette Wildlife Biologist and Gillette Wardens were present at the Visitor’s Center for two days prior to opening day and fielded the majority of hunting questions. The Sheridan Information and Education Specialist was also present on one day to assist. During the later parts of the season, the Gillette Wildlife Biologist would stop in as time permitted to help field questions. If staff members were unable to answer a question for a visiting hunter, they would either contact the Wildlife Biologist via cell phone or would contact the Sheridan Regional Office for assistance. The employees of the Visitor’s Center did a commendable job in answering hunting questions this past year. Additionally, they reported that throughout the year they received 182 phone calls about hunting.

Sales of BLM Surface Management Maps were extremely popular. Many non-residents read about the Service via the Campbell County Hunting Guide – a mini magazine distributed by The Gillette News-Record in collaboration with Wyoming Game and Fish. The magazine is mailed

annually to non-residents who draw an antelope license in Campbell County. It offers several news articles regarding the area's hunting program and encourages use of the Hunter Assistance Service.

Recommendations for the 2016 Hunter Assistance Service

Overall, the 2015 Hunter Assistance Service accomplished the goals set in 2014. Operations ran efficiently and effectively as many sportsmen were greatly benefited by the Service. However, without a temporary employee to assist with contacting landowners, hunters were at a disadvantage this year when trying to find last-minute private land hunting opportunities. The following recommendations are offered to further refine and improve operations:

1. Reinstate the Access Yes grant to allow funding of a temporary position to assist with the Service. Time should be spent by this employee prior to the season contacting landowners to generate the initial hunting lists and re-doing maps as needed. Following the opening of local hunting seasons, time should also be dedicated to data summaries and report preparation. Clearly this project has proven to be of great benefit to the Department since there is no Game and Fish public office in Campbell County. The Visitor's Center may request some form of compensation from the Department in future years now that it is under new management, considering the time spent by permanent staff, use of the facilities, and the savings provided to Department personnel time.
2. Department staffing by local permanent personnel is still needed early in the season to help train temporary and Visitor's Center personnel. The presence of personnel helps greatly with answering hunter questions, as the beginning of the hunting seasons is the most congested time for the Visitor's Center. The addition of a Sheridan WGF staff member the weekend prior to opening day and over the first week of October is a great benefit and provides faster service to hunters with questions that Visitor's Center staff may not be capable of answering.
3. Continue the sale of BLM and USFS maps at the Visitor's Center. The availability of maps is well-received by hunters, and they consistently comment that they appreciate it each year. Providing maps for sale at the Visitor's Center should be a top priority, so that hunters do not need to leave and return again with their questions.
4. It is recommended that the Point-of-Sale (IPOS) license technology be included as a resource for hunters at the Visitor's Center. Sale of leftover licenses was very popular when it was offered in 2005 at the Visitor's Center, and hunters who used this opportunity in 2005 mentioned that they appreciated the service and would like to see it offered again. Other hunters who were visiting the Service for the first time in 2015 inquired about whether they could purchase leftover licenses at the Visitor's Center, along with their maps and other WGF hunting documents. Offering improved "one stop shopping" rather than having to redirect hunters to a local license agent would greatly improve the efficiency of Hunter Assistance Service as a whole and would likely be very popular with visiting hunters.
5. The Department should continue to assist the Gillette News-Record with publishing the hunter information newsletter in 2016. These efforts greatly contribute to the effectiveness of the program and give hunters a head start by answering many common questions within the publication.

6. Update the display maps with new BLM maps as the maps become available. New BLM maps for the Campbell County area are in the process of being published and new sets should be available. The new maps will include land ownership changes that are currently marked by hand on display maps. A new display map should be made at least every other year, as older maps become weathered and faded, and land exchanges need to be updated.
7. Disseminate information about the Hunter Assistance Center to landowners as much as possible prior to the 2016 hunting season. It has been noted that many local ranchers were unaware of the service, and it is not possible for the temporary staff of the Visitor's Center to contact all of the 500+ landowners in the region. Using direct letters or newsletters distributed to ranchers by the USDA and NRCS will facilitate communication and information between ranchers and the Department. The result will hopefully be an increase in participation by landowners in the Hunter Assistance Service program. Currently the visitor's center does not provide a list of landowners looking for hunters, as it was becoming difficult to accurately maintain.
8. Expand the availability of similar services to the towns of Sundance and Buffalo. Work with PLPW staff to set up large maps and public displays at accessible points in both Sundance and Buffalo. Staffing may not be immediately possible at these locations, but many questions can be answered with public displays that hunters can visit on their own. Consider working with USFS - Thunder Basin National Grasslands personnel to revamp the kiosk at Weston. The kiosk has been removed, although this would still be an excellent spot for information.

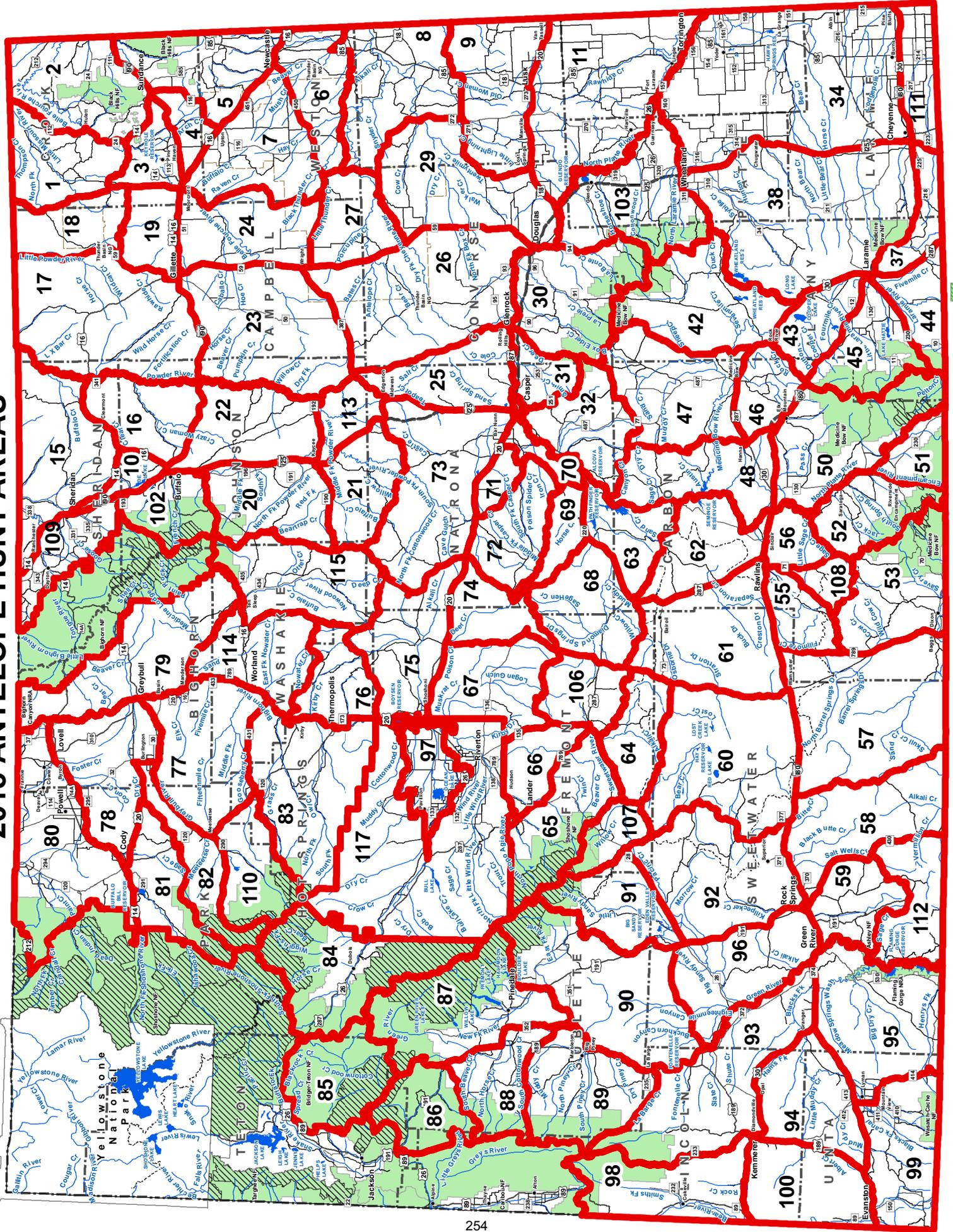
APPENDIX F

HERD UNIT AND HUNT AREA MAPS

Pronghorn Hunt Areas
Deer Hunt Areas and Nonresident Regions
Elk Hunt Areas
Moose Hunt Areas

2015
Job Completion Report
Sheridan Region
Wyoming Game & Fish Department

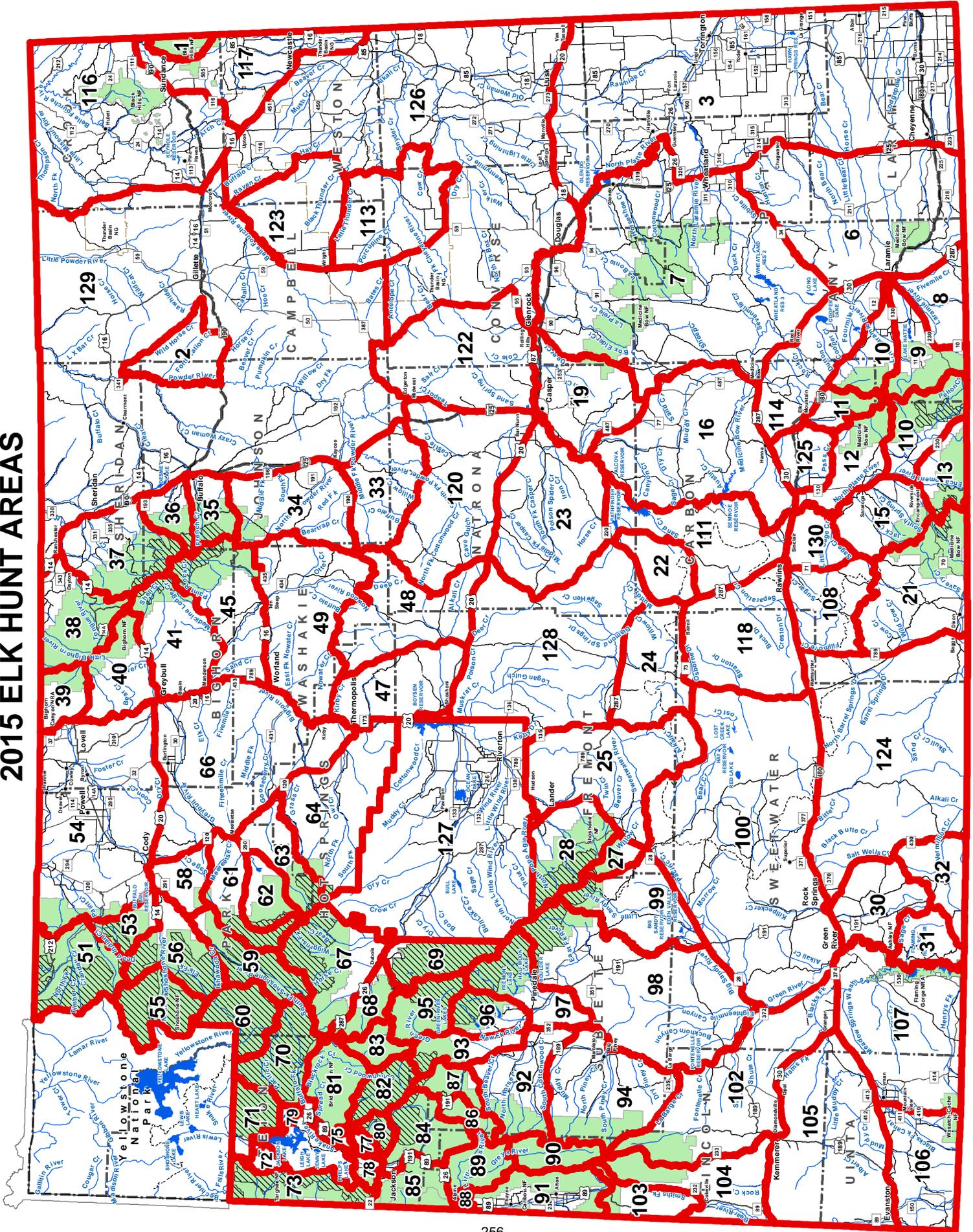
2015 ANTELOPE HUNT AREAS



Note: Wilderness area, nonresidents must have guides

THIS MAP IS FOR GENERAL REFERENCE ONLY. Please use the written boundary descriptions in this regulation for detailed boundary information.

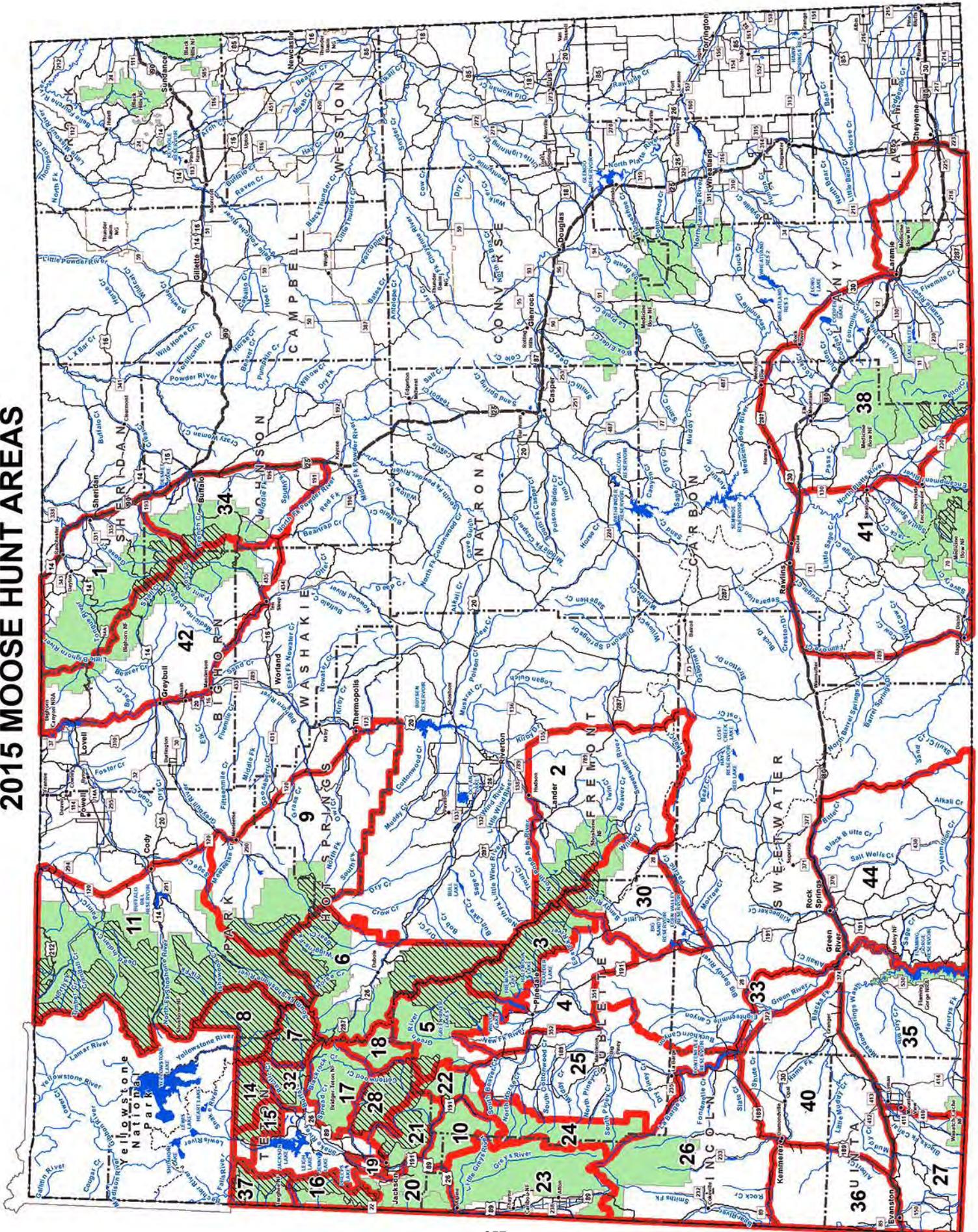
2015 ELK HUNT AREAS



Note:  Wilderness area, nonresidents must have guides

THIS MAP IS FOR GENERAL REFERENCE ONLY. Please use the written boundary descriptions in this regulation for detailed boundary information.

2015 MOOSE HUNT AREAS



THIS MAP IS FOR GENERAL REFERENCE ONLY. Please use the written boundary descriptions in this regulation for detailed boundary information.