IDAHO DEPARTMENT OF FISH AND GAME

Virgil Moore, Director

Surveys and Inventories

Statewide Report
Fall 2016 Season

ELK

July 1, 2016 to June 30, 2017

Prepared by:

Wayne Wakkinen ..... Panhandle Region
Clay Hickey ..... Clearwater Region
Rick Ward ..... Southwest (Nampa) Region
Regan Berkley ..... Southwest (McCall) Region
Daryl Meints ..... Magic Valley Region
Zach Lockyer ..... Southeast Region
Curtis Hendricks ..... Upper Snake Region
Greg Painter ..... Salmon Region
Mike Elmer ..... Data Coordinator
David Smith ..... Grants/Contracts Specialist

Compiled and edited by: Daryl R. Meints, Deer and Elk Coordinator

2017
Boise, Idaho

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STATEWIDE REPORT

SURVEYS AND INVENTORY

JOB TITLE: Elk Surveys and Inventories

STUDY NAME: Elk Population Status, Trends, Use, and Associated Habitat Studies

PERIOD COVERED: July 1, 2016 to June 30, 2017

STATEWIDE

Summary

Rocky Mountain elk are one of Idaho's premier big game animals. Elk are distributed throughout the state from the sagebrush-dominated deserts of the south to the dense cedar-hemlock forests of the north.

Unlike deer, elk populations may be highly influenced by harvest. Although not the case everywhere, most annual mortality of elk is associated with human harvest. Total elk harvest increased steadily through the 1980s and peaked in the mid-1990s. The goal of harvest management is to establish elk population objectives and establish harvest opportunities that are consistent with achieving or maintaining these population objectives. We established objectives for wintering populations of cows, total bulls, and adult (3.5+ pre-season) bulls in each elk zone across the state. The state has been divided into 29 elk management zones (groupings of game management units), dependent upon habitat similarity, management similarity, and/or discrete populations (Figure 1). The Idaho Fish and Game Commission (Commission) adopted a statewide minimum objective of 10 adult bulls:100 cows pre-season. Total population objectives were chosen based on habitat potential, harvest opportunity, depredation concerns, inter-specific issues, population performance issues, and winter feeding issues.

During the winter of 2016-2017 Idaho experienced record snow fall and cold temperatures across much of the state. This caused significant private land elk depredations on stored crops and livestock feed lines. Elk were fed in many areas to reduce elk and livestock interactions.

Population surveys were conducted in the Lolo, Middle Fork, Pioneer, Sawtooth and Bear River elk zones. Across the state, 16 of 22 zones with numerical population survey goals are meeting cow population objectives and 15 of 22 zones with numerical population survey goals are meeting bull population objectives. In 6 elk zones across the state, cow elk populations are above objective and in some cases causing significant private land depredations. The Department has substantially increased antlerless hunting opportunity in these areas. Five elk zones in north central Idaho are not meeting cow or bull population objectives. It is likely that these elk populations are influenced by a complex combination of habitat condition/characteristics and predator systems. It is also likely that temporal changes in weather patterns and precipitation affect the relative role of habitat and predators.

Across the state in 11 different areas, 900 radio collared elk were monitored throughout the winter. Adult cow survival was 95% and calf survival was 52%. Leading cause of mortality for adult cow elk was mountain lions while malnutrition and lions were the leading causes of death for calves.

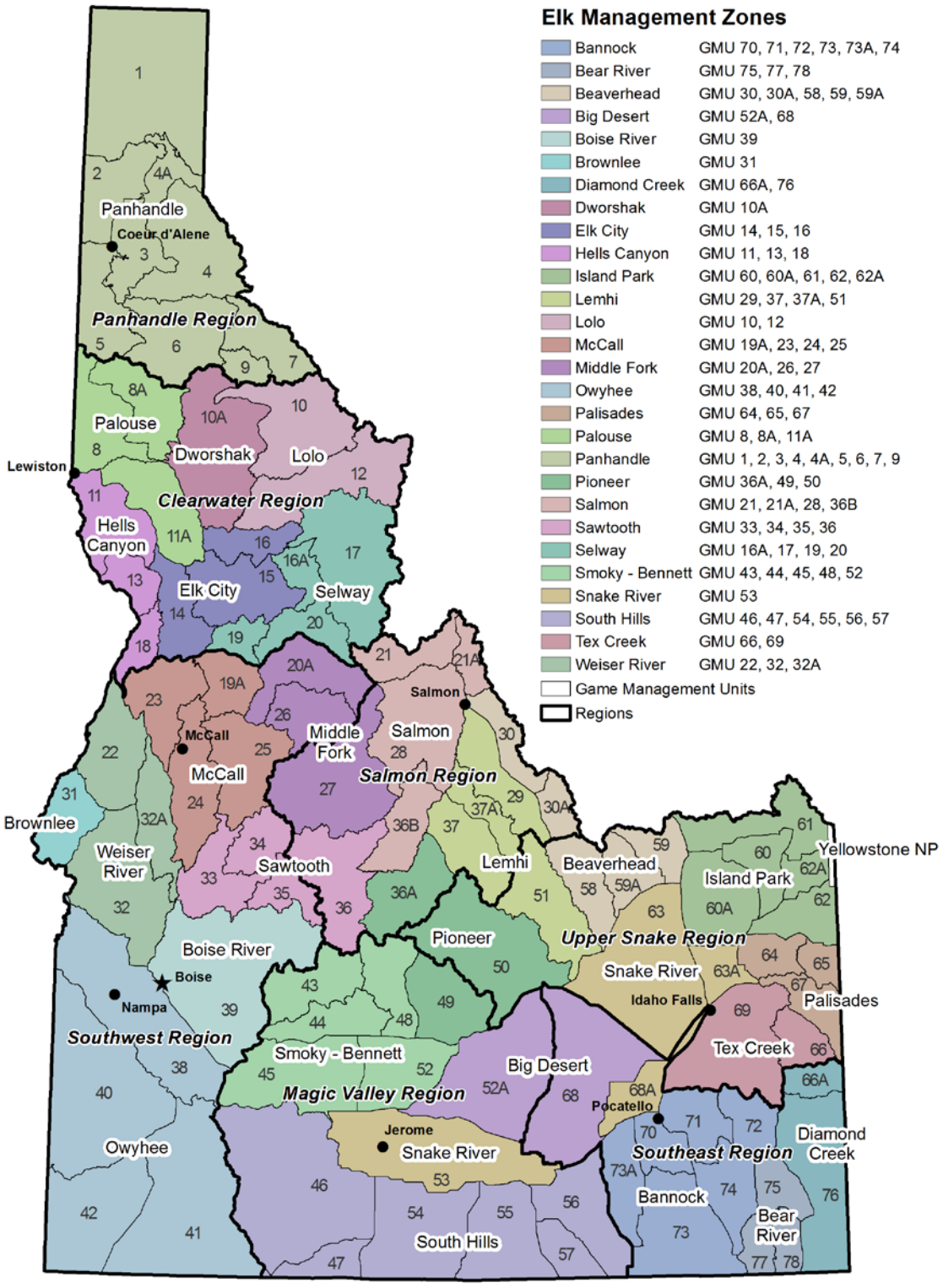


Figure 1. Statewide Elk Management Zones.

Elk Status & Objectives Statewide

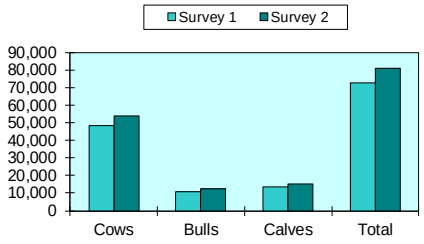
Square Miles =	**83,261**	**3-Year Averages**	
% Public Land =	**67%**	**Hunters per square mile =**	**1.33**
		Harvest per square mile =	**0.50**
		Success Rate =	**20%**
		%6+ Points =	**42%**

Winter Status & Objectives

	Current Status				Objective		
Statewide	**Cows**	**Bulls**	**Calves**	**Adult Bulls**	**Cows**	**Bulls**	**Adult Bulls**
Total	53,671	12,421	15,095	7,585	55,975-80,600	12,817-19,662	7,418-11,719
Per 100 Cows		**23**	**28**	**14**		**18-24**	**10 - 14**

Note: Results are only from those Elk Zones where surveys are conducted.

Comparable Survey Totals



Population Surveys

Statewide	**Survey 1**				**Survey 2**			
Comparable Surveys Total	**Cows**	**Bulls**	**Calves**	**Total**	**Cows**	**Bulls**	**Calves**	**Total**
	48,480	10,948	13,352	72,780	53,671	12,421	15,095	80,976
Per 100 Cows		**23**	**28**			**23**	**28**	

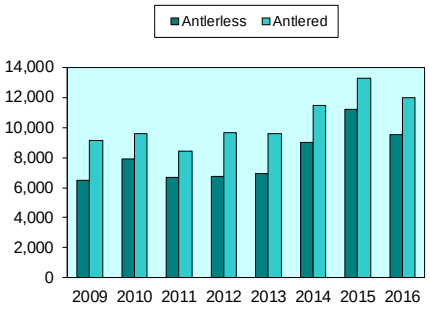
Note: Results are only from those Elk Zones where surveys are conducted.

Zone Harvest Statistics

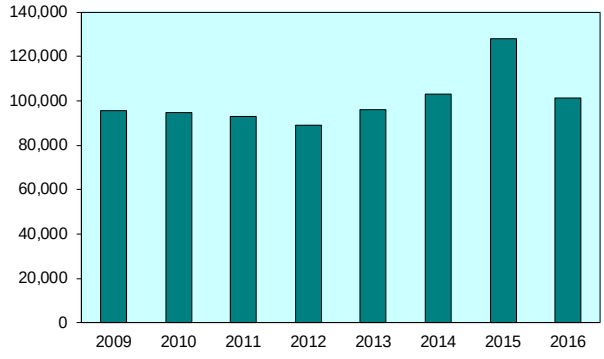
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Antlerless Harvest	6,484	7,885	6,697	6,744	6,911	9,039	11,208	9,519
'A' Tag	2,404	3,154	2,332	2,455	2,244	3,106	3,926	3,141
'B' Tag	685	845	779	108	134	456	167	218
CH Tag	3,395	3,886	3,586	4,181	4,533	5,477	7,115	6,160
Antlered Harvest	9,139	9,575	8,437	9,667	9,572	11,501	13,293	11,990
'A' Tag	2,669	2,665	2,396	2,836	2,736	3,605	4,145	3,819
'B' Tag	4,750	5,131	4,343	4,853	4,741	5,719	6,780	5,989
CH Tag	1,720	1,779	1,698	1,978	2,095	2,177	2,368	2,182
Hunter Numbers	95,497	94,585	92,946	88,903	96,174	103,124	128,160	101,491
'A' Tag	34,550	34,169	33,590	34,118	35,514	37,405	49,977	36,455
'B' Tag	46,656	46,174	44,977	38,478	40,873	45,211	54,175	42,916
CH Tag	14,291	14,242	14,379	16,307	19,787	20,508	24,008	22,120
% 6+ Points	41	41	38	41	43	42	45	40

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

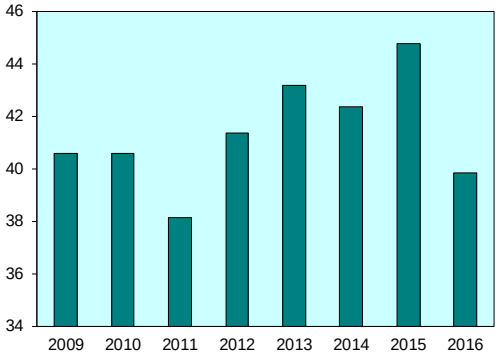


Figure 2. Statewide Elk Status and Objectives.

Panhandle Zone (GMUs 1, 2, 3, 4, 4A, 5, 6, 7, 9)

Management Objectives

Objectives for the Panhandle Zone (Figure 3) are based upon population trends generated from calf:cow ratios measured via aerial surveys of the Panhandle Zone Bellwether Area (portions of GMUs 4, 6, and 7) and harvest statistics in GMUs outside the Bellwether Area. Calf:cow composition surveys to assess elk recruitment were not conducted during 2017 due to poor weather conditions and pilot unavailability. The 2016 results indicated that calf numbers were the highest they've been in seven years in portions of the St Joe River drainage (GMUs 6 and 7) and are trending upwards. Recruitment levels in GMU 4 were higher than they've been in 4 years and are also trending upwards.

Historical Perspective

The Panhandle Zone is a large and diverse zone consisting of GMUs 1, 2, 3, 4, 4A, 5, 6, 7, and 9. Traditionally, the majority of elk habitat, elk numbers, and elk hunting activity occurred in GMUs 4, 4A, 6, 7, and 9. These GMUs are primarily composed of forested public lands and private timber companies and consistently recorded some of the highest hunter densities and elk harvest densities in the state. Expanding elk herds have recently increased hunter activities in GMUs 1, 2, 3, and 5, particularly in the agricultural areas of GMUs 3 and 5.

The Panhandle Region has essentially been managed as a "zone" since 1977, when the rest of the state eliminated general season cow harvest. The Panhandle Zone maintained general either-sex hunting opportunities with fairly consistent hunting seasons across most of the GMUs (Appendix A) until 2012 when cow harvest was restricted to controlled hunts. From 1982-2003, a unique feature of the Panhandle Zone was a mandatory check of all elk harvested in the zone. Throughout this period, over 42,000 elk were reported via the Panhandle Mandatory Check program database. This database provided valuable information relevant to the elk population. Beginning with the 2004 season, harvest information for the Panhandle Zone was estimated by the statewide Mandatory Harvest Report system.

The 2016 elk hunting seasons in the Panhandle Zone remained restrictive by historical standards.

Habitat Issues

Elk numbers were very low in the Panhandle Zone around the early 1900s. Major landscape changes occurred as a result of stand-replacing fires beginning in 1910. Vast areas of timber were transformed into brush fields and early succession timber stands that provided ideal conditions for elk. Additionally, elk were imported from Yellowstone National Park by sportsmen in the 1940s and released in GMUs 1, 4, and 6. Elk populations increased, with periodic setbacks due to extreme winter conditions. While it is generally accepted that habitat conditions in traditional elk areas have declined in quality from better conditions in the 1950s and 1960s, pioneering of elk into new areas has allowed substantial growth. Elk habitat potential will likely decrease in the long term due to an absence of large-scale stand-replacing fire.

Much of the Panhandle Zone's forested habitat experienced extensive timber harvest during the 1980s and 1990s. While this high level of timber harvest created additional elk forage, the more important impact was the construction of logging roads that allowed hunters easy access to elk

and increased elk vulnerability. High road densities and threats to large areas of elk security continue to be a concern despite access management plans developed by land management agencies to address wildlife and watershed issues. Logging has since declined on federal lands but continues at a high rate on private timberlands. High road densities continue to put pressure on elk populations.

Biological Issues

The most significant impact to elk populations in the Panhandle is severe winter weather conditions that result in abnormally deep snow or delayed spring green up. Adult and particularly calf elk survival have been compromised as a result of severe winter conditions that drain body condition, reduce the availability of food and increase the impacts of predation.

Inter-specific Issues

Both white-tailed and mule deer occur in all areas of the zone. White-tailed deer are the predominant deer species and maintain high densities in the lower elevations of GMUs 1, 2, 3, 5, and 6. Mule deer numbers appear to be stable at much lower densities than whitetails and are found most frequently in the higher elevations of GMUs 1, 4, 6, 7, and 9. The moose population in the Panhandle Zone has expanded over past decades with the highest densities occurring in GMUs 1 and 2. Competitive interactions may exist among deer, moose, and elk; however, the form and extent of those relationships is presently unclear.

Predation Issues

Mountain lion predation has been the largest source of mortality on collared 6-month old calves during 2015-2017. 2015 and 2016 winters were relatively mild and had high calf survival (82%), however, the 2017 winter was above average snowpack (particularly in low elevations) and calf survival decreased to 50%. This decrease in calf survival was due primarily to malnutrition, not predation. Research conducted in adjacent areas of Idaho and other states indicates that black bear predation may have significant impacts on neonatal elk calves.

Cow survival from 2014-2017 has been stable at 94%.

Harvest seasons for black bear, mountain lion, and wolves have become quite liberal in the Panhandle region in recent years and achieving higher levels of harvest is unlikely in future years.

Winter Feeding Issues

There were no organized efforts to feed elk during the winter of 2016 – 2017.

Information Requirements

Aerial surveys, both population estimates and herd composition surveys, have been a valuable part of regional elk management historically. The homogenous, heavy-cover habitat that typifies the Panhandle Zone necessitated caution when interpreting elk sightability survey results which is why in recent years we now only conduct herd composition surveys and we base our population objectives off of trend rather than numerical objectives while still combining

additional information sources (i.e., harvest statistics, weather information, and survival rates of collared cows and calves). In 2014, we identified new population objectives based upon trend data in Idaho's Elk Management Plan 2014-2024.

Significant Events

The 2016-2017 winter was colder and snowier than previous winters, with higher than average snowpack, particularly in low elevations. We saw a decrease in calf survival due to winter conditions, however, cow survival remained stable.

Harvest

The overall elk harvest in the Panhandle Zone estimated from hunter reports and corrected for non-response, was 3,421 elk in 2016. The estimated antlered elk harvest of 2,372 bulls consisted of 16% six-point or better bulls. This is indicative of a well-defined mature age class with adequate adult bulls for breeding purposes but it may not meet hunter desires. It's likely due to years of low calf recruitment during 2009-2012, that there are fewer older bulls. One thousand and forty nine antlerless elk were harvested during the 2016 season. The overall hunter success rate for the Zone was estimated at 17% with 26% of the harvest by Panhandle Zone hunters opting for the A tag.

Weather

The 2016-2017 winter was colder and snowier than previous winters. Snowpack was slightly above average at high elevation sites, but low elevations had considerably higher than normal snowpack. Over-winter conditions in the Panhandle did contribute to higher than normal calf elk mortality.

Population Surveys

Due to abundant days with poor weather conditions and pilot unavailability on good weather days, composition flights were not conducted in 2017.

Special Projects

An effort to access cow survival was initiated in GMU 6 in 2011. Twenty-one elk were captured and fitted with VHF collars in this GMU between the towns of Avery and Calder in the St Joe River drainage. An additional 18 cows were fitted with VHF collars in 2013 in GMU 6 and GMU 7 around the Avery area. Bi-monthly telemetry flights were conducted to estimate cow survival. The study was expanded into GMUs 3 and 4 in 2014; forty-five elk were fitted with GPS collars. In the winters of 2015 and 2017, 38 cows and 41 cows, respectively, were fit were GPS collars in GMU's 4, 6, 7 and 9 (2015 only). Elk are primarily monitored via satellite downloads. GPS collars allow for better determination of survival rates because the collars will provide daily locations and send alerts when mortality is detected. Additionally, the daily locations can be used to develop seasonal habitat models that can be used to provide guidance to land management agencies relative to elk management.

A greater variability in calf numbers and low calf ratios during composition flights in previous years prompted an additional collaring effort to monitor survival of 6-month old calves. From 2015-2017, 173 calves were fitted with GPS collars in GMU's 4, 6, and 7..

The probability of survival for cows from January to May (when most natural mortality occurs) during 2013-2017 was 94% (95% CI = 0.91 - 0.96). Survival probability for calves from January to May in 2015-2016 was 82% (95% CI = 0.72 – 0.89) and 49% (95% CI = 0.35 – 0.62) in 2017. There is strong evidence to suggest that over-winter calf survival is different between managed-forested habitat (i.e., primarily private ownership; 92%, 95% CI = 0.81-0.96) and unmanaged-forested habitat (i.e., primarily federal ownership; 60%, 95% CI = 0.46 – 0.72). In addition, there is support to suggest that sex and habitat both influence calf survival (managed-forested habitats: Female 95% (0.85- 0.98) and Male 89% (0.76 – 0.96); unmanaged forested habitats: Female 72% (0.51- 0.86) and Male 52% (0.35 – 0.68)).

Winter 2015, we began collecting cause-specific mortality information to identify sources of elk mortality on GPS collared animals. From January to May in 2015, 83% of calf mortality was mountain lion caused and 17% was wolf caused. From January to May in 2016, 57% of calf mortality was mountain lion caused, 14% wolf caused, 14% unknown mortality, 7% accident related mortality, and 7% disease related mortality. From January to May in 2017, 32% of calf mortality was mountain lion predation, 32% malnutrition, 16% unknown, 13% wolf, 3% disease, and 3% heavy parasite load.

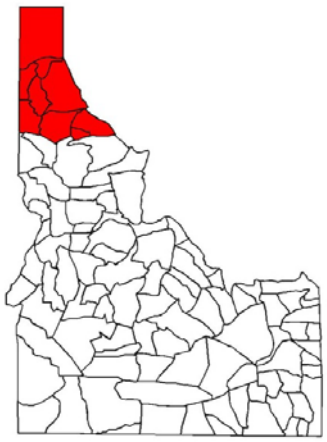
Significant Hunting Season Changes

In response to low calf recruitment, low adult cow survival and concerns about hunter movements, the Panhandle staff proposed significant changes to 2012 elk seasons. Following a series of very contentious public meetings the Commission approved the most restrictive elk seasons in modern times. All 2016 general seasons (any weapon, archery and muzzleloader) in the Panhandle Zone remain "bulls only" with cow harvest by controlled hunt tag in some GMUs.

Elk

Panhandle Zone (GMUs 1, 2, 3, 4, 4A, 5, 6, 7, 9)

		3-Year Averages	
Square Miles =	7,779	Hunters per square mile =	2.38
% Public Land =	58%	Harvest per square mile =	0.62
Major Land Type =	Forest	Success Rate =	17%
		%6+ Points =	20%



10-yr Population Objectives (Idaho's Elk Management Plan 2014-2024)

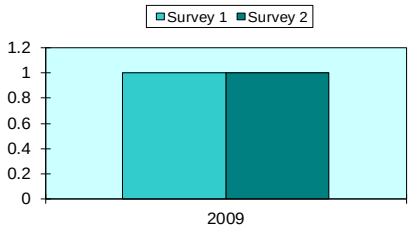
GMU	Population Trend		2023 Growth Objective
	Current Status	Objectives	
1	Little change to increasing	Stable to increase	Up to 25% more elk
2, 5	Increasing	Stablize to decrease depending on human population grouwh/agricultural and depredation issues	Within 10% of existing levels
3, 4, 4A	Little Change-GMU 3, Stable to decreasing GMUs 4, 4A	Stabilize	Up to 20% more elk
6, 7, 9	Stable	Increase	Up to 10% more elk

Notes: The Panhandle Elk Trend Area includes parts of GMUs 4, 6, and 7.

Composition surveys-Calf:100 Cow Rations

GMU	2008	2009	2010	2111	2012	2013	2014	2015	2016
1			25	29	34				
3	49	20	33	33	33	33			
4	45	18	29	32	16	26	25	21	32
5	34		19	39		27			
6	42	9	26	19	17	22	19	34	35
7	43	9	16	12	9	12	13	30	33
9	46		25			20			

Comparable Survey Totals

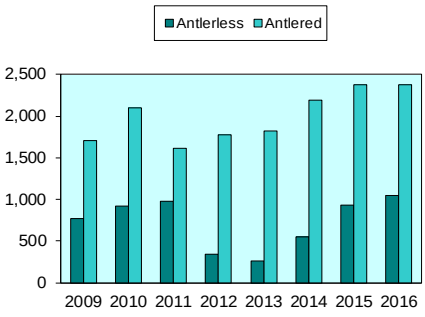


Zone Harvest Statistics

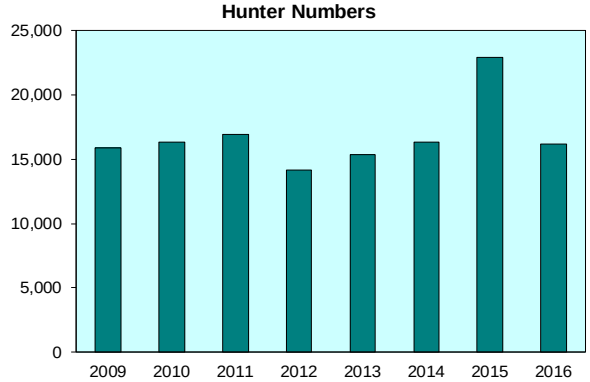
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	772	923	982	346	266	553	930	1,049
'A' Tag	76	139	197	0	0	25		0
'B' Tag	667	739	712	12	6	0		1
CH Tag	29	45	73	334	260	528	930	1,048
Antlered Harvest	1,711	2,105	1,619	1,778	1,822	2,194	2,372	2,372
'A' Tag	563	676	571	642	538	752	737	736
'B' Tag	1,109	1,429	1,046	1,015	1,177	1,341	1,512	1,530
CH Tag	3	0	2	121	107	101	123	106
Hunter Numbers	15,866	16,354	16,927	14,187	15,343	16,360	22,935	16,169
'A' Tag	4,223	4,371	4,551	4,141	4,361	4,639	6,882	4,169
'B' Tag	11,585	11,905	12,248	8,938	9,580	10,154	13,869	10,044
CH Tag	58	78	128	1,108	1,402	1,567	2,184	1,956
% 6+ Points	26	26	23	27	24	21	22	16

Note: % 6+ pts does not include spike-only harvest. ND = no data available.

Harvest



Hunter Numbers



% 6+ Points

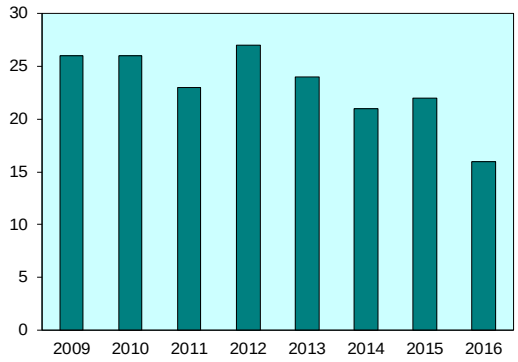


Figure 3. Panhandle Zone Elk Status and Objectives.

Palouse Zone (GMUs 8, 8A, 11A)

Management Objectives

Objectives for Palouse Zone (Figure 4) are to establish a population of 1,125-1,725 cows and 115-415 bulls. The objectives, related to total population level (total elk numbers), were selected to represent a reasonable balance between depredation concerns and the desire to provide a reasonably large elk population. The objective for the number of adult elk represents the maximum number of elk that could be sustained under the circumstances.

The zone presently meets the bull abundance objective with 219 bulls and is just shy of the cow objective with 1,101 cows. The 2016 survey did have some issues due to winter conditions not persisting through survey completion. Elk consequently began moving after abnormally early green-up in mid-February, which resulted in elk moving out of survey GMUs near the end of the survey. This was particularly true in GMU 11A where too few elk were counted to be included in the survey estimates.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined, however, through the latter part of that decade and the 1960s and 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Habitat Issues

This zone contains portions of the highly productive Palouse and Camas prairies. Dry-land agriculture began in this zone in the 1880s and continued until the 1930s. Large areas of native grassland existed to supply forage for the large numbers of horses and mules required to farm the area. With the development of the tractor and subsequent improvements, farming efforts intensified as equipment became more capable of handling the steep, rolling hills. Currently, virtually all non-forested land is tilled, and only small, isolated patches of perennial vegetation remain, but are regularly burned or treated with herbicides. Elk numbers have only recently increased to levels that have provided significant hunting opportunities. Farmland in GMUs 8 and 8A provides high-quality elk forage, and as populations have grown, so have the number of crop depredation complaints. Farmers recall few elk problems until the last decade or so. Elk currently cause damage to grain, legumes, rapeseed, canola, hay, and valuable specialty crops throughout this zone. Most of the crop damage occurs during summer months. Damage to conifer seedlings caused by elk is a concern where reforestation projects occur on elk winter range. To help address depredation concerns, a green-field hunt was added to the A-tag hunt in 2004. This hunt is an antlerless hunt that runs from 1 August through 15 September within one mile of cultivated fields in Palouse Zone. Additionally, in 2008, an extra antlerless elk hunt was

added (100 X-tags) that was open from 1 January through 31 January to reduce elk numbers in refuge areas; tag numbers were reduced to 55 in 2013 to shift harvest emphasis towards site-specific depredation hunts. In 2010 we added 3 days of cow hunting to existing bull seasons on the B-tag that is open on private lands (excluding corporate timberlands) to put further pressure on elk associated with crop depredations. The 2016 sightability survey indicated that the objective to reduce elk numbers on the Palouse had been met, therefore, the January extra antlerless elk hunt was eliminated and tag numbers were reduced for controlled hunts 8-1 (-50 tags) and 8-2 (-50 tags) in 2017. Current seasons are designed to maintain elk near current levels.

Timber harvest in the corporate timber, private timber, state land, and federal land areas of GMU 8A increased dramatically through the 1980s, 1990s, and early 2000's mostly to salvage dead white pine and respond to increased demand for timber products. This activity created vast acreages of early succession habitat, expanding elk habitat potential. Road construction associated with timber harvest is extensive in some areas. Road closures in some areas have significant potential to benefit elk through improved habitat effectiveness and reduced harvest vulnerability.

Biological Issues

Elk populations in this zone have increased over the last 30 years due to increased availability of agricultural crops, natural forage, and brush fields (both on summer and winter range). To address increasing depredation problems during the last 10 years, liberal antlerless elk harvest opportunities have been offered and populations have been reduced to desired levels.

Elk productivity in this zone has been high, with calf:cow ratios historically in the mid-40s or higher. This results in a resilient elk population and allows for a liberal season length and harvest. Due to depredation issues we have been trying to reduce elk populations. Population reduction has been successful, and thus reductions in harvest have been implemented to maintain current population levels.

Inter-specific Issues

The zone supports a substantial population of white-tailed deer, while mule deer are uncommon. The zone's moose population has expanded substantially over the past two to three decades. Competitive interactions may exist among white-tailed deer, elk, and moose. However, the form and extent of those relationships is presently unclear.

Grazing by cattle occurs on almost all of the available pasture ground and poses some competitive concerns for elk, especially during drought years.

Predation Issues

Increasing mountain lion harvest over the last few years likely reflects increased mountain lion numbers in this zone. Black bear numbers have probably remained static. Few wolves persist in this zone.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

Sightability estimates are needed periodically to monitor progress toward achieving population objectives. In addition, the information is valuable to assess population growth with respect to depredations and antlerless harvest levels. Evaluations of methods to decrease depredation problems in the zone are an ongoing priority/need and Department priority.

Elk

Palouse Zone (GMUs 8, 8A, 11A)

		3-Year Averages	
Square Miles =	2,323	Hunters per square mile =	1.71
% Public Land =	14%	Harvest per square mile =	0.74
Major Land Type =	Agriculture	Success Rate =	22%
		%6+ Points =	22%

Winter Status & Objectives

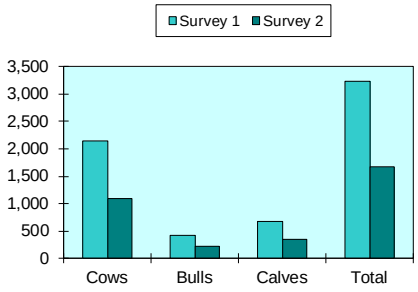
Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2016	1,101	219	97	1,125-1,725	115-415	75-125
Bulls per 100 Cows			20	9		18-24	10-14

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
8	2009	504	125	153	782	2016	256	82	119	457
8A	2009	1,537	241	489	2,267	2016	845	137	234	1,216
11A	2009	112	45	34	191	ND				
Comparable Surveys Total		2,153	411	676	3,240		1,101	219	353	1,673
Per 100 Cows			19	31				20	32	

Note: ND = no survey data available.

Comparable Survey Totals

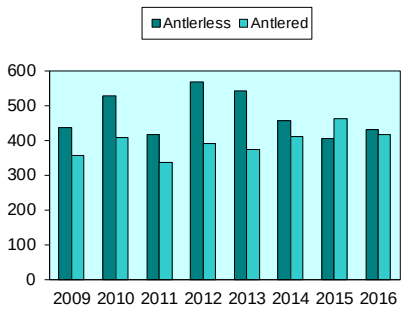


Zone Harvest Statistics

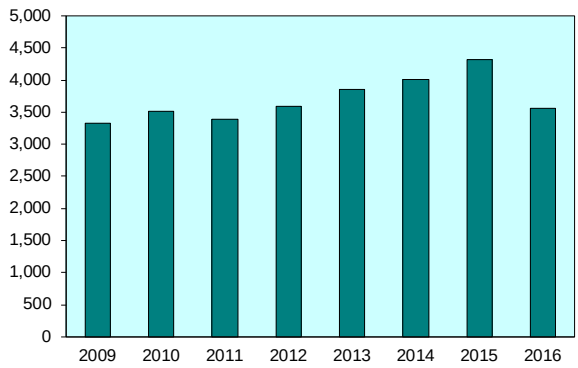
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	435	528	417	568	542	457	406	431
'A' Tag	166	236	126	235	214	133	160	211
'B' Tag	4	39	57	62	91	90	56	78
CH Tag	265	253	234	271	237	234	190	142
Antlered Harvest	356	408	336	390	374	411	462	415
'A' Tag	111	83	67	85	63	105	101	86
'B' Tag	236	322	264	305	306	306	361	329
CH Tag	9	3	5	0	5	0	0	0
Hunter Numbers	3,334	3,509	3,398	3,593	3,862	4,004	4,327	3,566
'A' Tag	982	1,015	947	1,115	1,080	1,127	1,334	1,021
'B' Tag	1,746	1,886	1,864	1,874	2,172	2,304	2,417	2,060
CH Tag	606	608	587	604	610	573	576	485
% 6+ Points	29	18	20	25	21	21	21	24

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

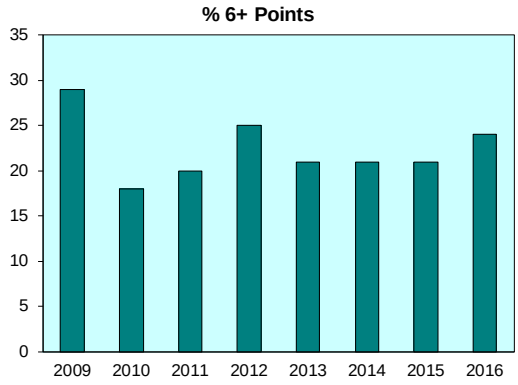


Figure 4. Palouse Zone Elk Status and Objectives.

Lolo Zone (GMUs 10, 12)

Management Objectives

Long-term objectives for the Lolo Zone (Figure 5) are to maintain a population of 6,100-9,100 cows and 1,300-1,900 bulls, including 725-1,200 adult bulls. Current population levels are well below objectives with 1,137 cows, 425 bulls, and 286 adult bulls estimated in 2017.

Management of the Lolo Zone elk population and setting appropriate population objectives presents a serious quandary. Existing information suggests that both predation and density dependence (habitat limitations) have been causing low calf production and recruitment.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Habitat Issues

Land ownership within this zone is almost entirely publicly-owned forest (USFS). The southern portion of the zone is within the Selway-Bitterroot Wilderness Area. Historically, habitat productivity was high in this zone. However, habitat productivity has decreased following decades of intensive fire suppression. Approximately one-third of the zone has good access for motorized vehicles with medium road densities. The remaining portion has low road densities with good trails contributing to medium-to-low big game vulnerability. Aside from damages to reforestation projects, there are no elk depredation concerns in this zone.

Until the 1930s, wildfires were the primary habitat disturbance mechanism in this zone. Between 1900 and 1934 approximately 70% of the Lochsa River drainage was burned by wildfires. Between 1926 and 1990 over 1,900 km of roads were built in this area to access marketable timber. State Highway 12 along the Lochsa River was completed in 1962 and became the primary travel corridor. In 1964 most of the southern portion of GMU 12 was designated as part of the Selway-Bitterroot Wilderness.

The Clearwater Basin Collaborative (CBC), which is a citizen partnership among state, federal, and private collaborators, has driven research since 2013 evaluating the role of nutritional limitations in elk population declines in the Region. The North Fork Clearwater Study Area in GMU 10, and the Lochsa Study Area in GMU 12, is 2 of 6 study areas selected across the Clearwater Basin in an effort to better understand elk fitness, nutritional status, and habitat use relative to summer forage quantity and quality. Overall, herds in the Basin have relatively low

levels of autumn body fat, body size, and pregnancy rates, however, levels were similar to other herds inhabiting dry forest areas of the inland Northwest (Cook et al. 2017). Preliminary results suggest that elk in GMUs 10 and 12 are in relatively better body condition than other herds in the Basin, however, body size and pregnancy rates were lower than expected in GMU 10 based on autumn body fat levels (Cook et al. 2017). This research is ongoing and additional analyses/data collection is needed to understand what might be limiting elk in the zone.

Biological Issues

Poor calf recruitment since the late 1980s, winter losses in 1996-1997, and recent population declines in GMUs 10 and 12 have contributed to dramatically decreasing elk herds within this zone. Predation by wolves has been a factor in declines since their reintroduction to Idaho (1995-96) and reestablishment in the Lolo Zone (early 2000's). Elk numbers in the zone are well below objective for cows, bulls, and adult bulls.

Winter 1996-1997 was marked by severe conditions, including extremely deep snow exceeding 200% of average snow-pack in some areas. These conditions apparently caused higher-than-normal winter mortality, leading to a dramatic decline in the GMU 10 population (-48%). In addition, a survey was conducted in GMU 12 during winter 1996-1997 and those results suggested a 30% decline at that time. This data, in combination with overwhelming anecdotal information, suggests that catastrophic winter losses occurred in GMUs 10 and 12.

Calf productivity and/or recruitment have declined substantially since the late 1980s. Prior to that, winter calf:cow ratios often exceeded 30:100 and occasionally exceeded 40:100. From 1989-1999, ratios dwindled continuously down to levels below 10:100. This level of recruitment is inadequate to sustain natural mortality in the absence of hunting. Between 2002 and 2004, population surveys and composition surveys revealed recruitment levels between 27 and 30 calves:100 cows in GMU 12, and 19-26 calves:100 cows in GMU 10. However, the 2005 age composition surveys showed declines from recent levels. Most notable was the decline in GMU 12 where there were 13.9 calves per 100 cows. The 2010 aerial survey for the Lolo Zone showed a 57% decline from the 2006 survey, from 5,098 elk to 2,178. Calf:cow ratios in 2010 for GMUs 10 and 12 were estimated at 17.4 and 6.9 calves:100 cows respectively. Extreme declines in cow numbers resulted in a high bull:cow ratio of 44 bulls:100 cows in 2010. In 2017, the elk population declined to an estimated 1,893 elk; however, calf:cow ratios for GMUs 10 and 12 increased to 32 and 19 calves:100 cows respectively. The adult bull population declined from 352 in 2010, to 71 in 2017; however, yearling and raghorn bulls increased from 243 in 2010 to 354 in 2017 resulting in 37 bulls:100 cows. Cow numbers declined slightly from 1,358 to 1,137.

Preliminary results from research efforts suggest both nutrition and predation may be potential causes of low calf recruitment levels. Since 2011, calf survival rates have been increasing, and recently peaked at 88% (n=19) in 2014. This increase may be due to several factors including mild winter conditions and reductions in wolf numbers. Additional work conducted in an experimental framework has also shown wolves to be a major factor in some years (winters with deep snow – and likely prior to wolf removal efforts).

To address low recruitment levels, declining bull numbers, and 1996-1997 winter losses, the Department capped B-tag numbers at 1,600 and closed cow elk controlled hunts beginning with

the 1998 hunting season. This B-tag cap level represented a 60-65% reduction in any-bull rifle hunting opportunity. In 2010 the B-tag quota was further reduced to 1,088 and A-tag quota of 404 imposed. However, with declining elk numbers, hunter participation rates are declining and tags are not selling out. Low recruitment and low adult cow survival remain a concern in this zone. Without long-term changes in demographic rates, objectives in the zone will not be achievable in the foreseeable future.

Inter-specific Issues

Both GMUs support small white-tailed deer populations, few mule deer, and moderate-density moose populations. Moose populations increased moderately over the past 20 years, but more recently growth may have stalled. Grazing by cattle occurs to a limited extent in the northwestern corner of GMU 12 on a U.S. Forest Service (USFS) allotment.

Predation Issues

Research investigating cause-specific mortality in GMU 10 reported that the primary proximate cause of neonate mortality was from black bears and mountain lions, and subsequent reductions in bear densities improved neonate survival (White et al. 2010). In most of the Clearwater Region, mountain lion harvest levels have exhibited a slight increasing trend over the last decade, however, anecdotal data suggests that lion populations have remained stable in the Lolo Zone since the mid-2000s, shortly after declining from peak levels in the late 1990s. Black bear harvest remained somewhat stable through 1998, averaging between 100 and 150 bears per year, until 1998, when greatly liberalized seasons led to dramatic increases in harvest that has ranged from 215 to 335 bears harvested per year ever since. However, black bear population performance remains well above plan objectives. Wolf packs have been well-established throughout the zone.

Research in the zone indicates that wolves have had impacts on elk demographics and wolf predation has been the leading cause of mortality of adult cows and calves $\geq$ 6 months during some years, particularly heavy snow years. The Department has conducted numerous annual wolf removal efforts beginning in 2010, in addition to aggressive wolf harvest seasons intended to reduce impacts of predation on this elk population. Improved survival in recent years could be due to a combination of mild snow conditions and wolf removal efforts. To gain a better understanding of cause-specific calf survival and management implications across the State, the Department began collaring calves in GMUs statewide in 2015. Within the Clearwater Region, GMUs 10A and 15 were included in this statewide monitoring effort. From 2015-2016, there were 21 calf mortalities in GMU 10A (69 total collared, 70% overall survival), and the main cause of death was lions (35%), followed by malnutrition (25%), wolf predation (15%), and unknown predation (15%). Only 4 calf mortalities occurred in GMU 15 from 2015-2017 (45 total collared, 91% overall survival), including 2 from unknown predation, 1 from wolf predation, and 1 from an automobile accident. Statewide calf survival in 2015, 2016, and 2017 was 82%, 76%, and 52% respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors.

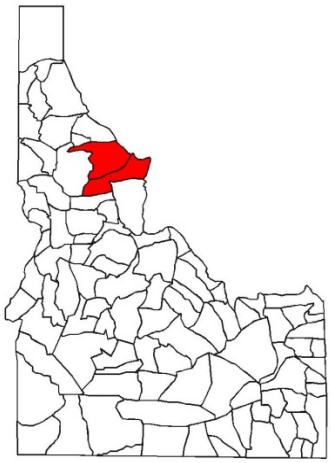
Information Requirements

The level of the Lolo Zone B-tag cap, and any future changes in the cap, are dependent upon cow survival and recruitment levels. In addition to data collected as part of ongoing elk survival and nutrition research, complete sightability surveys will be conducted frequently to evaluate population performance.

Elk

Lolo Zone (GMUs 10, 12)

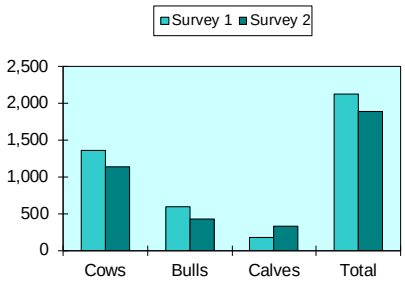
Square Miles =	2,373	3-Year Averages	
% Public Land =	97%	Hunters per square mile =	0.29
Major Land Type =	Forest	Harvest per square mile =	0.06
		Success Rate =	19%
		%6+ Points =	28%



Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2017	1,137	425	286	6,100-9,100	1,300-1,900	725-1,200
Bulls per 100 Cows			37	25		18-24	10-14

Comparable Survey Totals



Population Surveys

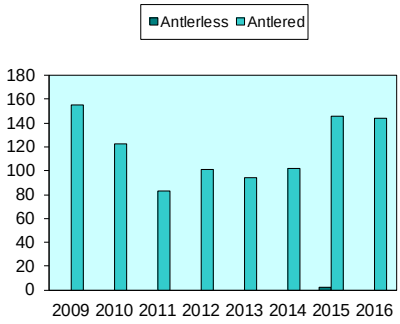
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
10	2010	824	461	144	1,429	2017	866	266	280	1,412
12	2010	534	133	38	705	2017	271	159	51	481
Comparable Surveys Total		1,358	594	182	2,134		1,137	425	331	1,893
Per 100 Cows			44	13				37	29	

Zone Harvest Statistics

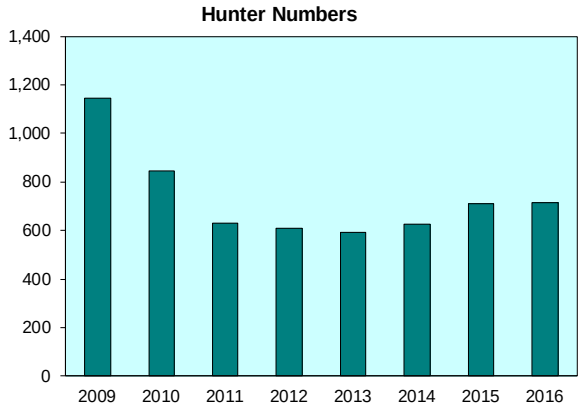
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	0	0	0	0	0	0	2	0
'A' Tag	0	0	0	0	0	0	2	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	0	0	0	0	0	0	0	0
Antlered Harvest	155	123	83	101	94	102	146	144
'A' Tag	43	27	9	16	26	19	34	45
'B' Tag	112	96	74	85	68	83	112	99
CH Tag	0	0	0	0	0	0	0	0
Hunter Numbers	1,147	844	629	607	594	628	710	716
'A' Tag	317	266	156	123	140	124	148	157
'B' Tag	830	578	473	484	454	504	562	559
CH Tag	0	0	0	0	0	0	0	0
% 6+ Points	41	52	49	39	41	29	31	24

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

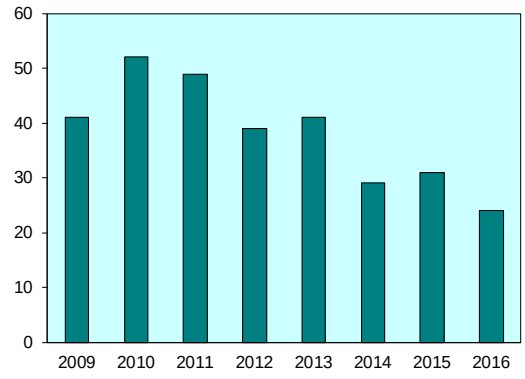


Figure 5. Lolo Zone Elk Status and Objectives.

Dworshak Zone (GMU 10A)

Management Objectives

Objectives for the Dworshak Zone (Figure 6) are to establish a population of 2,900-4,300 cows and 600-900 bulls, including 350-500 adult bulls. Based on 2011 sightability survey results, the cow objective is being met (4,280 cows estimated), while the bull (315 estimated) and adult bull (105 estimated) objectives are not. Elk populations in the Dworshak Zone remain stable, despite the relatively recent addition of wolves to the predator suite in this zone and relatively high elk harvest. This elk population remains productive and offers considerable opportunity for elk hunters.

Management direction for the zone is to maintain the elk population within objectives, while recognizing that high bull elk vulnerability in the zone impedes progress towards bull objectives and a general acceptance by hunters of relatively high hunter densities and moderate bull quality.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges due to flooding with the filling of Dworshak Reservoir. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Habitat issues

Dworshak Zone consists of GMU 10A, which is approximately 75% timberland and 25% open or agricultural lands and is bisected by canyons leading to the Clearwater River. The first wave of timber harvest in this zone occurred during the early 1900s and consisted mostly of removing the most valuable timber species and largest trees. During the 1970s, timber harvest increased fairly dramatically, and new roads provided access to previously inaccessible areas. In 1971, Dworshak Reservoir flooded approximately 45 miles of the North Fork Clearwater River corridor with slack water and permanently removed many thousands of acres of prime, low-elevation winter range for big game. During the early 1970s, only a few hundred elk were observed wintering along the river under the predominantly old-growth cedar hemlock forest. The timberland is owned predominantly by Potlatch Corporation, Idaho Department of Lands (IDL), and USFS. Access is very good throughout the zone and timber harvest occurs on most available timber ground. High open and closed road densities contribute to high elk vulnerability and low habitat effectiveness. During the 1980s, 1990s, and through present times, timber harvest has occurred on almost all available state and private land as demand for timber and management of these lands intensified. Despite the reservoir flooding parts of the historical winter range, extensive logging along the river corridor improved the existing winter range in

this GMU. South-aspect forests were cleared to provide timber products and inadvertently provided quality winter range.

The Clearwater Basin Collaborative (CBC), which is a citizen partnership among state, federal, and private collaborators, has driven research since 2013 evaluating the role of nutritional limitations in elk population declines in the Region. The Dworshak Study Area in GMU 10A is 1 of 6 study areas selected across the Clearwater Basin in an effort to better understand elk fitness, nutritional status, and habitat use relative to summer forage quantity and quality. Overall, herds in the Basin have relatively low levels of autumn body fat, body size, and pregnancy rates, however, levels were similar to other herds inhabiting dry forest areas of the inland Northwest (Cook et al. 2017). Preliminary results suggest that elk in the Dworshak Zone have relatively high body fat levels compared to other study areas, surpassed only by elk in the Lolo Zone (Cook et al. 2017). Forage models also predicted higher forage quality in these zones than other zones in the Clearwater Region. This research is ongoing.

Depredations have increased on agricultural land within the past 10 years in this zone due to increases in both deer and elk populations and changes in land ownership that reduced access for hunting opportunities. Elk cause damage to grain, legumes, and hay crops within the south-central portion of this zone during summer months. Occasional damage to stored hay, silage, and winter wheat occurs during winters with heavy snow accumulation. Damage to conifer seedlings by elk is a concern in the remaining portions of this zone where reforestation projects overlap with elk winter range. Controlled antlerless elk seasons have been successful in reducing the overall level of damage in this zone.

Biological Issues

Historically, GMU 10A has supported a productive elk population. From 1992-1996, recruitment averaged 34 calves:100 cows. From 1997-1999, recruitment dropped to an average of 19 calves:100 cows. However, the 2001 and 2007 sightability surveys revealed increases in recruitment at 30 calves:100 cows and 26 calves:100 cows, respectively. The most recent survey in 2011 showed an increase in cow numbers from 2007 (3,235 to 4,280) and no change in calf numbers, resulting in a decrease in recruitment at 20 calves:100 cows in 2011, down from 26 calves:100 cows in 2007. Bull numbers remain below objective and showed further decline in 2011. Concerns over low recruitment and low bull numbers might precipitate future hunting season changes. This zone is scheduled to flown during the upcoming winter (2017-18), which will provide a review of current status and will enable an analysis of current hunting season frameworks.

Inter-specific Issues

GMU 10A supports a substantial white-tailed deer population, few mule deer, and a moderate moose population. The white-tailed deer population has increased dramatically over the past 20 years. Significant competitive interactions between white-tailed deer and elk may exist. However, the form and extent of those relationships is presently unclear.

Significant livestock grazing on rangeland in the southeastern portion of the zone impacts elk habitat potential. Most of that grazing occurs on habitats used exclusively during winter months.

Additionally, range allotments are present on summer and winter habitat on USFS, IDL, and Potlatch Corporation lands elsewhere in the zone.

Predation Issues

Predator numbers, mountain lions in particular, increased to high levels 2 decades ago. Lion harvest in the zone increased dramatically from a range of 4 to 20 harvested annually in the late 1980s to a peak of 87 lions harvested in 1997. Elk harvest subsequently declined over this same timeframe. Anecdotal observations suggest this trend in harvest was related to a similar trend in mountain lion populations. Since 1997 lion harvest declined to a low of 16 lions harvested in 2007; however, harvest has been trending upwards in recent years with a 2014-2016 average of 31 lions harvested per year. Black bear harvest has increased slowly and recently stabilized, however, harvest levels remain below the 2000-2010 bear management plan objective of heavy harvest based on % males $\geq$ 5 years old. Anecdotal increasing trends in mountain lion and bear populations might be adversely affecting elk population performance, but there is currently inadequate information to objectively assess those potential impacts. Wolves have been established within Dworshak Zone since the early 2000's. Currently, at least 6 packs inhabit the Dworshak Zone for the majority of the year and 6 additional packs inhabit the zone periodically (i.e., these packs spend time in other management zones).

The Dworshak Zone was prioritized as part of a statewide effort to better understand survival and cause-specific mortality. Cause-specific mortality was evaluated in 2015, 2016, and 2017. Calf survival from January 1 to May 31 over these years was 83%, 84%, and 46% respectively. Cumulative cause of death over this time period included lion predation (7 calves), malnutrition (5 calves), wolf predation (3 calves), unknown predation (3 calves), unknown (1 calf), and natural accident (1 calf). Yearling survival was 100% in 2016 and 2017 from January 1 to May 31 (no yearlings were collared in 2015). From June 1 to December 31, yearling survival was 75% in 2016 and thus far, 83% in 2017, with cause of death attributed to hunter harvest (5 yearlings) and unknown predation (2 yearlings). Survival in 2016 of adult cows (5 collared) and bulls (1 collared) was 80% and 100% respectively, with 1 cow dying of unknown cause. As of August 31, 2017 survival of adult cows (10 collared) and bulls (8 collared) was 90% and 100% respectively, with 1 cow dying from wolf predation. Statewide calf survival in 2015, 2016, and 2017 was 82%, 76%, and 52% respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

Sightability surveys will be needed periodically to evaluate population performance relative to plan objectives. Composition surveys may be conducted to evaluate potential changes in

recruitment. Calf survival monitoring will continue to be a priority in this zone for at least another year.

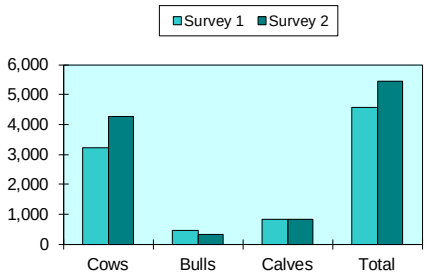
Elk
Dworshak Zone (GMU 10A)

		3-Year Averages	
Square Miles =	1,555	Hunters per square mile =	2.08
% Public Land =	49%	Harvest per square mile =	0.72
Major Land Type =	Forest	Success Rate =	22%
		%6+ Points =	15%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2011	4,280	315	105	2,900 - 4,300	600 - 900	350 - 500
Bulls per 100 Cows			7	2		18-24	10-14

Comparable Survey Totals



Population Surveys

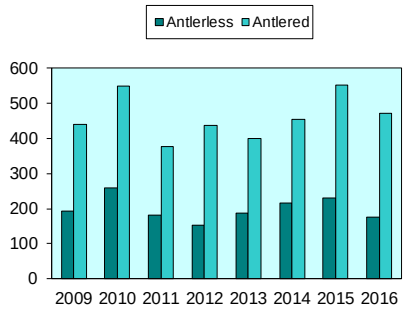
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
10A	2007	3,236	477	848	4,561	2011	4,280	315	850	5,445
Comparable Surveys Total		3,236	477	848	4,561		4,280	315	850	5,445
Per 100 Cows			15	26				7	20	

Zone Harvest Statistics

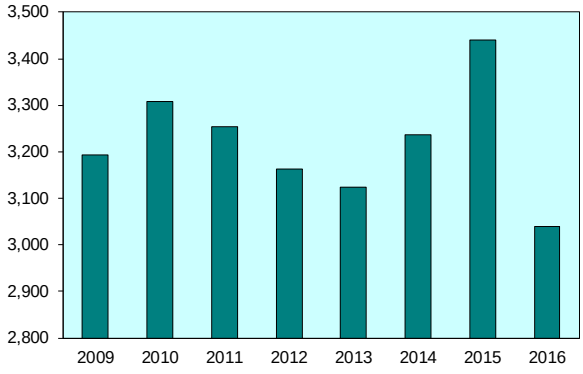
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	192	258	182	154	186	216	231	175
'A' Tag	158	192	127	105	124	166	178	138
'B' Tag	3	16	6	1	6	5	7	6
CH Tag	31	50	49	48	56	45	46	31
Antlered Harvest	439	548	377	438	399	453	552	471
'A' Tag	99	122	85	96	91	103	110	137
'B' Tag	340	424	292	342	307	350	442	334
CH Tag	0	2	0	0	1	0	0	0
Hunter Numbers	3,194	3,309	3,255	3,164	3,123	3,236	3,440	3,040
'A' Tag	1,049	1,052	1,058	997	1,010	1,037	1,211	1,095
'B' Tag	2,114	2,184	2,123	2,092	2,028	2,129	2,161	1,879
CH Tag	31	73	74	75	85	70	68	66
% 6+ Points	31	17	19	16	16	14	18	25

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

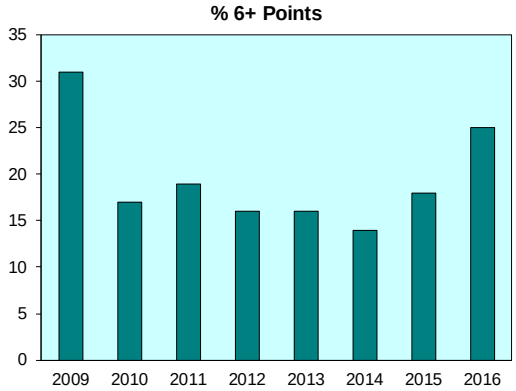


Figure 6. Dworshak Zone Elk Status and Objectives.

Hells Canyon Zone (GMUs 11, 13, 18)

Management Objectives

Objectives for the Hells Canyon Zone (Figure 7) are to establish a population of 2,000-2,900 cows and 420-610 bulls, including 240-348 adult bulls. Currently all population objectives are being met or exceeded for the Hells Canyon Zone with an estimated 3,633 cows, 1,059 bulls, and 685 adult bulls. Tag levels were increased in 2009 in all GMUs to slow or cap growth. Antlerless seasons were restructured in GMUs 11, 13, and 18 in 2013 to increase cow harvest in response to low calf recruitment rates. Bull tags were reduced in 2013 in GMU 11 in response to a decrease in adult bulls estimated during the 2013 survey.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk production in areas adjacent to this GMU increased around the turn of the century, and elk repopulated this zone by the 1960s. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Habitat Issues

Habitat productivity varies widely throughout the zone from steep, dry, river-canyon grasslands having low annual precipitation to higher elevation forests with good habitat productivity and greater precipitation. Late succession forest cover types have become fragmented within the zone. Many grassland cover types have been invaded by various weeds and non-native grasses, including cheatgrass and yellow star thistle. Road density is moderate, and access is restricted in many areas. This results in medium to low vulnerability of big game to hunters, however, increased permit numbers has likely increased vulnerability of cow elk.

Historically, sheep and cattle ranchers and miners homesteaded the canyon lands in this zone, while prairie land was settled by farmers. Around the turn of the century, northern GMU 11 was under intensive use for dry-land agriculture and fruit orchards. Many resort cabins were built near and around the town of Waha. Later, many cabins were built along the mail stage route from Lewiston to Cottonwood via Soldiers Meadows and Forest. A mill was built in Winchester, along with numerous smaller mills on Craig Mountain, and the forested portion of Craig Mountain was extensively logged. The forests were frequently high-graded, and the existing forests still show the scars. In addition, past improper grazing practices severely degraded many meadow areas and allowed invasion of noxious weed species on dryer sites. The elk population increased dramatically in the zone since 1991 (200+% increase) and recent surveys have estimated declining recruitment, suggesting density dependent constraints on further population growth.

This zone contains large tracts of both private and publicly-owned land. GMU 11 is mostly private land except for Craig Mountain Wildlife Management Area (CMWMA) along the Snake and Salmon rivers. The CMWMA consists of two major management units: the Billy Creek area (16,123 acres), which was obtained between 1971 and 1983; and the Peter T. Johnson Mitigation Area (59,991 acres), which was acquired in 1995 as partial mitigation for Dworshak Reservoir. GMU 13 has been mostly under private ownership since settlement and is managed mostly for agriculture and livestock grazing and has very limited public access opportunity. Historically, sheepherders ran their flocks in the canyons of GMU 18, and some logging occurred in the forested areas of this GMU. GMU 18 is two-thirds public land with the remaining in private ownership located at lower elevations along Salmon River. The majority of Hells Canyon Wilderness Area, which was designated as such in 1975, is in GMU 18.

Depredations have increased during the past 10 years in this zone due to increases in white-tailed deer and elk populations. Elk cause damage to grain, legumes, hay, and rangeland forage. Cultivated crops are the primary concern in the north (Unit 11), while livestock forage is the primary concern in the remaining portion of this zone (Units 13 and 18). Controlled antlerless elk seasons have had limited success in reducing the overall damage despite dramatic increases in permit levels.

Biological Issues

Elk hunting in this zone is offered only on a controlled-hunt basis. Across the zone, sightability survey data indicate that cow and bull elk are stable, with declining calf recruitment. Bull:cow ratios during the 2009 and 2013 surveys were 27 and 29, respectively. Calf:cow ratios declined from 26 calves:100 cows in 2009 to 21 calves:100 cows in 2013. Even more alarming was the decline in calves in GMU 11, with only 17 calves:100 cows estimated in 2013.

Since 1991, elk populations have grown rapidly in the Hells Canyon Zone. Cow populations have increased from 865 in 1991 to 3,633 in 2013. Bull elk populations have also shown tremendous growth, increasing from 299 bulls in 1991 to 1,059 bulls in 2013. However, during the 2013 survey, there were 184 fewer calves estimated (despite the increase in cow numbers) and calf recruitment decreased to 21 calves:100 cows. In order to address a potential density-dependence issue, an additional 150 cow tags were added (total 525) to the 2013 hunt and bull tags were reduced from 151 to 80. In addition, a collaborative research project commenced in November of 2013 to investigate elk nutrition and pregnancy rates. Preliminary results from the CMWMA in GMU 11 showed that 10 of 20 cows captured (18 collars deployed including 1 yearling) were lactating while average body fat was 5.3% (range of 2.7−7.4%) suggesting cows were in poor body condition coming onto winter range and potentially a nutritional deficiency on summer range. Average body mass for these same animals (based on girth) was 214 kg (range of 208−226 kg). Estimates derived from CMWMA are equivalent to the lowest levels observed in elk sampled during a similar study throughout the Pacific Northwest (Cook et al. 2013). Despite low body fat levels, elk at CMWMA had high pregnancy rates, which could be due to abundant autumn green-up supporting higher pregnancy rates (Cook et al. 2017). Continuation of this research and subsequent population surveys will help direct management to maintain a productive elk herd in the Hells Canyon Zone.

Inter-specific Issues

Grazing by cattle is gradually decreasing in the public land portions of this zone due to reductions in USFS and Bureau of Land Management (BLM) allotments, along with land ownership shifting from private to public. Mule deer populations based on recent sightability surveys are reasonably high compared to survey results from the mid to late 1980s, however, the extent of any competitive interactions with elk are unknown.

Predation Issues

Predation is not believed to be a driving factor of elk populations within the Hells Canyon Zone. Mountain lion harvest had previously been declining since 2008 when 28 lions were harvested, although recently harvest has been increasing, peaking at 31 lions in 2013. Across the Clearwater Region, GMUs 11, 13, and 18 provide the lowest quality bear habitat and likely has the lowest bear densities due to its hot and arid climate. Yet, black bear harvest has continued to increase slightly in GMUs 11, 13, and 18 when compared to the previous 3-year average. There has been only 1 documented wolf pack in the southern end of GMU 18 since the early 2000's, and presence is likely seasonal.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

Sightability surveys will be required periodically across the zone to evaluate population performance relative to plan objectives. Continued monitoring through the Clearwater Basin Collaborative elk nutrition study will help to direct management of the zone in addition to sightability survey population estimates.

Elk

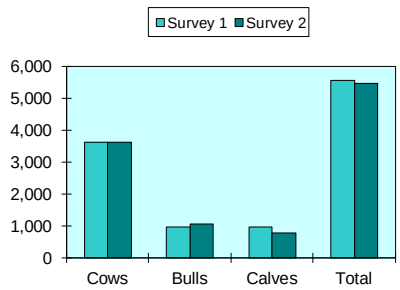
Hells Canyon Zone (GMUs 11, 13, 18)

Square Miles =	1,389	3-Year Averages	
% Public Land =	94%	Hunters per square mile =	1.42
Major Land Type =	Forest	Harvest per square mile =	1.08
	Rangeland	Success Rate =	35%
		%6+ Points =	56%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2013	3,633	1,059	685	2,000-2,900	420-610	240--348
Bulls per 100 Cows			29	19		25-29	14-18

Comparable Survey Totals



Population Surveys

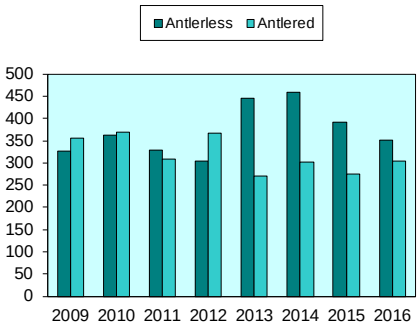
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
11	2009	969	367	228	1,564	2013	1,012	222	176	1,410
13	2009	1,346	212	335	1,893	2013	823	265	225	1,313
18	2009	1,327	394	402	2,123	2013	1,798	572	380	2,750
Comparable Surveys Total		3,642	973	965	5,580		3,633	1,059	781	5,473
Per 100 Cows			27	26				29	21	

Zone Harvest Statistics

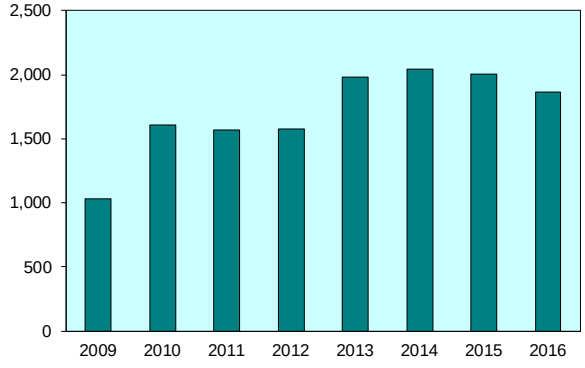
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	327	362	328	304	445	460	391	352
'A' Tag	0	0	0	0	0	0	0	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	327	362	328	304	445	460	391	352
Antlered Harvest	356	370	309	366	270	301	275	305
'A' Tag	0	0	0	0	0	0	0	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	356	371	309	366	270	301	275	305
Hunter Numbers	1,034	1,605	1,572	1,580	1,979	2,047	2,006	1,866
'A' Tag	0	0	0	0	0	0	0	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	1,525	1,605	1,572	1,580	1,979	2,047	2,006	1,866
% 6+ Points	51	47	39	42	47	56	56	55

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

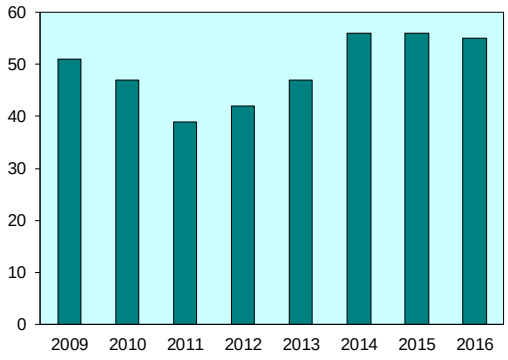


Figure 7. Hells Canyon Zone Elk Status and Objectives.

Elk City Zone (GMUs 14, 15, 16)

Management Objectives

Objectives for the Elk City Zone (Figure 8) are to maintain a population of 3,150-4,650 cows and 675-1,000 bulls, including 350-575 adult bulls. In the most recent aerial survey (2015) this zone was below objectives for cows (2,900 estimated), total bulls (283 estimated), and adult bulls (151 estimated). This survey should not have been conducted due to lack of snow, consequently, elk were not on winter range and these survey results are not representative of actual elk numbers. The 2008 survey, which did have good survey conditions, estimated 4,264 cows, 863 bulls, and 218 adult bulls. Current perceptions are that elk have declined in GMUs 15 and 16 but are up in GMU 14. The current cow harvest management strategy allowed that segment of the population to achieve its objective in 2008. B-tag sales were capped beginning with the 2002 hunting season to allow the bull segment of the population to reach objectives in 2008.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Habitat Issues

The prairie regions of this zone were converted to agriculture and ranching by early settlers. In 1862, gold was discovered near the current location of Elk City in GMU 15. After the readily available gold was depleted, miners turned to dredging activities where rivers ran through meadows. Crooked, American, and Red rivers were channelized and rerouted several times during the extraction processes, which continued commercially until the 1950s. Logging began as part of mining activities to supply wood for the mines. In the 1940s, logging activities became commercial and resulted in an extensive network of roads throughout a large portion of this zone. In 1964, with the passage of the Wilderness Act, a small portion of GMU 16 was designated as a part of the Selway-Bitterroot Wilderness. In 1978, portions of GMUs 14 and 15 were included in the Gospel Hump Wilderness.

Land ownership in this zone is approximately 80% public with the remaining 20% private. The privately-owned portions are at lower elevations along the Clearwater and Salmon rivers. Approximately 8% of this zone is wilderness. Habitat productivity in GMU 14 is relatively high in comparison to most other Clearwater Region big game GMUs, but productivity in GMUs 15 and 16 is likely declining due to forest succession and fire suppression. Many forested areas in GMUs 15 and 16 have become overgrown with lodgepole pine and fir due to fire suppression during the past 40+ years. Both open and closed road densities are high within the zone,

contributing to significant big game vulnerability during hunting seasons along with relatively high illegal harvest throughout the year. Noxious weeds, especially yellow star thistle and spotted knapweed, have increased within the past 15 years and in some areas are out-competing grasses and forbs on important elk habitats.

The Clearwater Basin Collaborative (CBC), which is a citizen partnership among state, federal, and private collaborators, has driven research since 2013 evaluating the role of nutritional limitations in elk population declines in the Region. The South Fork Clearwater Study Area in GMU 15, and Riggins Study Area in GMU 14, are 2 of 6 study areas selected across the Clearwater Basin in an effort to better understand elk fitness, nutritional status, and habitat use relative to summer forage quantity and quality. Overall, herds in the Basin have relatively low levels of autumn body fat, body size, and pregnancy rates, however, levels were similar to other herds inhabiting dry forest areas of the inland Northwest (Cook et al. 2017). Preliminary results suggest that elk in the South Fork herd have lower body fat levels than the Riggins herd, in addition to lower pregnancy rates, which indicates potential summer nutritional limitations (Cook et al. 2017). This research is ongoing.

Depredations have increased within the past 10 years in this zone due to increases in both deer and elk populations and changes in land ownership that reduced access for hunting opportunities. Livestock operators are concerned with elk use of pasture and rangeland forage during spring months prior to release of livestock on these grounds. Some damage to grain crops occurs during summer. Several past fencing projects have helped to reduce concerns of elk damaging stored hay during winters with heavy snow accumulation.

Biological Issues

From 1987 to 2008, cow elk numbers in the zone were stable to increasing and bull elk were increasing. Bull:cow ratios ranged between 12.9 and 13.6 on the 2000 surveys. In 2002, a cap of 1,790 B-tag hunters was initiated. The most recent surveys suggest declines, particularly in GMU's 15 and 16; consequently, reliable recent data of elk numbers is lacking.

Historically, calf recruitment in GMUs 14 and 15 was high, averaging 38 calves:100 cows from 1987-1993. However, the 2000 survey revealed recruitment of 25 calves:100 cows, suggesting that a decline in recruitment occurred, similar to surrounding areas. This trend in low calf recruitment continued through 2015, when 21 calves:100 cows were estimated in Unit 15 during the 2015 survey. Chronic low recruitment is a concern in GMU 16, which averaged 19 calves:100 cows from 1990-2000 and fell to 17 calves in 2008 and 2015. Cow numbers in GMU 14 declined slightly from 2,402 in 2008 to 2,309 in 2015, however, recruitment increased from 24 to 29 calves:100 cows over the same time period. In 2012, a large forest fire in GMU 14 that improved forage quality may have wintered elk that traditionally wintered in GMU 15, potentially depressing calf recruitment estimates in GMU 15.

Inter-specific Issues

Livestock graze much of this zone on both private and public land. On private land on the west side of GMUs 14 and 16, competition with domestic livestock may be significant, especially during winter.

Predation Issues

Mountain lion harvest in the zone peaked in the mid 1990's at around 80 lions per year, and then declined to around 35 lions harvested annually from 2002-2012. Since 2012 lion harvest has been trending upwards, with a 2013-2015 average of 48 lions harvested per year. Anecdotal information suggests a decrease in mountain lion abundance since the 1990s, but lion populations might be increasing since the early 2010s. Black bear harvest has been on an increasing trend over the last decade; from 2013-2015 there were on average 143 bears harvested annually. Wolves have been well established in the zone with 7 documented packs in 2015.

GMU 15 was prioritized as part of a statewide effort to better understand survival and cause-specific mortality. Cause-specific mortality was evaluated in 2015, 2016, and 2017. Calf survival from January 1 to May 31 over these years was 100%, 91%, and 71% respectively, note however, that only 7 calves were collared in 2017. Cumulative cause of death over this time period included unknown predation (2 calves), wolf predation (1 calf), and automobile accident (1 calf). Yearling survival was 100% in 2016 and 2017 from January 1 to May 31 (no yearlings were collared in 2015). From June 1 to December 31, yearling survival was 75% in 2016 and thus far, 60% in 2017 (only 5 yearlings collared in 2017), with cause of death attributed to lion predation (3 yearlings), hunter harvest (2 yearlings), unknown predation (1 yearling), and unknown (1 yearling). Survival in 2016 of adult cows (5 collared) was 100%. For 2017, no mortalities have been observed as of August 31 for adult cows (14 collared) or bulls (3 collared). Statewide calf survival in 2015, 2016, and 2017 was 82%, 76%, and 52% respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

All 3 GMUs should be surveyed periodically to evaluate population performance relative to plan objectives. Calf survival monitoring will continue to be a priority in this zone for at least another year.

Elk

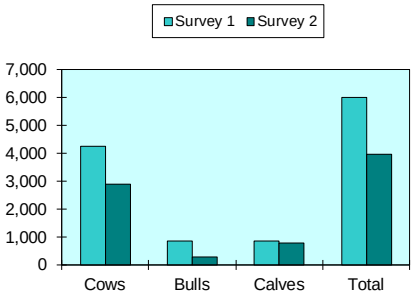
Elk City Zone (GMUs 14, 15, 16)

Square Miles =	1,838	3-Year Averages	
% Public Land =	82%	Hunters per square mile =	1.30
Major Land Type =	Forest	Harvest per square mile =	0.57
		Success Rate =	25%
		%6+ Points =	26%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2015	2,900	283	151	3,150-4,650	675-1,000	350-575
Bulls per 100 Cows			10	5		18-24	10-14

Comparable Survey Totals



Population Surveys

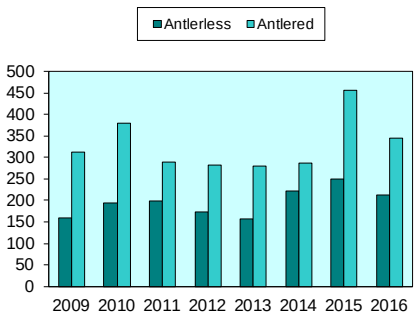
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
14	2008	2,402	419	573	3,394	2015	2,309	203	671	3,183
15	2008	965	169	148	1,282	2015	464	53	98	615
16	2008	897	275	154	1,326	2015	127	27	22	176
Comparable Surveys Total		4,264	863	875	6,002		2,900	283	791	3,974
Per 100 Cows			20	21				10	27	

Zone Harvest Statistics

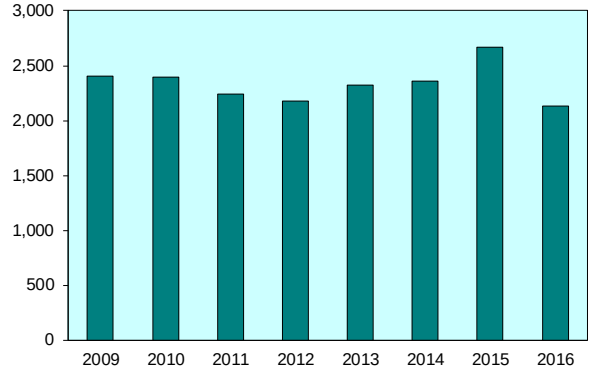
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	160	194	199	173	156	222	251	212
'A' Tag	110	111	126	73	86	105	121	132
'B' Tag	2	2	1	2	2	9	5	3
CH Tag	48	80	72	98	68	108	125	77
Antlered Harvest	313	380	289	282	281	287	457	345
'A' Tag	34	32	23	29	47	66	64	52
'B' Tag	278	348	266	252	234	219	393	293
CH Tag	1	0	0	1	0	2	0	0
Hunter Numbers	2,402	2,398	2,245	2,173	2,321	2,360	2,667	2,131
'A' Tag	749	732	638	627	666	623	753	569
'B' Tag	1,584	1,544	1,493	1,414	1,529	1,572	1,748	1,427
CH Tag	69	122	114	132	126	165	166	135
% 6+ Points	37	28	20	20	27	28	26	23

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

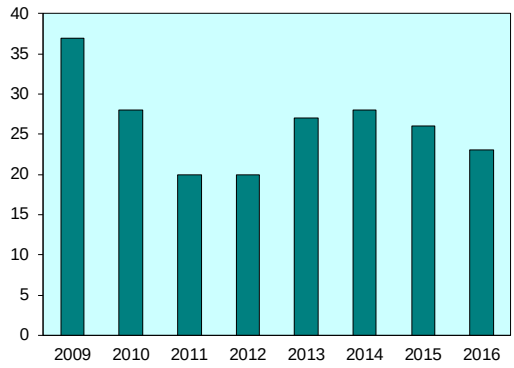


Figure 8. Elk City Zone Elk Status and Objectives.

Selway Zone (GMUs 16A, 17, 19, 20)

Management Objectives

Objectives in the Selway Zone (Figure 9) are to establish a population of 4,900-7,300 cows and 1,050-1,550 bulls, including 600-900 adult bulls. The most recent sightability survey in the zone was conducted in 2007 and population levels were below objectives with 3,381 cows, 934 bulls, and 728 adult bulls. An additional survey is needed to assess current population status, however, harvest and anecdotal information suggests the zone is likely still below objectives.

Like the Lolo Zone, management of the Selway Zone elk population and setting appropriate population objectives presents challenges. Calf recruitment remains low (~17 calves per 100 cows). Existing information suggests that both predation and density dependence (habitat limitations) have contributed to the decline.

Antlerless seasons were closed in 1998 to compensate for poor recruitment and 1996-1997 winter mortality. B-tag sales were capped at 1,255 in 2000; they were reduced further to 1,067 for the 2008 season and 7 days cut from the end of the B-tag season. Also in 2008, the A-tag sales were capped at 647.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Habitat Issues

Habitat productivity varies throughout the zone from high-precipitation, forested areas along the lower reaches of Selway River to dry, steep, south-facing ponderosa pine and grassland habitat along Salmon River. Many areas along Salmon River have a good mix of successional stages due to frequent fires within the wilderness. Fire suppression within portions of the Selway River drainage has led to decreasing forage production for big game. Road densities are low, contributing to low vulnerability for big game. Noxious weeds, especially spotted knapweed, have encroached upon, and greatly degraded, many important low-elevation areas of elk winter range in the lower Selway River drainage.

Due to the rugged and remote nature of this zone, human impacts have been very limited. In 1964, almost all of GMU 17 and a small portion of GMU 16A were included in the Selway-Bitterroot Wilderness. Most of GMU 19 became part of the Gospel Hump Wilderness in 1978, and in 1980, part of GMU 20 was included in the Frank Church River-of-No-Return Wilderness.

Historically, the Department has been involved with collaborative efforts such as the Clearwater Basin Elk habitat Initiative (1998), the Clearwater Summit (2003), the Clearwater Elk Collaborative (2003) and most recently, the Clearwater Basin Collaborative (2008). These collaborative efforts have supported increased fire frequency and more liberal "let burn" policies. From 2006 to 2009, 50,911 acres were burned from prescribed fire on lands administered by the Nez Perce-Clearwater National Forests. These prescribed burns should complement acres recently impacted by natural fires (large fires burned in GMUs 12, 17, and 20 during the summers of 2012 and 2013).

Biological Issues

Sightability survey data, collected in this zone from 1987-2001, revealed declining numbers of adult elk and declining recruitment. Declining calf recruitment was initially detected in GMUs 16A and 17 in 1995 surveys. Winter 1996-1997 was marked by severe conditions, including extremely deep snow exceeding 200% of average snow-pack in some areas. These conditions apparently caused higher-than-normal winter mortality leading to a significant decline in the GMU 16A and 17 herds. Survey data in 1999 suggested a 27% decline in adult elk over both GMUs. Composition surveys in GMU 17 during 2002 and 2003, and a sightability survey in 2004 revealed stable, low recruitment at 16 calves:100 cows, but in 2005 it declined to 11.0 calves:100 cows. In GMU 16A, the 2004 sightability survey revealed higher recruitment than in 1999.

Low calf recruitment was not observed in GMUs 19 and 20 until 1996. Survey data in 2001 suggested a significant decline in GMU 20 elk, but a significant increase in GMU 19 elk. However, fire activity during summer/fall 2000 may have been responsible for significant changes in elk distribution among GMUs 19, 19A, 20, and 20A. The 2007 sightability survey showed declines in total numbers in all the Selway Zone GMUs and further declines in recruitment in GMUs 16A and 17. No sightability surveys have been conducted since 2007 and an additional survey is needed to assess current population status.

Inter-specific Issues

The zone supports small, isolated white-tailed deer populations, low-density mule deer populations, and low-density moose populations. Grazing by cattle is virtually nonexistent.

Predation Issues

Selway Zone mountain lion harvest has remained static over the past decade. Black bear harvest is likewise stable. Wolf harvest has been minimal as well, ranging from 4 to 21 over the past 3 harvest seasons. In this zone, it is doubtful that harvest levels reflect population trend but rather reflect the remote, rugged nature of the habitat which, in combination with little access, precludes significant mountain lion, bear, or wolf harvest. Recent trends in mountain lion and bear populations are questionable. Wolves have been well established in this zone since the early 2000's, however, better information on wolf distribution and density within the zone would be useful to better address impacts of wolf predation on this elk population.

To gain a better understanding of cause-specific calf survival and management implications across the State, the Department began collaring calves in GMUs statewide in 2015. Within the Clearwater Region, GMUs 10A and 15 were included in this statewide monitoring effort. From 2015-2016, there were 21 calf mortalities in GMU 10A (69 total collared, 70% overall survival), and the main cause of death was lions (35%), followed by malnutrition (25%), wolf predation (15%), and unknown predation (15%). Only 4 calf mortalities occurred in GMU 15 from 2015-2017 (45 total collared, 91% overall survival), including 2 from unknown predation, 1 from wolf predation, and 1 from an automobile accident. Statewide calf survival in 2015, 2016, and 2017 was 82%, 76%, and 52% respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

Aerial surveys should be conducted periodically to obtain adequate information to evaluate population performance relative to plan objectives. Better information is needed on wolf numbers, pack distribution, and impacts on elk in this zone.

Elk

Selway Zone (GMUs 16A, 17, 19, 20)

		3-Year Averages	
Square Miles =	2,527	Hunters per square mile =	0.37
% Public Land =	100%	Harvest per square mile =	0.08
Major Land Type =	Forest	Success Rate =	22%
		%6+ Points =	42%

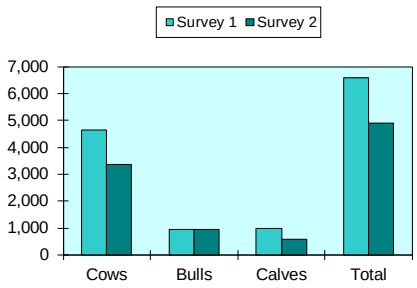
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2007	3,381	934	728	4,900-7,300	1,050-1,550	600-900
Bulls per 100 Cows			28	22		25-29	14 - 18

Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
16A	2004	457	96	130	683	2007	389	105	63	557
17	2004	2,076	486	332	2,894	2007	1,526	466	153	2,145
19	2001	1,508	240	394	2,142	2007	977	237	241	1,455
20	2001	596	138	120	854	2007	489	126	132	747
Comparable Surveys Total		4,637	960	976	6,573		3,381	934	589	4,904
Per 100 Cows			21	21				28	17	

Comparable Survey Totals

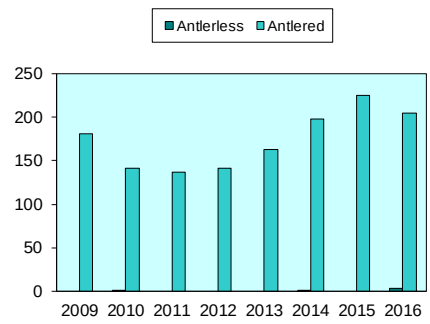


Zone Harvest Statistics

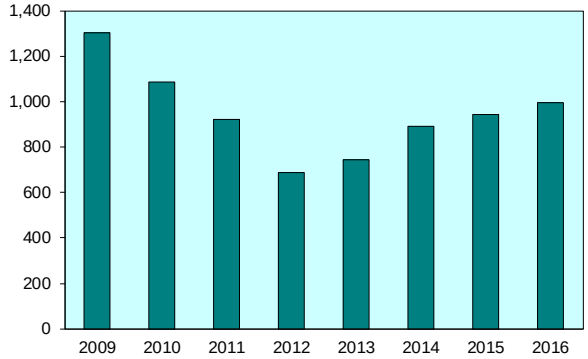
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	0	1	0	0	0	1	0	3
'A' Tag	0	0	0	0	0	0	0	0
'B' Tag	0	1	0	0	0	1	0	3
CH Tag	0	0	0	0	0	0	0	0
Antlered Harvest	181	141	137	141	163	198	225	205
'A' Tag	41	16	18	35	36	26	48	42
'B' Tag	140	125	119	106	127	172	177	163
CH Tag	0	0	0	0	0	0	0	0
Hunter Numbers	1,302	1,085	924	690	743	893	945	998
'A' Tag	377	196	211	170	168	196	212	220
'B' Tag	925	889	713	520	575	697	733	778
CH Tag	0	0	0	0	0	0	0	0
% 6+ Points	66	54	56	39	50	42	48	36

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

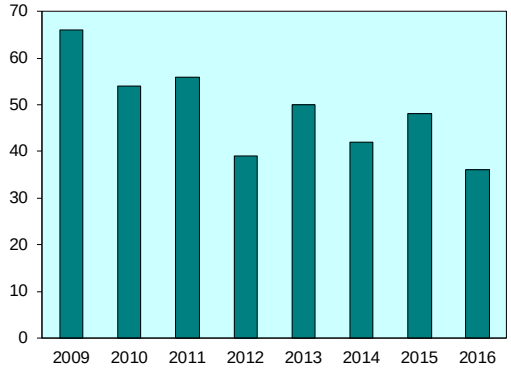


Figure 9. Selway Zone Elk Status and Objectives.

Sawtooth Zone (GMUs 33, 34, 35, 36)

Management Objectives

Objectives for Sawtooth Zone (Figure 10) include maintaining a population of 3,000 -4,500 cows and 630 - 945 bulls, including 360 - 540 adult bulls in the wintering population in this zone. Bull:cow and adult bull:cow ratios will be managed at 18-24 bulls:100 cows and 10-14 adult bulls:100 cows, the statewide minimums. Summer elk numbers in GMU 36 were reduced to near objectives during the late 1990s. A harvest of ≥750 bulls each year is desired; however, this goal has been unattainable this decade and is unlikely to occur in the near future based on current status of this elk herd. These objectives reflect a balance between the desire for a relatively large, elk population for hunting and viewing, and concerns about feeding elk during winter.

Historical Perspective

Both mule deer and elk herds were over-harvested for hides and meat for mining camps in the mid-to-late 1800s. Lack of big game in the area resulted in the Idaho Legislature establishing the South Fork Game Preserve (now GMU 35) in 1909. This was the first game preserve in Idaho and remained in place until 1977. No hunting was allowed in the preserve until 1945 and deer populations increased rapidly. The elk herd increased to >1,000 by 1940 and approximately 2,000 by the early 1950s. Elk populations started rebounding in the late 1970s and peaked at a high of 7,200 elk in the early 1990s. The most recent sightability survey conducted in January 2017, estimated about 4,000 elk in the zone.

Sawtooth Zone is a popular destination for elk hunters from the Boise and Magic Valley areas. Hunter numbers declined to approximately 3,000 in 2009. Numbers have further declined to about 2,000 the last couple of years. Antlerless harvest has averaged 52 elk between 2009 and 2016, and antlered harvest has increased at about 10% per year from approximately 300 elk in 2009 to 600 elk in 2016.

Zone quotas on tags were implemented in 2009. Tag reductions were phased in over a 3-year period, and leveled off at ~1,500 B-tags, and ~550 A-tags. These numbers equate to a 46% reduction from 2008 tag numbers.

Habitat Issues

More than 90% of the land in the zone is managed by the USFS. Access ranges from heavily roaded conditions in the Garden Valley area to the roadless Frank Church River-of-No-Return Wilderness and Sawtooth National Recreation Area. Hunters are able to select hunting conditions from wilderness to logged/roaded situations. In several areas, road densities are very high and access management programs could provide more area with less motorized access to address elk vulnerability issues. However, limiting motorized vehicle access has been met with great resistance from land management agencies, organized motorized groups, and other State agencies with different priorities and objectives.

Habitat conditions on winter range have been an important consideration since the early 1930s. Reports by USFS and National Park Service biologists described degraded conditions of winter range in 1932. There have been numerous attempts to improve habitat on winter range, but none have shown significant success. Currently, most south and west-facing slopes along the south

fork of the Payette River are largely dominated by rush skeleton weed, severely reducing the value of thousands of acres of important winter range for elk and deer.

Elk caused damage to several ranches (primarily cattle and small horse feeding operations) in the Garden Valley area during the early and mid-2000s. During spring, elk concentrate on new forage growth on private rangeland in the Garden Valley area. Depredation complaints declined to almost zero between 2008 and 2013. However, complaints during 2014-2016 increased as the elk population has started to rebound (primarily for fence damage and cattle rangeland/pasture). Very limited winter range in the Stanley area has been impacted by non-migratory elk that are being fed through the winter by locals. However, this wintering herd has been reduced from nearly 500 animals to only about 20-40 by 2012. In previous years, portions of local summer range were also noticeably impacted by elk. However, recent elk densities and distribution patterns do not appear to be cause for concern.

Biological Issues

Following a regional trend, the elk population south of the Salmon River had increased dramatically until the late 1990's. Calf recruitment in the past has been high; however, fluctuation in calf:cow ratios over the last few years has been common. The 2013 and 2017 sightability surveys documented improvement in both calf:cow (39:100 and 36:100 respectfully) and bull:cow (14:100 and 17:100 respectfully) ratios over those observed in 2009 (19:100 calf:cow, 9:100 bull:cow). Calf ratios of 46:100 were documented during a comp survey in 2014 and averaged 36:100 during 2015 and 2016.

Inter-specific Issues

The Garden Valley area has been a significant wintering area for mule deer. In the early 1940s, estimated winter deer populations were from 5,000-12,000. The elk population consisted of <2,000 animals. From 1964 to the late 2000s it was estimated that mule deer numbers did not exceed 2,000 and there were approximately 5,500 elk wintering in the area. In recent years the ratio of deer and elk has shifted. In 2017 4,000 elk were estimated on winter range. Mule deer were surveyed in January 2010, and approximately 4,500 deer were estimated in GMUs 33 and 35. Deer populations may have responded positively to fewer elk. Livestock grazing has been significantly reduced over the last 60 years; however, domestic sheep grazing in localized areas (Middle Fork Payette drainage) have reduced habitat quality by removing nearly all the understory vegetation in localized areas.

Predation Issues

Black bear, wolf, and mountain lion populations are well established in Sawtooth Zone. Sightability surveys conducted in 2009 indicated calf survival was extremely low. According to research conducted between 2008 and 2012 by the Department, wolf predation was a leading source of mortality for 6 month and older elk calves and cows in the Sawtooth Zone. However, both calf:cow ratios and calf survival have rebounded and stabilized. Neonate survival has not been researched, but if black bear have an impact on neonates it would be during spring. Lion predation occurs year-round and has been the primary cause of mortality in both cow and calf elk during winters 2014-15 and 2015-16.

Current calf:cow ratios have stabilized during the past 5 years, and has averaged 38:100. Calf:cow ratios well below normal ranges for this elk herd were documented in 2008 and 2009, but improved in 2010 following a wolf hunting season and mild winter. Just as important, winter survival rate of calves improved in 2010, which resulted in an estimated end of winter calf:cow ratio of 31:100. In 2011, early-winter calf:cow ratios were again improved; however, winter survival rate of calves was low, and the estimated calf:cow ratio at the end of winter was 19:100. Thirty-eight calves:100 cows were documented in early 2013, double what was observed in 2009. Calf ratios of 46:100 were documented during a comp survey in early 2014, and high winter survival rate of calves was documented. Improvements in calf survival coupled with higher early-winter calf:cow ratios are occurring at the same time that wolf numbers are being reduced through regulated wolf hunting. Impacts of wolves on elk population dynamics have been a significant issue for elk management in this zone, and will continue to be monitored very closely. The Department has developed, approved, and implemented a predation management plan for the Sawtooth Elk Zone.

Between March 2014 and January 2017, 113 calves and 34 cows were captured and marked with radio-collars. This effort has allowed managers to monitor survival of 6-month old calves to full recruitment into the population. Spring recruitment rates of 44:100, 27:100, 24:100, and 6:100 were documented in 2014, 2015, 2016 and 2017, respectively. The cow elk will supplement existing radio-collars to monitor survival, and aid in the management of this elk herd.

Winter Feeding Issues

Sawtooth Zone has been a focal point for winter feeding since the 1930s. Severe winter mortality occurred on a regular basis starting in 1932 when 93 dead elk were found and 1,800 dead deer were buried along South Fork Payette River. Winter feeding programs for mule deer started shortly thereafter. Within a few years, elk were consuming more feed than mule deer. Winter feeding has only occurred twice in the past 10 years. The winter of 2016-2017 was the worst on record. Approximately 450 deer and 600 elk were fed by the Department at 22 feed sites along the Middle and South Fork Payette Rivers in GMU's 33 and 35

There has been no evidence of Brucellosis in elk at any of the feed sites. The major concern is for feeding mule deer on limited deer winter range in Garden Valley. When mule deer are fed, elk quickly take over feed sites and exclude deer. This requires establishment of elk feeding sites to allow deer access to sufficient feed. Additionally, elk and deer have different nutritional needs, and pellets formulated for one species, may not provide adequate nutrition for the other. Native range has the capability to support the current elk herd in nearly all situations. There is considerable public demand for feeding elk. This demand is both for public concern about the welfare of the herd and to develop an elk feeding sleigh ride as a tourist attraction.

In the past two decades, occasional winter feeding has allowed a wintering elk herd to become established in the Stanley area, where historically they could not survive severe winters. The herd grew to 500-1,000 animals and severely impacted the small amount of natural winter range available. More recently, antlerless hunting that targeted the wintering population reduced numbers to a much lower level. Fewer than 40 elk remain in Stanley Basin during winter.

Information Requirements

Information about impacts of several large fires in the last 10 years on calving, summer, or winter ranges is needed. Potential impacts of the new mix of large predators are being studied by Department researchers, but more information is needed to determine how all the predators and prey interact in the zone. Inventory and mapping of current range of rush skeleton weed on summer and winter habitats is desirable and understanding the impacts on carrying capacity will be important.

Elk

Sawtooth Zone (GMUs 33, 34, 35, 36)

Square Miles =	2,541	3-Year Averages	
% Public Land =	97%	Hunters per square mile =	0.80
Major Land Type =	Forest	Harvest per square mile =	0.29
	Rangeland	Success Rate =	29%
		%6 + Points =	31%

Winter Status & Objectives

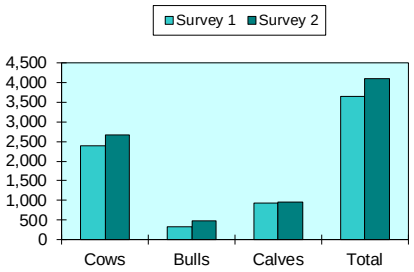
Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2017	2,659	472	272	3,000-4,500	630-945	360-540
Bulls per 100 Cows			18	10		18 - 24	10 - 14

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
33	2013	2,396	324	926	3,646	2017	2,630	468	951	4,049
34	ND					ND				
35	ND					ND				
36	ND					2017	29	4	16	49
Comparable Surveys Total		2,396	324	926	3,646		2,659	472	967	4,098
Per 100 Cows			14	39				18	36	

Note: ND = no survey data available.

Comparable Survey Totals

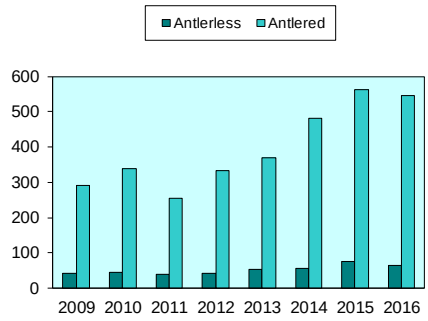


Zone Harvest Statistics

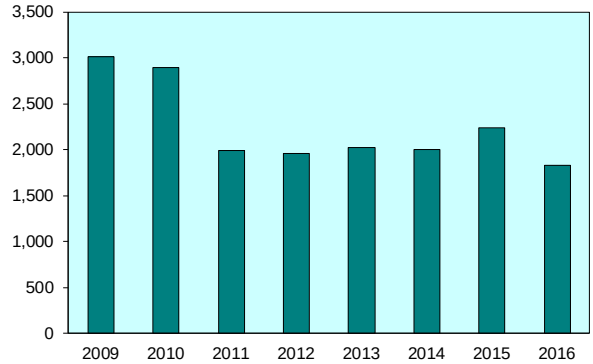
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	42	44	40	42	54	56	76	65
'A' Tag	7	14	9	17	27	22	37	35
'B' Tag	2	0	0	0	1	0	0	0
CH Tag	33	30	31	25	26	34	39	30
Antlered Harvest	292	339	254	334	369	480	562	545
'A' Tag	68	56	47	60	75	144	109	116
'B' Tag	219	268	195	268	279	321	434	420
CH Tag	5	15	12	6	15	15	19	9
Hunter Numbers	3,010	2,892	1,987	1,963	2,022	2,004	2,241	1,827
'A' Tag	683	656	543	511	518	539	592	477
'B' Tag	2,231	2,118	1,336	1,344	1,381	1,349	1,521	1,243
CH Tag	96	118	108	108	123	116	128	107
% 6+ Points	32	23	26	32	31	29	34	31

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

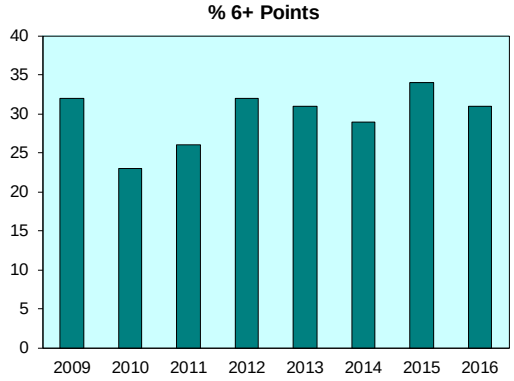


Figure 10. Sawtooth Zone Elk Status and Objectives.

Owyhee Zone (GMUs 38, 40, 41, 42, 46)

Management Objectives

The objective in Owyhee Zone (Figure 11) is to maintain or increase the elk population as long as it is socially acceptable and does not impact the mule deer population.

The 4 GMUs within this zone vary substantially in their potential to sustain elk populations under current biological and socio-political constraints. Management will retain enough flexibility to allow adjustments of elk numbers to address issues that may arise, particularly depredations on private property.

Historical Perspective

During the late 1800s, elk in Owyhee Zone were nearly eliminated because of unrestricted hunting and conflicts with the area's growing livestock industry. Elk from Yellowstone National Park were released near Murphy, ID in the 1950's. Elk densities remained low throughout the twentieth century but began to increase in the 1990s. Recently, ingress from the rapidly growing northern Nevada elk population and natural reproduction has contributed to herd growth.

Efforts by the Nevada Division of Wildlife (NDOW) to reestablish elk in the northern portion of that state have been very successful. Elk are expanding their range into suitable habitats in Nevada and Idaho that have not had resident elk for nearly a century. Translocations have been used to hasten the growth in elk numbers. Since the mid-1980s, 523 elk have been released into five areas in Elko County, Nevada . In 2017, NDOW counted 3,742 elk in this population between both states.

GMUs 38, 40, 41, and 42 – While an elk is occasionally documented in GMU 38, it is rare and elk are not likely to establish, or be encouraged to establish, this GMU due to agricultural practices.

During the 1970s, a few hundred elk inhabited GMUs 40 and 42. By the mid-1990s, this elk herd had increased to about 600 head, and was estimated in 2002 having approximately 450 head. Elk in GMUs 40 and 42 are suspected of using winter ranges in both Idaho and Oregon. One elk calf tagged in Baker, Oregon, was harvested as an adult near Murphy, Idaho, over 175 miles away. In GMU 41, elk that winter east of Highway 51 move south to summer ranges in Nevada, although an increasing number are staying in GMU 41 year-round.

In February 2017, Nevada conducted an aerial survey on the Idaho/Nevada border. A total of 2,120 elk were counted in Idaho west of the Bruneau River; with calf:cow ratio at 38:100, and bull:cow ratio at 40:100. The survey this year extended further north into Idaho than it has in previous years.. In 2016, the total number of elk observed west of Bruneau River was 1,679; with calf:cow ratio at 57:100, and bull:cow ratio at 16:100.

Habitat Issues

The Owyhee Zone is comprised of 4 GMUs, and habitat quality varies considerably between GMUs, as does the potential for depredation problems. The BLM manages most of the elk

habitat in Owyhee County. However, small parcels of private property include habitats that receive substantial elk use. The number of Landowner Appreciation Program (LAP) tags was increased from 10% to 25% of allocated tags in GMUs 40, 41, and 42 to provide landowners the opportunity to harvest some of the elk that utilize their property, to garner landowner support for elk, and hopefully increase public access for elk hunting.

Juniper encroachment is a concern in portions of GMUs 40 and 42. While juniper does provide screening cover, it generally reduces habitat quality for elk and other wildlife. In areas of GMUs 40 and 42, on both private and public land, efforts are underway to cut and lay juniper, or to masticate juniper. These efforts are showing promise, and will benefit elk and other wildlife.

Biological Issues

Because elk densities have traditionally been low in this zone, sightability surveys have not been conducted to provide data on population dynamics. Elk objectives are not derived from aerial surveys due to expansive land area, dispersed groups of elk, poorly defined winter range, difficult winter access, and interstate migratory patterns. Anecdotal information suggests these populations are increasing, but accurate estimates of population size are unavailable. Increases in elk numbers over the next 5-10 years are inevitable from natural reproduction and continued ingress of elk from Nevada. Although elk numbers in some GMUs currently exceed population objectives established in 1998, no major biological issues have been identified.

Inter-specific Issues

The Owyhee Zone has traditionally had a large population of mule deer; although deer numbers have declined during the past decade from changes in habitat, and effects of drought and severe winters. The current elk population is not believed to have negative impact on mule deer numbers.

Conflicts between elk and livestock have been a major influence on elk management in portions of Owyhee County. Concentrations of elk on private land holdings in Owyhee County has created depredation problems. Landowners' major concerns are damage to fences and loss of private rangeland forage. The Department works closely with private landowners to alleviate chronic problems. On federal lands, any resource damage attributed to elk will be jointly evaluated by the Department and managing agency.

Predation Issues

Mountain lion are likely the primary predator of elk in this zone. Predation is presently not a major factor limiting growth of these elk populations, nor is it anticipated to become a concern.

Winter Feeding Issues

There has been no recent winter-feeding of elk in this zone. Elk numbers will not be maintained at a higher level than can be supported by available winter habitat. Feeding by private individuals will be strongly discouraged. In the event that emergency feeding is necessary, elk will be reduced to resolve the problem.

Information Requirements

Current population estimates are based on reports from ranchers, biologists, and hunters, but better data will be necessary for management of anticipated higher numbers. We are currently evaluating alternative survey methods to sightability surveys to hopefully develop population estimates in the future. We will also be initiating an elk study in GMU 40 to determine spatial and habitat use on private and public land.

Management Implications

GMUs 40, 41, and 42 have gained a reputation of producing large bulls. Typically, 6 or 7 Super Tag holders hunt during the early rifle hunt in GMU 40 and often outnumber the controlled hunt permittees (5 tags). Changing the opening day from 30 August to 25 September does not appear to have the desired effect of limiting participation from hunters with Super Tags. We will continue to monitor this hunt to ensure it remains a quality hunting experience.

A new bull hunt was added to GMU 41 in 2010. Landowners who controlled access to the best elk habitat were skeptical of this hunt because they were concerned about unethical hunters trespassing, damaging fences, chasing elk, and using ATVs off-road. They finally agreed on a temporary basis, and the situation is monitored annually. Additional cow and bull tags have since been added to GMU 41 to help alleviate depredation concerns with this growing elk herd.

Elk

Owyhee Zone (GMUs 38, 40, 41, 42)

Square Miles =	8,003	3-Year Averages	
% Public Land =	72%	Hunters per square mile =	0.05
Major Land Type =	Forest	Harvest per square mile =	0.05
		Success Rate =	48%
		%6+ Points =	83%

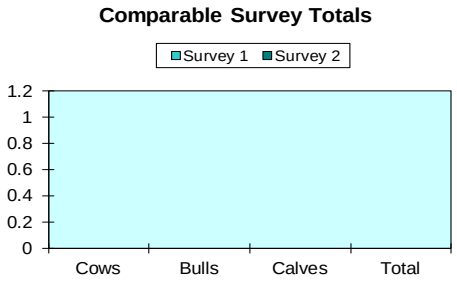
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Bulls per 100 Cows			0	0			

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
Comparable Surveys Total										
Per 100 Cows										

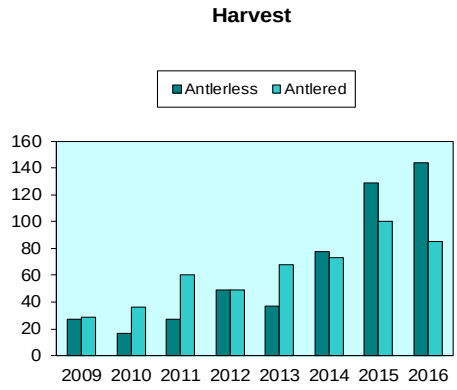
Note: ND = no survey data available.

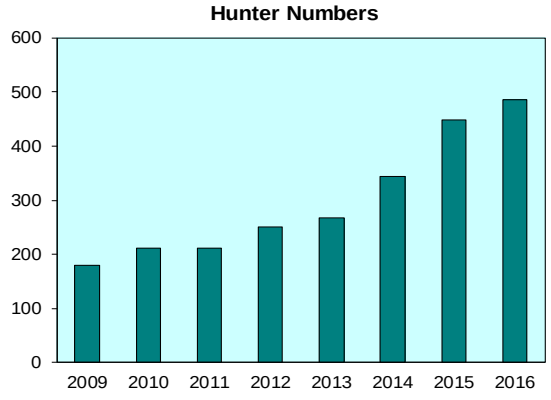


Zone Harvest Statistics

	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	27	17	27	49	37	78	129	144
'A' Tag	0	0	0	0	0	0	0	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	27	17	27	49	37	78	129	144
Antlered Harvest	29	36	60	49	68	73	100	85
'A' Tag	0	0	0	0	0	0	0	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	29	36	60	49	68	73	100	85
Hunter Numbers	179	212	212	251	267	344	448	486
'A' Tag	3	0	0	0	0	0	0	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	176	211	212	251	267	344	448	486
% 6+ Points	72	89	73	94	82	85	78	88

Note: % 6+ pts does not include spike-only harvest.





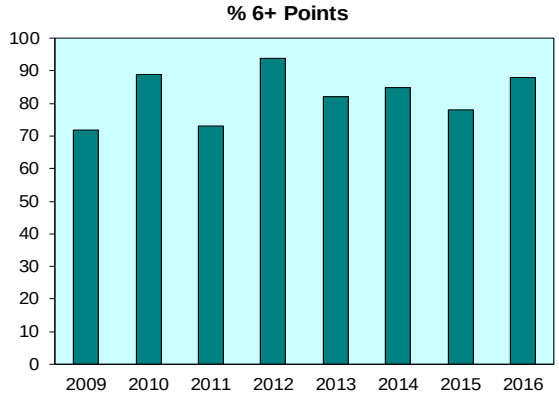


Figure 11. Owyhee Zone Elk Status and Objectives.

Boise River Zone (GMU 39)

Management Objectives

Objectives for Boise River Zone (Figure 12) are to maintain a population of 3,200-4,800 cows and 650+ bulls, including 375+ adult bulls. Management in the southern and west portions of the zone has focused on addressing significant landowner concerns about elk depredations. Landowner permission hunts seem to have been very effective at reducing landowner complaints about elk in past years in the Horseshoe Bend area, but tensions are high in Mayfield. Currently, this zone is meeting objectives for elk.

Historical Perspective

Near the turn of the century, elk herds in Boise River drainage were heavily harvested for hides and meat for mining camps in the area. Sparse elk herds in Idaho were bolstered with translocated elk from the Yellowstone area in the late 1930s. Relatively liberal either-sex seasons were maintained in this zone until the early 1970s, suppressing the herds well below habitat potential. In 1975, bulls-only hunting was implemented. Since then, the wintering herd has increased to over 7,000 head.

The interest in elk hunting in Boise River Zone increased along with growth in the elk population. Boise River is one of the most popular elk zones in the state with approximately 5,500 hunters. This zone may be increasing in popularity due to human population increase, its proximity to Boise, and limited over-the-counter opportunities, including the quota implemented in the Sawtooth Zone.

Habitat Issues

Boise River Zone includes 2,455 miles^2 of excellent elk habitat. The conditions range from wilderness in Sawtooth National Recreation Area to the heavily roaded areas near Boise. Boise National Forest manages the majority of summer habitat occupied by elk.

There are large areas of private land on the west side of the zone in the Horseshoe Bend area. Historically, landowners in this area have suffered significant damage to hay crops and private rangeland, especially in spring, although these depredation concerns have subsided in recent years. On the south side of the zone, winter and spring concentrations of elk have been in conflict with livestock operations, primarily on rangeland, but occasionally with crops. Urban expansion in the foothills around Boise has led to significant conflicts with wintering elk. The loss of winter range and conflicts with homeowners may be one of the most serious factor limiting elk populations in Boise River Zone.

Several large wildfires have converted shrub lands to grasslands, and may have improved some wintering conditions for elk. The effects of wildfire in summer and transition ranges have generally improved conditions for elk. However, rush skeleton weed has infested many of the lower southwest-facing slopes, and poses a serious threat to elk winter range because there is no known chemical containment. Skeleton weed is likely to have long-term implications, and will reduce the carrying capacity of habitat for elk. This is especially true on around the Boise River Wildlife Management Area where the majority of the area burned in the 2016 Highland Fire is dominated by skeleton weed.

Biological Issues

The implementation of bulls-only hunting and a series of mild winters in the late 1980s increased elk survival in this zone. Calf recruitment is fair to good with a ratio of 28-50 calves per 100 cows, although calf numbers have been on the low end of the range for several years. Bull harvest exceeded the potential for bull calf recruitment through much of the 1990s. For example, in 1997, 664 bulls were harvested and an estimated 550 bull calves were recruited. Seasons (Appendix A) were adjusted in 2002 to move the general bull hunt out of the period of overlap with general deer season with the hope of reducing bull harvest to below replacement potential. In 2003, only 369 bulls were harvested. However, hunters have apparently adapted to the new season timing, and bull harvest levels have increased to near previous levels.

Inter-specific Issues

Boise River Zone is also one of the top mule deer hunting GMUs in Idaho. Except for weed expansion, other recent changes to habitat have favored elk. Winter survey flights show the separation of wintering deer and elk. Mule deer are not using some of the wintering areas they used when elk numbers were lower.

Predation Issues

Black bear and mountain lion populations are well established and apparently stable in Boise River Zone. The mountain lion population is well above levels of the 1950s. Wolves were reintroduced in Idaho in 1995. On occasion, wolves ventured into the GMU during 1995-2002. By the end of 2006, wolves from 5-7 packs had occupied portions of the Boise River zone. Wolf hunts in recent years has kept the wolf population in check within the Boise River zone.

Winter Feeding Issues

Winter feeding sites were maintained along Middle Fork Boise River for both deer and elk through the 1950s. The only elk winter feeding that has taken place in the last 10 years has been around subdivisions to bait elk away from problem areas. Native range has the capability to support the current elk herd in nearly all situations.

Information Requirements

This large zone contains both winter and summer range for this elk herd. Current sightability surveys provide excellent information on the status of the entire herd. Due to urban sprawl and housing development demands in the foothills near Boise, better information and mapping of winter ranges and migration corridors are needed to help mitigate and address this issue. Noxious weed inventory and mapping on winter and summer ranges are also needed to combat, weed invasion and subsequent loss of critical wildlife habitat.

During sightability surveys in February 2011, over 2,600 elk were located between Interstate 84 and the South Fork Boise River. It is speculated that heavy snow accumulations in the high country, the closure of the South Fork feeding station, and possible pressure from wolves have pushed elk lower in recent years than what was previously documented. Additional depredation complaints have also arisen with an increasing number of elk wintering on private rangelands in

the area, largely beginning in 2006 but increasing every year since. Changes in distribution and migration patterns have been noted in GMUs 43-45, and it is documented that some of these elk are wintering in the Danskins. A 2009 radio-collaring effort allowed us to determine that elk wintering in the Danskins spent the summer in GMUs 43, 44, and 45.

During January 2015 the Boise River and Smokey-Bennett Zones were surveyed at the same time. An estimated 7,400 elk were observed in GMU 39 with calf:cow ratio at 24:100 and bull:cow ratio of 19:100. Results were very similar to the 2011 survey. Additionally, 18 cows and 23 calves were captured and equipped with GPS collars. Approximately 27% of the GPS cows spend their summer in GMU 43, 44, and 45. During 2016, 5 cows and 20 calves were equipped with GPS collars to assess over-winter survival, annual survival, and seasonal movements. An additional 14 calves and 7 adult cow elk were collared during winter 2016-2017. The information generated by this collaring effort has helped us identify important calving areas and migration corridors. This information has been used by USFS and BLM to develop travel management plans that may protect elk during vulnerable periods.

Management Issues

In 2009, the Mayfield/Danskin area was removed from the general season hunt and a controlled either-sex hunt was added to the area. This was done to address issues with trespass hunting, illegal off-road vehicle use, and general unethical behavior. A landowner permission hunt for 25 tags was added to the Horseshoe bend area to address increasing depredation issues at the request of landowners in 2015. This hunt runs from 1-31 August and 1-31 December.

In March 2011, approximately 39% (2,621elk) of all elk observed in the zone were found in the Mayfield area. In 2000, only 422 elk were observed near Mayfield, which represents 10% of all elk surveyed in the zone that year. Mathematical inferences based on the 2009 telemetry effort suggest over 1,800 elk wintering in Mayfield may be spending the hunting season outside of GMU 39. A survey was conducted again in 2013, and an estimated 7,444 elk wintered in GMU 39. Approximately 600-700 elk wintered in the Mayfield area that year.

Landowner tensions flared in 2013-2014 largely as a result of the Elk and Pony Complex fires. The fires created landowner anxiety over loss of forage on private and public rangeland for livestock, federal agency action that required two-year rest of their public grazing allotments to allow for forage recovery, and landowner fear of increased elk depredations. Fortunately, the winter was extremely mild, and relatively few elk spent the winter in Mayfield. Tensions remained high as landowners and the Department differed over the total number of elk observed in the area; the Department's estimated 600-700 elk based on weekly fixed-wing flights and ground observations. Further, both the media and elected officials were more actively engaged in the issue than normal. To assist landowners, the Department made several changes to the elk season framework, including elimination of the January LPH (at landowner request), extending the December LPH to 1 Oct – 31 Dec, and increasing tags from 100 to 300. Additionally, resources were repositioned to provide technical assistance to landowners, create range rehabilitation and range improvement projects for wildlife and livestock, and help mitigate for elk depredations.

Elk

Boise River Zone (GMU 39)

Square Miles =	2,444	3-Year Averages	
% Public Land =	76%	Hunters per square mile =	2.22
Major Land Type =	Forest	Harvest per square mile =	0.87
	Rangeland	Success Rate =	21%
		%6+ Points =	27%

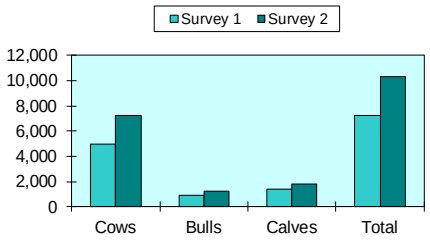
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2015	7,223	1,223	619	3,200 - 4,800	650 - 950	375 - 575
Bulls per 100 Cows			17	9		18 - 24	10 - 14

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
39	2011	4,971	916	1,388	7,275	2015	7,223	1,223	1,826	10,272
Comparable Surveys Total		4,971	916	1,388	7,275		7,223	1,223	1,826	10,272
Per 100 Cows			18	28				17	25	

Comparable Survey Totals

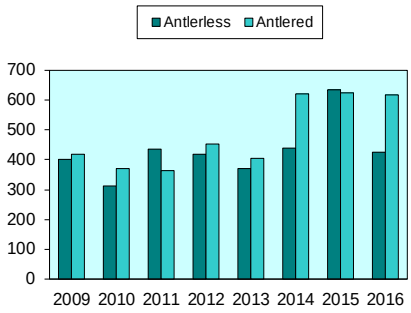


Zone Harvest Statistics

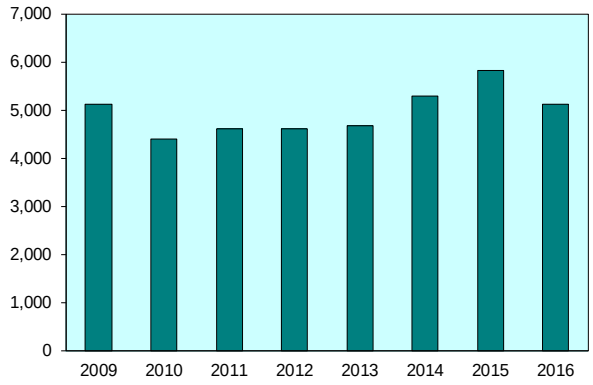
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	403	313	434	417	369	440	636	424
'A' Tag	86	89	99	88	4	26	15	0
'B' Tag	3	6	1	2	9	0	0	0
CH Tag	314	219	334	327	356	414	621	424
Antlered Harvest	420	369	362	452	404	622	623	618
'A' Tag	5	7	5	8	12	13	7	11
'B' Tag	393	340	325	419	380	596	580	566
CH Tag	22	22	32	25	12	13	36	41
Hunter Numbers	5,137	4,407	4,616	4,617	4,687	5,303	5,826	5,138
'A' Tag	887	882	915	868	382	336	327	292
'B' Tag	3,300	2,718	2,750	2,882	3,099	3,568	3,753	3,345
CH Tag	950	807	951	867	1,206	1,399	1,746	1,501
% 6+ Points	16	18	22	25	24	28	29	25

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

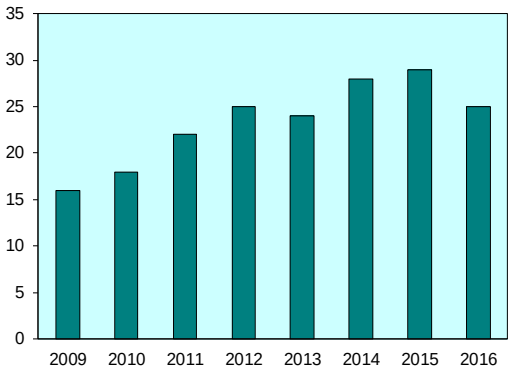


Figure 12. Boise River Zone Elk Status and Objectives.

McCall Zone (GMUs 19A, 23, 24, 25)

Management Objectives

Objectives for McCall Zone (Figure 13) are to maintain a population of ≥2500 cow and ≥525 bull elk, including ≥300 adult bulls. This zone will be managed to produce statewide minimums for bull:cow ratio (18-24 bulls:100 cows) and adult bull:cow ratio (10-14 adult bulls:100 cows). The total population objective draws a balance among concerns about depredation damage, the desire for a reasonably large elk population, and concern about habitat-carrying capacity. High road densities in some areas could affect elk vulnerability.

Historical Perspective

Elk were abundant in McCall Zone prior to European settlement in the late 1800s. The proliferation of mining due to the gold rush in the late 1800s and early 1900s led to widespread slaughter of these animals to supply meat and hides for mining camps. As a result, elk became increasingly rare to see, and at one time were thought to be eliminated from the area. Remnant populations relegated to the more remote rugged portions of the zone survived. Translocation of elk from Yellowstone to places in McCall Zone such as New Meadows occurred in the late 1930s. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the 1970s. The implementation of bulls-only hunting in 1976 spurred an increase in elk populations in McCall Zone. This increase has continued to the present day peaks in elk populations.

Habitat Issues

Over 70% of McCall Zone is in public ownership and management. Little Salmon River and North Fork Payette River valley bottoms comprise most private ownership. Private land in this zone is predominantly agricultural or rural subdivision in nature.

Timber harvest and livestock grazing affect habitat change on public lands on the west side of McCall Zone. Wildfire or prescribed burning influence habitat alteration on lands on the east side of the zone. Several large fires have burned in this zone in the last decade. A balance exists among early, mid, and late successional habitat stages that are used by elk in summer. Winter ranges occur primarily on public ground. Federal land management agencies (USFS and BLM) have active prescribed burning programs that should maintain good winter range habitat for elk in McCall Zone. Noxious weed invasion, specifically from spotted knapweed (*Centaurea maculosa*) and yellow starthistle (*Centaurea solstitialis*), is a threat to winter ranges in Little Salmon River and Salmon River drainages of GMU 23. Elk/human conflicts occur during summer and fall months when elk enter agricultural fields in the valley bottoms to forage.

Road densities are estimated at less than 0.25 miles per square mile in GMUs 19A and 25. Road densities in GMUs 23 and 24 are estimated at greater than 2.5 miles per square mile. Active timber harvest programs are anticipated to increase these road densities in some areas which may affect elk security in the near future.

Biological Issues

The McCall Zone elk population performed well from the mid-1980s to early 1990s, but calf production declined from 30+ calves:100 cows to poor (≤20 calves:100 cows) zone-wide throughout the early 2000s. The 2014 survey showed an increase in calf recruitment with a calf:cow ratio of 30:100. Bull:cow ratios are 29:100, above statewide minimum goals. .

Inter-specific Issues

Elk must compete zone-wide primarily with mule deer and to a lesser extent with white-tailed deer. Extensive domestic sheep and cattle grazing occur on elk range in the western part of the zone. A small number of bighorn sheep occupy a portion of rugged country less favored by elk in the northeast portion of the zone. The competitive effect of these species on one another is largely unknown.

Predation Issues

Wolves, black bears, and mountain lions are prevalent in McCall Zone. Bears are at a moderate but stable level, and mountain lions were thought to be at the highest number in recent history; however, anecdotal information indicates this species may be declining. There is no evidence as to the extent these species prey on elk in this zone. Wolves, introduced in Idaho's backcountry in 1995, are now well established in this zone and occur at medium to high densities.

Winter Feeding Issues

The remote location of most winter range in this zone precludes large-scale winter-feeding. In severe winters, some feeding has occurred in GMU 24. The Goldfork bait site was established in 1985 to bait elk out of winter livestock feeding operations. The Department no longer has any involvement in this operation.

Information Requirements

Carrying capacity of winter ranges is unknown. This information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest. Impacts of potential predators on elk production are largely unknown. Information is lacking on the migration routes and patterns of elk in this zone.

Elk

McCall Zone (GMUs 19A, 23, 24, 25)

Square Miles =	2,984	3-Year Averages	
% Public Land =	82%	Hunters per square mile =	2.24
Major Land Type =	Forest	Harvest per square mile =	0.70
		Success Rate =	17%
		% 6+ Points =	35%

Winter Status & Objectives

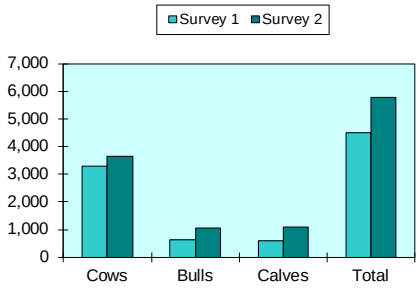
Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2014	3,635	1,052	689	2,500-3,700	525-800	300-450
Bulls per 100 Cows			29	19		18 - 24	10 - 14

Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
19A	2010	973	211	144	1,328	2014	1,180	277	252	1,709
23	2010	1,937	282	388	2,607	2014	2,027	511	702	3,240
24	ND					ND				
25	2010	382	123	74	579	2014	428	264	124	816
Comparable Surveys Total		3,292	616	606	4,514		3,635	1,052	1,078	5,765
Per 100 Cows			19	18				29	30	

Note: ND = no survey data available.

Comparable Survey Totals

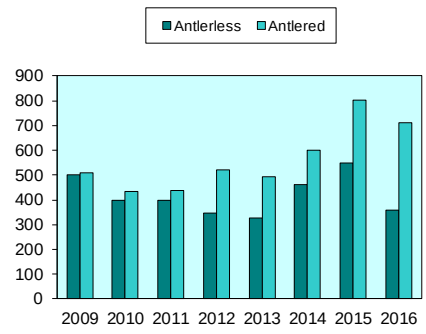


Zone Harvest Statistics

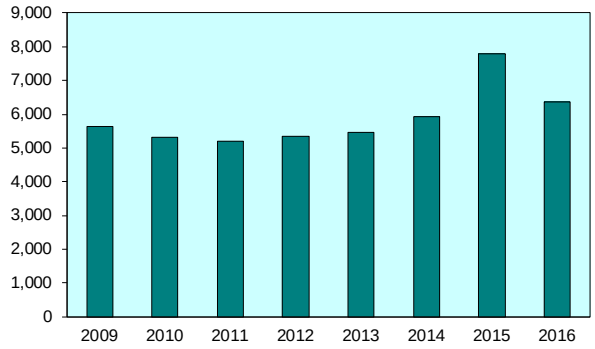
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	503	398	400	347	325	463	550	359
'A' Tag	219	195	210	183	174	307	385	210
'B' Tag	1	2	0	1	5	0	0	5
CH Tag	283	201	190	163	146	156	165	144
Antlered Harvest	508	433	439	520	494	599	803	710
'A' Tag	194	151	133	177	187	183	257	224
'B' Tag	299	281	300	337	303	413	537	476
CH Tag	15	2	6	6	4	3	9	10
Hunter Numbers	5,627	5,308	5,207	5,340	5,461	5,927	7,782	6,375
'A' Tag	2,215	2,113	2,081	2,098	2,159	2,478	3,651	2,652
'B' Tag	2,425	2,608	2,544	2,727	2,823	2,942	3,617	3,245
CH Tag	987	587	582	515	479	507	514	478
% 6+ Points	28	31	33	32	29	33	35	36

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

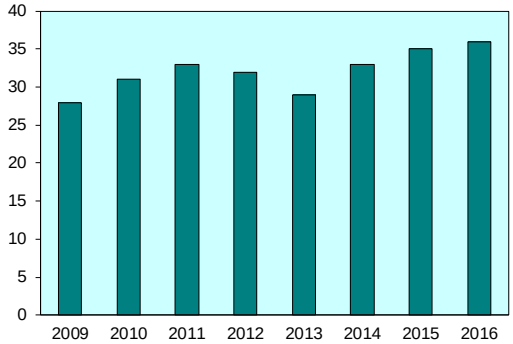


Figure 13. McCall Zone Elk Status and Objectives.

Middle Fork Zone (GMUs 20A, 26, 27)

Management Objectives

Objectives for Middle Fork Zone (Figure 14) are to stabilize and increase the elk population to meet the minimum objectives of 3,850 cows and 690 (390 adult) bulls. If future elk surveys do not reveal a change in productivity and bull:cow ratios, a reassessment of management objectives may be necessary. Herds will be managed to increase the bull:cow ratios to 18-24 bulls:100 cows, which translates to 10-48 adult bulls:100 cows.

Historical Perspective

Elk were in low abundance in Middle Fork Zone through the early part of the twentieth century. As has occurred over much of the west, elk herds expanded dramatically since the mid-1970s. Today, Middle Fork Zone winters about 4200 elk. Approximately 4,000 people were hunting elk in Middle Fork Zone through 1997. Caps on hunter numbers have reduced participation to <3,000 hunters since 1998 with less than 1,000 in the last couple of years. Hunter numbers have increased since a low of 757 in 2012 to 1,200 participating in 2015. Seasons (Appendix A) traditionally have been general hunts from mid-September to mid-late November for any bull. Much of the hunting pressure and harvest, particularly for mature bulls, has come during September. Bull harvest has increased the last couple of years, and the percent of 6 point or better bulls in the harvest increased by 10% since 2013.

Habitat Issues

Habitat ultimately determines elk densities and productivity. Over past decades, fire suppression contributed to conifer encroachment on forage-producing areas. Recent large wildfires have partially reversed this trend and enhanced elk habitat. Present management policies that allow fire a larger role in wilderness ecosystems will benefit elk habitat and elk over the long run. However, the spread of noxious weeds such as knapweed and rush skeletonweed could ultimately have significant negative impacts on winter and summer range productivity.

Biological Issues

Elk populations in GMUs 20A and 26 have performed poorly over the past 10-15 years. Calf production remains poor at 8 calves per 100 cows. At least partly as a consequence of low calf recruitment, bull:cow ratios have also been less than desirable (12 bulls:100 cows). The 2011 elk sightability helicopter surveys indicate that elk population estimates in GMUs 20A and 26 have declined 46% and 70%, respectively, when compared to 2006 survey results. Sightability elk surveys in GMU 27 show similar trends with 3,736 elk estimated in February 2006, and 2,791 in February 2011. Calf production in GMU 27 fell through the same period (from 24 calves:100 cows in 2006 to 14:100 in 2011), and bull:cow ratios remained static at 14 bulls:100 cows.

Inter-specific Issues

Past elk densities may have negatively impacted habitat capacity for deer and on deer productivity but at current densities this is likely not an issue. Elk could also have an impact in some of the less rugged grassland areas used by bighorn sheep and mountain goats. Domestic livestock grazing is minimal in this zone.

Predation Issues

Black bear densities appear to be low to moderate. Mountain lion densities are at least moderate, perhaps high. Coyotes are common, but not known to have much impact on elk populations. Wolves reintroduced by USFWS are well established in these GMUs. The addition of wolves has likely impacted bear, mountain lion, and coyote populations. At some level, predation may benefit elk herds to the extent that it keeps elk herds below habitat carrying capacity, where they can be more productive. However, excessive levels of predation on elk calves can also suppress prey populations to undesirably low levels. At this point, the population is considered limited by predation but the exact impact is not fully understood. .

Winter Feeding Issues

Winter feeding has not occurred in these remote big game GMUs.

Information Requirements

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest. The potential impact of the new mix of large predators is unknown. Migratory patterns are largely unknown, making it difficult to develop effect habitat enhancement projects or evaluate the influence of wildfire on population performance. Research is currently underway to address questions of predator impacts, migratory patterns, and habitat use.

Elk

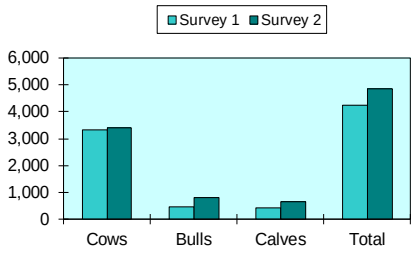
Middle Fork Zone (GMUs 20A, 26, 27)

Square Miles =	2,885	3-Year Averages	
% Public Land =	100%	Hunters per square mile =	0.39
Major Land Type =	Forest	Harvest per square mile =	0.10
		Success Rate =	26%
		% 6+ Points =	44%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2017	3,395	805	530	3,850-5,750	690-1,030	390-810
Bulls per 100 Cows			24	16		18-24	10-14

Comparable Survey Totals



Population Surveys

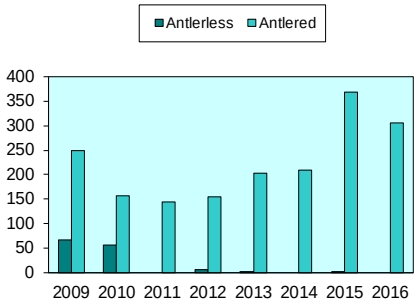
		Survey 1					Survey 2			
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	2011	3,341	462	420	4,223	2017	3,395	805	660	4,860
Comparable Surveys Total		3,341	462	420	4,223		3,395	805	660	4,860
Per 100 Cows			14	13				24	19	

Zone Harvest Statistics

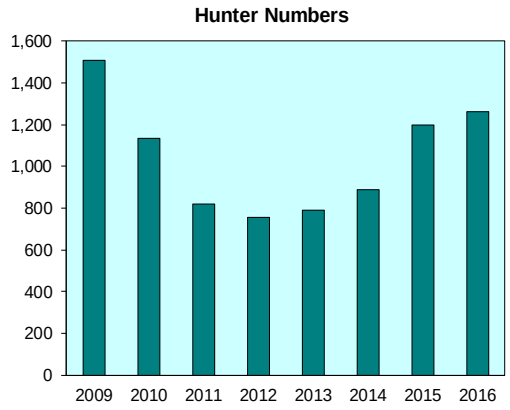
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	67	57	0	6	2	0	2	0
'A' Tag	67	55	0	3	1	0	0	0
'B' Tag	0	2	0	3	0	0	2	0
CH Tag	0	0	0	0	1	0	0	0
Antlered Harvest	250	158	145	155	203	210	369	306
'A' Tag	65	50	38	43	63	39	96	103
'B' Tag	185	108	107	112	140	171	273	203
CH Tag	0	0	0	0	0	0	0	0
Hunter Numbers	1,511	1,133	821	757	791	890	1,200	1,262
'A' Tag	588	471	285	197	213	262	360	340
'B' Tag	923	662	536	560	578	628	840	922
CH Tag	0	0	0	0	0	0	0	0
% 6+ Points	49	56	44	50	34	39	45	45

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

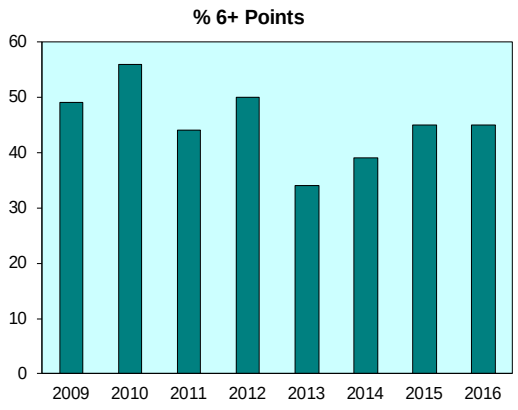


Figure 14. Middle Fork Zone Elk Status and Objectives.

Weiser River Zone (GMUs 22, 32, 32A)

Management Objectives

The goal for Weiser River Zone (Figure 15) is to reduce cow elk population levels to 3300+ elk while maintaining ≥670 bulls. Most antlerless elk reduction will occur in GMUs 22 and 32. The total population objective draws a balance between the concern about depredation damage and the need to sustain a reasonably large elk population. In 2013, controlled hunt cow tags were increased in attempt to push elk populations back toward objectives. Antlerless harvest increased but was not sufficient to curb population growth or private land depredations. Therefore, in 2017, a general cow hunt was added to the Weiser River Zone A and B tags to increase harvest and put more pressure on depredating elk. As herds are reduced and population levels are stabilized, liberal cow seasons will be reevaluated. This zone will be managed to produce statewide minimums for bull:cow ratio (18-24 bulls:100 cows) and adult bull:cow ratio (10-14 adult bulls:100 cows).

Historical Perspective

Elk were present in Weiser River Zone prior to European settlement in the mid-1800s. Native Americans hunted elk for food in Weiser River drainage. Proliferation of mining due to the gold rush in the late 1800s and early 1900s probably led to year-round slaughter of these animals to supply meat and hides for mining camps. Subsequent intensive livestock grazing denigrated habitat in the zone. Translocation of elk from Yellowstone to places in McCall Zone on the periphery of Weiser River Zone occurred in the late 1930s to bolster sagging elk populations. Regulated livestock grazing began during the same era. Transient elk from these populations probably repopulated Weiser River Zone. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the 1970s. GMU 22 became a controlled either-sex hunt in 1971 and reopened to general bulls-only hunting in 1977. The implementation of bulls-only hunting spurred an increase in elk populations in Weiser River Zone.

The elk population in the agricultural area of the west half of GMU 32 consisted of transient elk prior to 1980. Following several hard winters, elk herds started moving into this area. Most elk were there in winter, and a few groups of elk became year-round residents. The population of elk in Weiser River Zone reached its sociological tolerance level in the early 1990s.

Habitat Issues

About 60% of GMUs 22 and 32A and 20% of GMU 32 is in public ownership and management. The western portion of GMU 32 and the Weiser River valley of GMUs 22 and 32A are predominately private land. Agricultural products are primarily dry-land grazing, grain production, and hay fields.

Timber harvest, livestock grazing, and prescribed fires are the most significant land uses affecting habitat change in this zone. Most forested habitat is in the early to mid-successional stage. Winter ranges occur primarily on public ground in GMU 22, but mostly on private ground in GMUs 32 and 32A. Noxious weed invasion, such as yellow starthistle and whitetop (*Cardaria draba*), is a threat to winter range habitat. Andrus WMA in the southwest portion of GMU 22 is managed for elk and mule deer winter range and encompasses about 8,000 acres. Extensive road building from past timber harvest and mining activities contribute to high

vulnerability of elk during hunting seasons in this zone. The inherent lack of security cover and openings created from timber harvest compound elk vulnerability. Active timber harvest programs are anticipated to increase these road densities in localized areas in the near future.

Elk/human conflicts occur during summer, fall, and winter months in GMUs 22 and 32A when elk enter agricultural fields in valley bottoms to forage. Resident elk in GMU 32 have caused landowners concern about damage to fences, fall-plowed fields, row crops, and alfalfa hay fields. In the recent past, the Department has paid an average of $13,000 per year for damage in this area.

Biological Issues

Through the 1980s and 1990s, Weiser River Zone was a highly productive elk population. Calf production averaged well over 40 calves:100 cows. Burgeoning elk populations and dry summers have probably contributed to the more recent decline to fair productivity of 26 calves:100 cows. Bull:cow ratios are low (15 bulls:100 cows) due to high vulnerability of the open-canopied, heavily-roaded habitat. Even with good calf production, harvest of bulls is typically at or exceeding production.

Inter-specific Issues

Elk compete zone-wide with mule deer for habitat. Intensive domestic sheep and cattle grazing occur over most of the zone. The competitive effect of these species on one another is largely unknown.

Predation Issues

Black bear and mountain lions occur in moderate to high numbers in Weiser River Zone. There is no indication that predation is having an impact on elk calf recruitment or survival of elk in this zone. Wolves have colonized the zone but are not a significant mortality factor at this time. Coyotes are common, but are not known to have much effect on elk populations.

Winter Feeding Issues

Winter feeding takes place on an irregular basis in Weiser River Zone. Most elk feeding operations have been initiated to bait elk away from livestock feeding operations. Winter feeding occurred during the winter of 2016-2017 to address increased depredations brought on by an abnormally high snow year.

Information Requirements

Carrying capacity of winter ranges is unknown. This information is needed to identify appropriate elk densities, which will maintain optimum productivity and harvest. Information is lacking on migration routes and patterns of elk in this zone and interaction with elk in the adjacent Brownlee Zone. A full survey of these interacting herds is needed for these zones. Knowledge of inter-specific competition is needed. Research was initiated during the winter of 2016-2017 to address questions of elk movements, habitat use, and vulnerability to harvest in the southwest portion of the Brownlee and Weiser River Zones.

Elk

Weiser River Zone (GMUs 22, 32, 32A)

		3-Year Averages	
Square Miles =	2,895	Hunters per square mile =	2.83
% Public Land =	51%	Harvest per square mile =	1.43
Major Land Type =	Rangeland	Success Rate =	24%
	Forest	%6+ Points =	24%

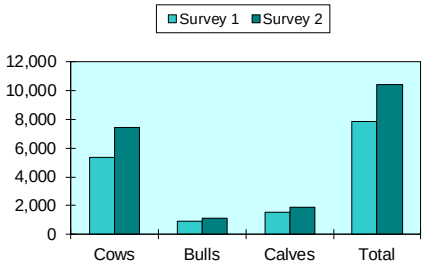
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2013	7,461	1,116	563	3,300-5,000	670-1,000	325-500
Bulls per 100 Cows			15	8		18 - 24	10 - 14

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
22	2007	1,666	215	543	2,424	2013	2,671	446	750	3,867
32	2007	3,000	609	770	4,379	2013	4,504	650	1,061	6,215
32A	2007	706	85	258	1,049	2013	286	20	83	389
Comparable Surveys Total		5,372	909	1,571	7,852		7,461	1,116	1,894	10,471
Per 100 Cows			17	29				15	25	

Comparable Survey Totals

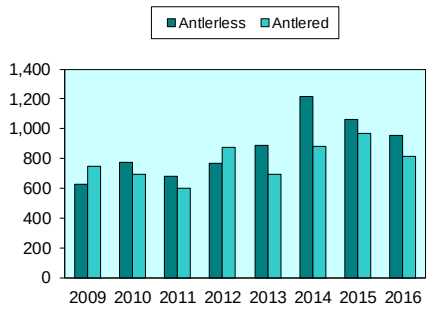


Zone Harvest Statistics

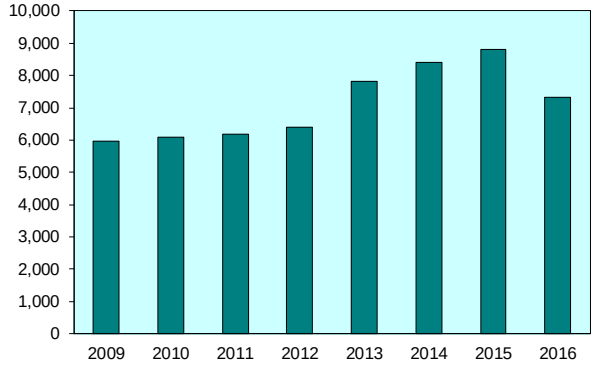
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	628	772	680	767	886	1,216	1,061	959
'A' Tag	116	178	152	180	150	377	132	105
'B' Tag	1	11	0	9	2	0	0	2
CH Tag	511	583	528	578	734	839	929	852
Antlered Harvest	748	696	603	876	694	883	968	818
'A' Tag	167	157	121	167	150	162	259	229
'B' Tag	566	538	482	708	543	719	709	589
CH Tag	15	1	0	1	1	2	0	0
Hunter Numbers	5,960	6,097	6,187	6,406	7,811	8,417	8,814	7,334
'A' Tag	1,339	1,526	1,564	1,625	1,788	2,218	1,883	1,404
'B' Tag	2,737	2,631	2,696	2,876	3,154	3,348	3,782	2,998
CH Tag	1,884	1,940	1,927	1,905	2,869	2,851	3,149	2,932
% 6+ Points	27	23	23	26	26	27	25	19

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

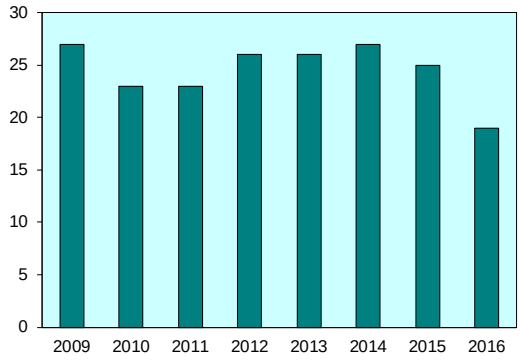


Figure 15. Weiser River Zone Elk Status and Objectives.

Brownlee Zone (GMU 31)

Management Objectives

Objectives for Brownlee Zone (Figure 16) are to maintain a population of ≥550 cow and ≥150 bull elk, including ≥75 adult bulls. This zone will be managed to produce statewide minimums for bull:cow ratio (18-24 bulls:100 cows) and adult bull:cow ratio (10-14 adult bulls:100 cows). The total population objective draws a balance between concerns about depredation damage and providing quality elk hunting opportunities. In 2017, a short range weapons (within a mile of cultivated lands) cow hunt was added to the Brownlee Zone A tag to better address early season crop depredations.

Historical Perspective

Elk were present in Brownlee Zone prior to European settlement in the mid-1800s. Native American tribes hunted elk for food in Weiser River drainage. As in other areas in Idaho, proliferation of mining due to the gold rush in the late 1800s and early 1900s probably led to year-round slaughter of these animals to supply meat and hides for mining camps. Subsequent heavy livestock grazing denigrated habitat in the zone. Translocation of elk from Yellowstone to places in Weiser River and McCall zones occurred in the late 1930s to bolster dwindling elk populations. Regulated livestock grazing occurred during the same era. Transient elk from these populations probably repopulated Brownlee Zone. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the late 1960s. GMU 31 was closed to elk hunting in 1968. The GMU reopened to controlled hunting in 1976. Protected by conservative bull-only tags, this elk population expanded rapidly in the late 1980s. This population reached its sociological tolerance level in the early 1990s.

Habitat Issues

About 50% of Brownlee Zone is in public ownership and management. The southern and eastern portions of the GMU are predominately private land. Agricultural products are primarily dry-land grazing and hay fields. Higher elevations are timbered; lower elevations are primarily shrub-steppe or desert.

Timber harvest, livestock grazing, and prescribed fires all affect habitat change in this zone. Winter ranges occur primarily on public ground. Noxious weed invasion, such as yellow starthistle and whitetop, is a threat to winter range habitat. Andrus WMA is managed for elk and mule deer winter range and comprises about 8,000 acres in the northwest part of the zone. Elk/human conflicts occur during summer, fall, and winter months when elk enter agricultural fields in valley bottoms to forage.

Extensive road building from past timber harvest and mining activities contribute to high vulnerability of elk during hunting seasons in this zone. The inherent lack of security cover and openings created from timber harvest compound elk vulnerability.

Biological Issues

Since the mid-1980s, elk populations in this zone have performed well. Calf production is good, at or near 30:100 cows on average. Elk have not reached their habitat potential in this zone but have reached a threshold of tolerance among user groups concerned.

Inter-specific Issues
Elk compete zone-wide with mule deer for habitat. Most of the zone is also managed for intensive domestic sheep and cattle grazing. The competitive effect of these species on one another is largely unknown.

Predation Issues
Black bear and mountain lions occur in low to moderate numbers in Brownlee Zone. There is no evidence these species have an effect on the elk population in this zone. Wolves occur intermittently in this zone and are not a significant mortality factor at this time. Coyotes are common but are not known to effect elk populations.

Winter Feeding Issues
Winter feeding in Brownlee Zone is an extremely rare event. Winter feeding occurred during the winter of 2016-2017 to address increased depredations brought on by an abnormally high snow year. Previously, winter feeding occurred on a limited basis in close proximity to domestic livestock feeding operations during the severe winter of 1992-1993.

Information Requirements
Carrying capacity of winter ranges is unknown. This information is needed to identify appropriate elk densities, which will assist with maintenance of optimum productivity and harvest. Information is lacking on migration routes and patterns of elk in this zone and interaction with elk in the adjacent Weiser River Zone. Knowledge of inter-specific competition is needed. Research was initiated during the winter of 2016-2017 to address questions of elk movements, habitat use, and vulnerability to harvest in the southwest portion of the Brownlee and Weiser River Zones.

Elk

Brownlee Zone (GMU 31)

Square Miles =	598	3-Year Averages	
% Public Land =	50%	Hunters per square mile =	1.65
Major Land Type =	Rangeland	Harvest per square mile =	1.05
	Forest	Success Rate =	31%
		%6+ Points =	54%

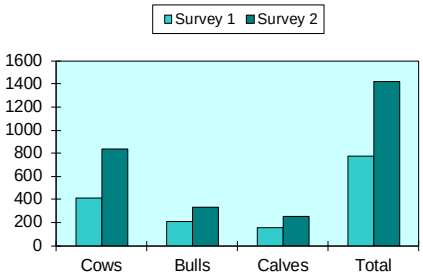
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2013	841	333	199	550 - 850	150-200	75-125
Bulls per 100 Cows			40	24		18 - 24	10 - 14

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
31	2007	412	206	159	777	2013	841	333	249	1,423
Comparable Surveys Total		412	206	159	777		841	333	249	1,423
Per 100 Cows			50	39				40	30	

Comparable Survey Totals

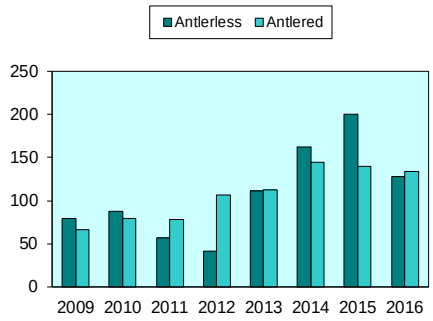


Zone Harvest Statistics

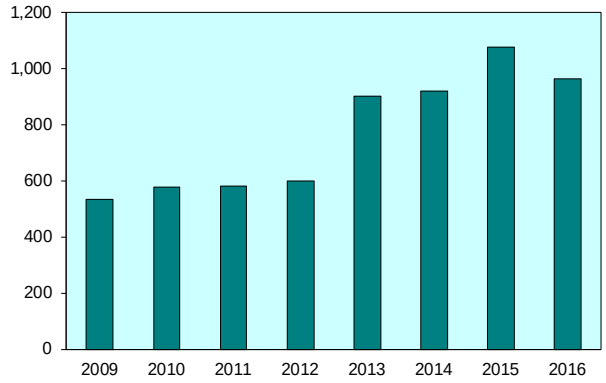
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	79	88	57	41	111	162	200	128
'A' Tag	17	9	8	3	14	20	19	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	62	79	49	38	97	142	181	128
Antlered Harvest	67	80	78	107	113	145	140	134
'A' Tag	34	47	52	74	78	107	101	99
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	33	33	26	33	35	38	39	35
Hunter Numbers	534	577	582	601	903	921	1,076	965
'A' Tag	315	347	353	392	518	488	560	514
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	219	230	229	209	385	433	516	451
% 6+ Points	53	61	62	50	66	62	54	45

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

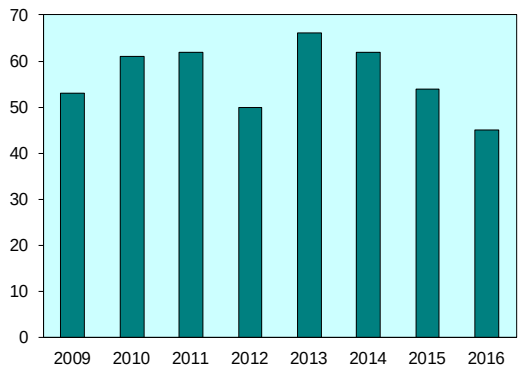


Figure 16. Brownlee Zone Elk Status and Objectives.

Pioneer Zone (GMUs 36A, 49, 50)

Management Objectives
Objectives for Pioneer Zone (Figure 17) are to reduce this growing elk herd to lower levels (about 3,150-5,600 cows and 1,125-1,820 bulls) to maintain herd productivity yet minimize potential impacts on mule deer and minimize depredations to agricultural ground. This zone will continue to be managed to produce high bull:cow ratios (30-35 bulls:100 cows postseason) and many adult bulls (18-22 bulls ≥three years old:100 cows).

Historical Perspective
Elk abundance was low in Pioneer Zone through much of the twentieth century. These GMUs have been managed for decades under conservative controlled hunt strategies. As has occurred over much of the west, elk herds expanded dramatically since the mid-1970s. Today, the Pioneer Zone winters approximately 11,500 elk, up from an estimated 9,700 in 2013.

Following adoption of the dual-tag zone system in 1998 between 3,500 and 4,000 people have typically hunted in Pioneer Zone each year. However, hunting opportunity was reduced in 2009, following helicopter surveys that indicated declining bull numbers and bull:cow ratios that were below objectives. In 2009, hunter numbers declined, and approximately 1,800-2,000 people hunted the Pioneer Zone annually between 2009 and 2012. This number increased dramatically in 2013 to 3,300 hunters and increased to over 4,100 in 2016. Harvest has followed suit and has generally increased over the last 6-8 years. The controlled bull hunts in this zone have become very desirable; any-weapon permits are in high demand and difficult to draw. The area's reputation for mature bulls has also made this zone a very attractive archery hunt. The numbers of archery hunters has nearly tripled since 2010 to approximately 2,500 hunters. The percent of 6-point or larger bulls in the harvest increased 10% over the preceding 4 years.

Habitat Issues
Cattle ranching, livestock grazing, and recreation are dominant human uses of the landscape in the Pioneer Zone. The zone is in a generally arid region where forage production can be strongly influenced by growing season precipitation. During drought years, high-elevation mesic habitats are more heavily utilized by elk while low-elevation riparian areas and wet meadows are more heavily utilized by cattle. Summer elk depredations on agricultural crops are common and are especially pronounced in dry years. Years with heavy snowfall see an increase in elk depredations to stored hay or cattle feed lines.

In some areas, elk winter in mature stands of mountain mahogany. Forests are slowly encroaching into shrub and grassland communities. Spread of noxious weeds, such as knapweed and leafy spurge, could ultimately have significant impacts on winter range productivity.

Recent housing developments in the Big Wood River drainage in GMU 49 have severely reduced winter elk habitat. Continued development on remaining winter ranges will reduce elk carrying capacity in the GMU. Changes in land ownership in GMU 50 are making it difficult to manage depredation problems.

Biological Issues
Elk numbers in the Pioneer Zone have increased since the mid-1970s and have remained relatively stable during the past decade. Recruitment measured through sightability surveys indicate most populations are reproducing at moderate to high levels (30-40 calves:100 cows). An aerial survey conducted in the Pioneer Zone during January 2008 indicated a ratio of 33 calves:100 cows based on a total of 1,139 calves and 3448 cows observed. Bull:cow ratios were lower than in previous surveys at 25 bulls:100 cows (n = 845 bulls). Because of this, the spike hunt portion of the general A Tag elk hunt was eliminated throughout the zone in 2009. As a result, hunter numbers in the general hunt dropped from around 1,400 to around 900 in 2009.

An aerial survey conducted in the Pioneer Zone in 2013 indicated an increase in both the calf:cow ratio and bull:cow ratio of 39:100 and 37:100, respectively, with an estimate of 9,700 elk. The aerial survey conducted in the Pioneer Zone in 2017 estimated 11,500 elk, with calf:cow ratios and bull:cow ratios of 36:100 and 38:100, respectively.

Despite the continued absence of a spike hunt component to the general A tag, hunter numbers in the general hunt increased from about 900 hunters in 2009 to 2,500 in 2015 and 2016.

In GMU's 49 and 50, depredation issues have significantly increased both in the summer and winter months. Summer depredations on alfalfa have increased in these two GMUs as animals have been staying at lower elevations throughout the year. In GMU 49, Landowner Permission Required hunts have helped in reducing depredations. In 2015, a greenfield hunt in GMU 50 during August and September was included as part of the Pioneer A tag. This greenfield hunt was changed to August only in the 2017-2018 hunting regulations.

Inter-specific Issues
Current high elk densities may be having some impact on wintering deer in portions of this zone.

When elk numbers are high, as they are currently, livestock operators often perceive elk as competing with livestock for range forage and impacting riparian areas. However, elk generally remove a minor portion of forage compared to livestock, and elk tend to use different habitats and different forage species than livestock.

Predation Issues
Black bear densities appear to be low and stable in Pioneer Zone. Mountain lion densities are low to moderate and appear to have increased in recent years, probably partly due to increased elk and deer densities. Coyotes are common, but do not impact elk populations. Wolves reintroduced by USFWS in central Idaho in 1995 are established in Pioneer Zone. They have not become a significant factor in elk distribution and population demographics to date. Reports by hunters and observations by Department personnel suggest that wolf activity may have changed behavior patterns of elk in this area. There are several established wolf packs in the zone, however, due to the chronic depredations, these wolves are often targeted for total pack removal after killing domestic livestock and are not currently impacting elk populations.

Winter Feeding Issues
No Department-sponsored feeding facilities exist annually in this zone; however, artificial feeding of elk by private citizens in GMU 49 has occurred frequently over the past 20 years. Education measures undertaken to reduce this activity have met with some success. Efforts need to continue to give non-sanctioned feeders a better understanding of problems associated with artificially-fed elk.

Due to the severity of the winter in 2016-2017, the Department sanctioned 12 feed sites, and fed an estimated 1,200 elk in GMU 49. Additionally, about 500 elk were fed in two locations near Moore, ID in GMU 50. These feed sites were conducted to keep elk off cattle feed lines; reduce damage to stored hay, and to discourage elk from crossing or congregating near highways for public safety concerns. Winter snow conditions were the deepest observed in 25 years, and snow covered the top of most fences.

An increased emphasis on protecting stored crops, via permanent stackyards, is needed to reduce the potential for the need of winter feeding in GMU's 49 and 50.

Information Requirements
Impacts of elk on mule deer winter range are likely occurring and may be a limiting factor for mule deer populations. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest while reducing depredations to agricultural ground and stored crops. A better understanding of elk movements and migration patterns across GMU boundaries would help to set hunting seasons and permit levels to address depredations and meet management objectives.

Elk

Pioneer Zone (GMUs 36A, 49, 50)

Square Miles =	3,202	3-Year Averages	
% Public Land =	82%	Hunters per square mile =	1.24
Major Land Type =	Rangeland	Harvest per square mile =	1.03
		Success Rate =	37%
		%6+ Points =	55%

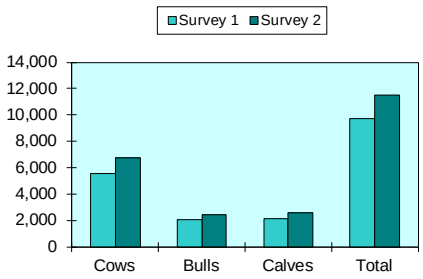
Winter Status & Objectives

Zone Total	Year	Current Status Cows	Bulls	Adult Bulls	Objective Cows	Bulls	Adult Bulls
	2017	6,727	2,440	1,482	3,150-5,600	1,025-1,820	630-1,120
Bulls per 100 Cows			36	22		30 - 35	18 - 22

Population Surveys

GMU	Year	Survey 1 Cows	Bulls	Calves	Total	Year	Survey 2 Cows	Bulls	Calves	Total
36A	2013	2,028	909	711	3,648	2017	3,297	977	992	5,266
49	2013	1,648	494	579	2,721	2017	1,164	532	563	2,048
50	2013	1,868	642	859	3,369	2017	2,266	931	1,019	4,216
Comparable Surveys Total		5,544	2,045	2,149	9,738		6,727	2,440	2,574	11,530
Per 100 Cows			37	39				36	38	

Comparable Survey Totals

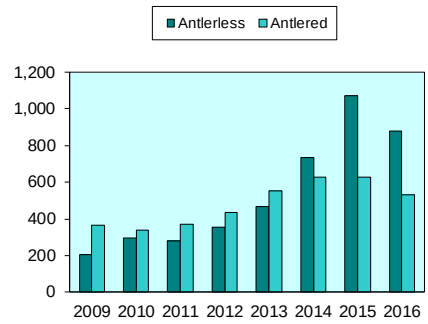


Zone Harvest Statistics

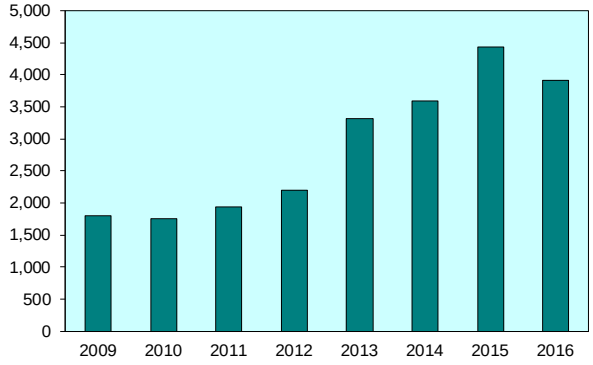
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	204	293	280	357	465	737	1,074	881
'A' Tag	37	34	54	84	125	123	332	277
'B' Tag	0	4	0	0	0	0	0	0
CH Tag	167	259	226	273	340	614	742	604
Antlered Harvest	366	339	371	437	554	626	626	530
'A' Tag	142	122	168	201	211	267	270	221
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	224	217	203	236	343	359	356	309
Hunter Numbers	1,800	1,754	1,942	2,203	3,311	3,594	4,440	3,911
'A' Tag	880	827	1,013	1,218	1,666	1,949	2,531	2,145
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	920	927	929	985	1,645	1,645	1,909	1,766
% 6+ Points	43	44	46	44	54	56	57	51

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

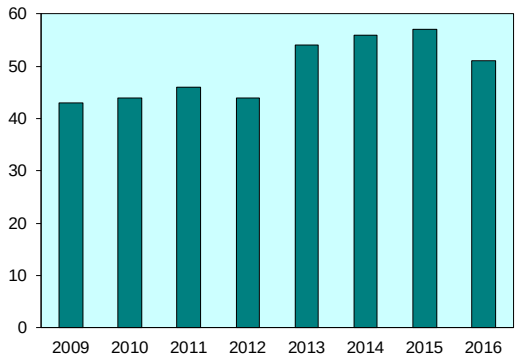


Figure 17. Pioneer Zone Elk Status and Objectives.

Smoky–Bennett Zone (GMUs 43, 44, 45, 48, 52)

Management Objectives

Objectives in the Smoky - Bennett Zone (Figure 18) are to establish a population of 2,000 – 3,000 cows and 620-930 bulls, including 400 - 595 adult bulls, at ratios of 30-35 bulls:100 cows and 18-22 adult bulls:100 cows. The management objective balances depredation concerns in GMU's 44 and 45 and the desire to provide the maximum elk population the habitat can sustain. The adult bull objective was selected to maximize bull quality in controlled hunts and provide sufficient adult bulls to sustain quality elk populations. Current bull:cow ratios are above objectives and the overall population is within objectives.

Historical Perspective

Accounts from trappers and miners in the 1870s and 1880s indicate that elk occurred in the zone but were not as numerous as deer. Excessive use by livestock during the late 1800s and early 1900s severely damaged the Boise River and Big Wood River watersheds and reduced the area's ability to support high numbers of elk. Additionally, heavy unregulated hunting by miners, market hunters, and local settlers drastically reduced big game populations during the late 1800s. By 1905, it was difficult to find camp meat. Elk were extirpated from Bennett Hills Zone by the early 1900s as a result of unregulated hunting and habitat depletion from excessive livestock use. Elk observations were rare in the Boise River Basin and Big Wood River drainage.

In 1915, a reintroduction effort began with a release of elk from Yellowstone National Park into the Boise River drainage just above Arrowrock Dam. In 1930, the elk population in the Soldier Mountain area was estimated at 135 head. Reintroduction efforts continued in 1935 and 1936 with elk releases near Ketchum in the Big Wood River drainage. During the late 1940s, elk numbered less than 50 head in GMU 45 and less than 15 head in GMU 52. Elk populations increased steadily during the 1950s and 1960s, and controlled hunts were used to manage the harvest. In 1965, 36 elk (9 bulls, 19 cows, 9 calves) trapped in GMU 48 were released in GMU 52 about one mile south of Magic Reservoir. There were no elk seasons in GMU 45 from 1954-1963 and 1971-1978. GMU 52 was closed to all elk hunting from 1943-1978. Supplemental winter feeding of elk by the Department and private interests has occurred in this zone since the initial releases.

By the late 1970s, the population in GMU's 45 and 52 had increased to an estimated 235 head and depredation problems occurred on wheat and alfalfa fields from approximately 120 elk that summered in the Johnson Hill area. Early controlled firearms hunts and archery seasons were implemented in 1979 to reduce depredation concerns. In 1980, the management objective was to reduce depredations and increase the elk population to 300 head. The 1986-1990 Elk Management Plan established a goal of about 400 elk for GMUs 45 and 52 combined. Since depredation problems were minimal and the elk population relatively small, aerial surveys were not conducted in Bennett Hills Zone until 1999 to monitor the elk population.

Throughout the 2000's, elk populations continued to grow in GMUs 44, 45, 48 and 52 and depredation issues, both during the summer and winter increased. In 2014, based on personal observations and radio-collar information, the Smoky Mountain Zone and the Bennett Hills Zone

were combined to form the Smoky – Bennett Zone to better reflect the entirety and current distribution and migration patterns of this elk population.

Habitat Issues

Primary spring, summer, and fall habitats throughout the zone are managed by USFS, and winter ranges are a mixture of USFS, BLM, and private lands. Suitable winter ranges in GMUs 43, 44, and 48 are limited, and reintroduced elk did not learn or develop migration routes to lower-elevation sites. Because of this lack of winter range, nearly-annual supplemental feeding of elk occurred through the mid-2000s in both Unit 43 and 48 to maintain populations at or near current levels.

In GMU 43, the South Fork Boise River corridor is critical for the few elk that winter in the GMU. In GMU's 44, 45, and 52, much of the habitat elk might use during the winter is on private land, and depredations are a significant concern. Most of GMU 52 and the southern portion of GMU 45 are primarily arid semi-desert dominated by annual grasses such as cheatgrass and medusa head. In GMU 48, most of the best winter habitat exists on private land in drainage bottoms near residential areas. A substantial loss of winter range to residential development has occurred in GMU 48, and continued loss of winter range is a serious concern, as the human population in that GMU continues to grow.

Habitat productivity has probably improved on federal lands in recent years because of reductions in domestic sheep grazing and re-growth of shrubs in areas with timber harvest. Additionally, several large wildfires in Units 43 and 48 have created openings in the forest and are currently being heavily used by elk. However, suppression of fire throughout much of this century has likely resulted in declining elk habitat quality. Many aspen communities are decadent and/or are being replaced by conifer species and would benefit from fire. Additionally, in some areas, ponderosa pine-dominated communities would benefit from fire to reduce high densities of Douglas fir in the stands. Spotted knapweed has become established in the zone and threatens habitat productivity and diversity in several localized areas.

For many years, depredations have been very limited in most of this zone, with the only real problems arising near urban areas where wintering elk find exposed horse hay or ornamental shrubs. However, over the past several winters, depredation complaints have increased in GMUs 44, 45, 48, and 52. The Camas Prairie on the north side of the zone is primarily private land used for pasturing livestock and growing grass, alfalfa hay, wheat, and barley. The presence of several radio-collared elk on the Camas Prairie and Bennett Hills during winter suggests that many elk are moving away from the feed sites along the South Fork Boise River and onto what was likely historic winter habitat in GMU's 44 and 45.

In GMU 43, high road densities from past timber harvest activities have increased elk vulnerability during hunting seasons (Appendix A). Seasonal road closures have been instituted by USFS to increase elk escapement and mitigate for high road densities. Cross-country motorized travel on winter range in the Bennet Hills is a concern. The Blair fire burned nearly 400,000 acres of winter range in 2011. This fire removed the sagebrush canopy and off-road vehicles can drive cross-country throughout most of the area. This motorized traffic has been

recognized as a potential factor pushing elk onto private land and causing depredations and damage to agricultural crops (primarily corn and stored hay).

Biological Issues

Elk populations have been increasing steadily since their reintroduction in the 1930s. Mild winters in the 1980s and early 1990s enhanced calf survival and increased population growth rates. Liberal antlerless harvest throughout that period has begun to stabilize population growth.

Recently, data from sightability surveys and herd composition surveys at feed sites indicate that most populations are reproducing at sustainable levels (≥30 calves:100 cows). An aerial survey conducted in January 2009 indicated that overall elk numbers were below objective for GMU's 43, 44 and 48. Because of this, and because the 2009 elimination of general any-weapon opportunity in the Pioneer Zone may have displaced hunters to these GMU's., the Smoky-Bennett Zone was capped at 726 tags for the 2010-2013 hunting season.

January 2009 survey in GMU's 43, 44 and 48 resulted in estimates of 42 calves:100 cows, and 32 bulls:100 cows, based on totals of 1,560 cows,655 calves, and 502 bulls observed. Calf:cow and bull:cow ratios vary somewhat by GMU with bull: cow ratios as low as 26 bulls: 100 cows in GMU 48, but at 34 bulls: 100 cows in GMU 43. Calf ratios range from 39 calves:100 cows in GMU 43 to 44 calves: 100 cows in GMU 48. The 1999 sightability survey in GMU's 45 and 52 indicated that populations were reproducing at sustainable levels (24 calves:100 cows) and bull ratios were considerably higher than required to maintain the population (58 bulls:100 cows). In 2008, 927 elk were observed in GMU's 45 and 52 during a February mule deer survey. This number was much higher than expected, and prompted an aerial survey for elk in 2010. During the 2010 survey, 567 elk were observed, with 42 calves and 28 bulls per 100 cows (n = 333 cows 140 calves and 94 bulls). During 2010 and 2012 Bennett Hills deer and elk surveys, several elk radio-collared at South Fork Boise River feed sites were observed in GMU 45, suggesting that some elk that previously wintered in the Smoky Mountain Zone may now be wintering in the Bennett Hills Zone. This relatively new migration may contribute to observed low winter survey numbers in the Smoky Mountain Zone. Due to this new migration, in 2014 the Smoky Mountain Zone and the Bennett Hills zone were combined to form the Smoky – Bennett Zone.

In 2015 the newly combined Smoky-Bennett Zone was surveyed. The observed bull:cow:calf ratio was 36:100:43. Total cows, bulls and adult bulls observed were within objectives, but populations are close to being above objectives. With elk populations growing in the zone, depredations, especially during the summer months have drastically increased. The Department has implemented very liberal antlerless hunting opportunity, and it is anticipated that increased tag allocations will continue to occur throughout the next several years.

No elk have been fed along the South Fork Boise River in GMU 43 since 2009. Currently, very few elk winter in GMU 43 and most migrate to lower elevations in GMUs 45.

Inter-specific Issues

The zone supports a substantial population of mule deer, numerous moose, and, at higher elevations, mountain goats. The relationship between deer and elk is presently unclear but is not believed to be a significant issue in this zone. Historically, most elk have remained at the feed

sites in Unit 43 during winter whereas most deer migrate to winter ranges in GMUs 45 and 52. Currently, very few elk winter in GMU 43, and most winter in the lower elevations of GMUs 45 and 52—creating the potential for competition during critical winter months.

Cattle and domestic sheep have imposed the most significant forage demand in this zone since the 1870s. Excessive use by cattle and domestic sheep severely damaged watersheds in the late 1800s and early 1900s. Today, livestock use has been reduced to roughly 15% of historic use and competitive concerns remain but tend to be more localized.

Predation Issues

Black bear populations have remained relatively static over time. Mountain lion numbers probably increased in the late 1980s and early 1990s following increases in mule deer and elk populations and have likely declined some since then. Wolves have become established in the zone and are a factor in elk population dynamics. In addition, wolf activity may affect elk activity patterns and seasonal use areas, particularly during winter months. Radio-telemetry data has shown that many elk that traditionally wintered in the South Fork Boise River drainage have begun moving to lower-elevation winter habitat in GMUs 44, 45, and 52. Wolves may be a factor in prompting these new seasonal movement patterns. Wolves are not considered a significant factor limiting elk populations in this zone. Because of the high use of domestic sheep grazing in the area, most wolf populations get eliminated every few years when they begin preying on domestic livestock.

Winter Feeding Issues

Winter feeding of elk by private entities, particularly in the Big Wood River Valley (GMU 48), is a contentious issue. During the 1990s and early 2000s, it was not unusual for 700-1,000 elk to be fed at up to 11 different private feed sites in GMUs 44 and 48. In recent years the Department has worked closely with private feeders to eliminate unneeded feed sites. During the 2011-2012 winter, approximately 200 elk were fed at a private feed site in Timber Gulch.

There are 4 Department-sanctioned feed sites located in GMU 43. Historically, feeding has occurred at all or some of the sites in 3 of every 4 years. Since 2009, none of these feed sites have been active and all have been decommissioned. Elk radio-collared at GMU 43 feed sites during winter have been located in GMUs 44 and 45 during winter months, suggesting that these elk may be beginning to migrate out of the South Fork Boise River drainage during winter.

GMU 48 has one Department-sanctioned feed site in the Warm Springs Creek drainage. Approximately 175 elk are fed at this site each winter. It is not necessary to sustain the population but was set up to shortstop elk before they enter developed winter ranges in the town of Ketchum. The private feeding operations in the valley are a symptom of growth and the changing demographics of the populace of the Ketchum-Sun Valley area. Most private feeding operations take place regardless of whether feeding is warranted. Department personnel continue to work with private feeders to discourage feeding activity and explain the pitfalls of feeding in or near a suburban area. As a result of such discussions, Department staff worked with the owner of one private feed site near Ketchum to trap and transplant 108 elk during January and February 2006. These elk were moved from Ketchum to 1 of 3 release sites: most calves were moved to the Department's Bullwhacker feed site up Warm Springs Creek, one

group of 19 cows was moved to Bennett Mountain (GMU 45), and the remaining cows and calves were relocated to the Big Desert (GMU 52A). Only a few elk were left at the private feed site near Ketchum. Immediately following the trapping effort, elk wintering near Ketchum were utilizing native forage and were not causing problems within nearby residential areas, however in the last two years, winter depredations on stored hay and ornamental plants has increased in this area.

Information Requirements

More detailed information is needed on movement patterns of elk causing damage to agricultural crops to improve harvest management. In addition to improving harvest management, population surveys and movement studies are important to our discussions with local political factions regarding development in and around critical elk wintering areas.

Elk

Smoky Bennett Zone (GMUs 43, 44, 45, 48, 52)

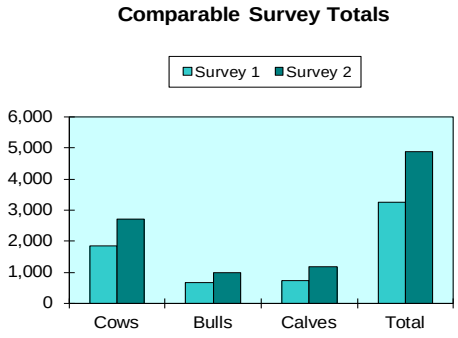
Square Miles =	3,982	3-Year Averages	
% Public Land =	72%	Hunters per square mile =	0.88
Major Land Type =	Rangeland	Harvest per square mile =	0.61
	Agriculture	Success Rate =	34%
		%6+ Points =	49%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2015	2,712	986	649	2,000-3,000	620-930	400-595
Bulls per 100 Cows			36	66		30 - 35	18 - 22

Population Surveys

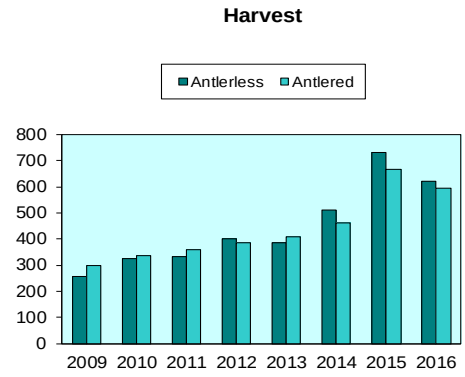
Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
43,44,48	2009	1,560	502	655	2,717	2015	1,331	481	582	2,394
45,52	1999	300	175	73	548	2015	1,381	505	591	2,477
Comparable Surveys Total		1,860	677	728	3,265		2,712	986	1,173	4,871
Per 100 Cows			36	39				36	43	

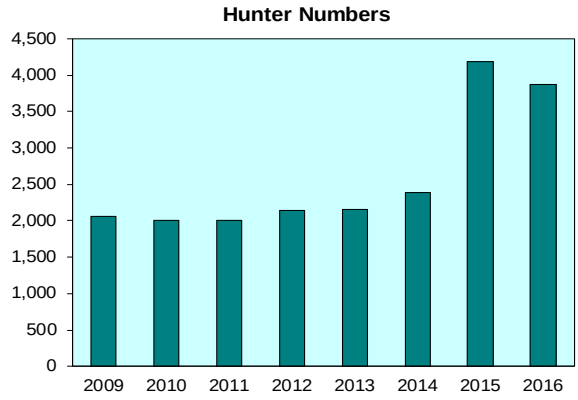


Zone Harvest Statistics

	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	257	323	331	401	385	512	730	622
'A' Tag	42	65	63	73	70	21	46	28
'B' Tag	0	0	0	0	0	61	23	42
CH Tag	215	258	268	328	315	430	661	552
Antlered Harvest	299	335	359	385	408	460	668	594
'A' Tag	93	92	116	124	132	152	350	285
'B' Tag	0	0	0	0	0	3	0	0
CH Tag	206	243	243	261	276	305	318	309
Hunter Numbers	2,061	2,009	2,007	2,146	2,157	2,391	4,191	3,871
'A' Tag	976	814	807	863	895	672	1,849	1,808
'B' Tag	0	0	0	0	0	171	158	112
CH Tag	1,085	1,195	1,200	1,283	1,262	1,548	2,184	1,951
% 6+ Points	54	47	45	53	55	52	48	48

Note: % 6+ pts does not include spike-only harvest.





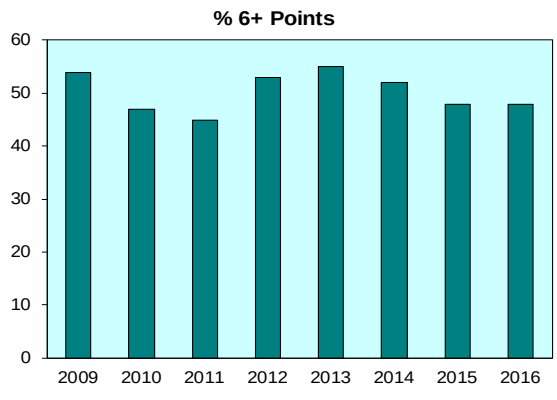


Figure 18. Smoky-Bennett Zone Elk Status and Objectives.

South Hills Zone (GMUs 46, 47, 54, 55, 56, 57)

Management Objectives

The objective in South Hills Zone (Figure 11) is to provide additional high-quality hunting opportunities commensurate with the increased elk population. These elk populations will be allowed to increase while maintaining property damage complaints at or below 2014 levels. Harvest management will emphasize the opportunity to harvest a mature bull.

The 6 GMUs within this zone vary substantially in their potential to sustain elk populations under current biological and socio-political constraints. Management will retain enough flexibility to allow adjustments of elk numbers to address issues that may arise. In GMU 54, surveys will be initiated to provide data on which to assess population status.

Historical Perspective

During the late 1800s, elk in South Hills Zone were nearly eliminated because of unrestricted hunting and conflicts with the area's growing livestock industry. Elk densities remained low throughout the twentieth century but began to increase in the 1990s.

Efforts by the Nevada Division of Wildlife (NDOW) to reestablish elk in the northern portion of that state have been very successful. Elk are expanding their range into suitable habitats in Nevada and Idaho that have not had resident elk for nearly a century. Translocations in Nevada have been used to hasten the growth in elk numbers. Since the mid-1980s, 523 elk have been released into five areas in northern Nevada (Elko County). The overall Nevada population in 2002 was estimated to be 2,260 head with a management cap of 4,480 elk. Currently (2016), approximately 5,000 Nevada elk winter in Idaho, primarily on the Diamond A in GMU 41 and the Inside Desert of GMU 46. Large elk herds (250-300) have also been noted wintering in Shoshone Basin and south of Murtaugh in GMU 54. More elk are residing year-round in Idaho and elk distribution is expanding.

As per the 2014-2024 Idaho Elk Management Plan, the Owyhee and South Hills Zone were split into two elk management zones to better address management issues in the two zones, respectively.

Elk numbers in these GMUs were very low throughout the 1900s. Elk sightings were considered uncommon and management emphasized providing quality mule deer hunting opportunities. In 1916, the Department reintroduced 19 elk (17 cows, two bulls) into GMU 54. Following the release, elk numbers increased only slightly. In 1950, there were approximately 60 elk wintering in GMU 54. Hunting seasons were authorized from 1963-1966 (5-15 tags) but were discontinued because of low success. In 1990, the Magic Valley RMEF chapter proposed releasing elk into GMU 54 to establish a larger, huntable resident elk population. Since ingress of elk from Utah and Nevada was beginning to occur at that time, it was decided to allow elk numbers to increase naturally without translocations. Although reliable estimates of elk numbers are currently unavailable, the population in GMUs 46, 47, 54, 55, and 57 in 2002 was estimated between 250 and 350 elk, exceeding the 1998 objective. Elk hunting was authorized in GMUs 46, 47, and 54 in 2002 with 15 either-sex archery tags, 15 any-weapon antlered tags, and 15 any-

weapon antlerless tags. Similar hunting seasons were authorized for 2003 through 2005 with the antlerless hunt tag level increased from 15 to 40 tags.

Because these GMUs have not traditionally been managed to maintain a resident elk population, the Department scoped 3 possible management scenarios with the public between December 2001 and February 2002. These scenarios were 1) do not allow an elk population to become established; 2) allow slow, carefully monitored growth of the elk herd to allow timely and effective responses to issues or conflicts that might arise; and 3) maximize elk population growth. Of the 230 people surveyed on the issue, 7% favored Scenario 1, 52% favored Scenario 2, and 41% favored Scenario 3. Hunters overwhelmingly favored the establishment of a resident elk population. Ranchers were split between Scenarios 1 and 2 and expressed concerns about the potential for elk to compete with livestock for forage on public and private grazing lands.

In 2014, GMU 56, which was previously in the Bannock Zone, was included into the South Hills Zone. The Department is allowed these elk populations to stabilize or slowly increase within these GMU's. Due to significant pressure from private landowners, the Department opened a zone wide, five month 'B' tag "greenfield hunt". During the first year of this hunt, harvest numbers were very high and during public scoping for 2015 seasons, both landowners and sportsmen strongly supported reducing the season from five months, to one month (Aug 1. – Aug. 29). As elk populations in Nevada and Utah continue to grow, the Department anticipates that harvest will need to be increased to prevent depredation issues on private land.

Habitat Issues

South Hills Zone is comprised of 6 GMUs, which have varying degrees of potential for supporting elk populations. Habitat quality varies considerably between GMUs, as does the potential for depredation problems.

In GMUs 46, 47, 54, 55, 56, and 57, USFS and BLM manage most of elk habitat. Habitat conditions are currently suitable for supporting substantially higher numbers of elk. A large amount of sagebrush, bitterbrush, and mountain shrub-dominated habitats preferred by mule deer have been altered by fire, improving elk habitat suitability. However, high road densities, the open character of habitat, and depredations are important issues that will ultimately help determine elk management objectives.

Biological Issues

Because elk densities have traditionally been low in this zone, surveys have not been conducted to provide data on population dynamics. Elk objectives are not derived from aerial surveys due to expansive land area, dispersed groups of elk, poorly defined winter range, difficult winter access, and interstate migratory patterns. However, Nevada Department of Wildlife (NDOW) conducts annual winter surveys and routinely fly wintering elk herds in Units 41, 46, and 47.

Anecdotal information and NDOW aerial surveys support these populations are increasing, but accurate estimates of population size are unavailable. Increases in elk numbers over the next 5-10 years are inevitable from natural reproduction and continued ingress of elk from Nevada. Although elk numbers in some GMUs currently exceed population objectives established in

1998, no major biological issues have been identified. However, elk impacts to mule deer and bighorn sheep ranges are concerns that biologist will continue to monitor.

Inter-specific Issues

The South Hills Zone has traditionally had a large population of mule deer, although deer numbers have declined from historic levels during the early 1990s from changes in habitat caused by wildfire and infestations of annual grasses and effects of drought and severe winters. The current elk population is not believed to have any impact on mule deer numbers.

In 2016, NDOW observed 3,900 elk wintering on the Diamond A, and many elk were in the Bruneau and Jarbidge River canyons. The impact this number of elk may have on bighorn sheep is unknown, but is a concern for biologists.

Landowners' major concerns are damage to fences and loss of private rangeland forage. Depredations that occur will be aggressively dealt with by the Department in a timely manner as specified in Idaho Code (36-1108) and Department policy. The Department will work closely with private landowners to avoid development of chronic problems. On federal lands, any resource damage attributed to elk will be jointly evaluated by the Department and managing agency.

Predation Issues

Mountain lion is the primary predator of elk in this zone. Predation is presently not a major factor limiting growth of these elk populations, nor is it anticipated to become a concern.

Winter Feeding Issues

There has been no winter-feeding of elk in this zone recently. Elk numbers will not be maintained at a higher level than can be supported by available winter habitat. Unsanctioned feeding by private individuals will be strongly discouraged. In the event that emergency feeding is necessary, elk populations will be reduced to resolve the problem.

Information Requirements

Current elk population estimates are based on reports from ranchers, biologists, and hunters, but better data will be necessary for management of anticipated higher numbers.

Management Implications

The South Hills Zone is characterized by open country with moderate to high road densities. Elk permit levels have generally been low to ensure a quality hunt. With expanding elk populations, antlerless permit levels will need to be adjusted accordingly, but conflicts with too many hunters in the open environments will certainly come and need to be addressed. Excessive competition and unethical hunter behavior is often seen when large groups of elk are pursued in open country. Maintaining a quality hunting experience for trophy bull elk while increasing antlerless harvest, particularly in GMUs 46 and 47, will be a top management priority in the future.

Elk

South Hills Zone (GMUs 46, 47, 54, 55, 56, 57)

Square Miles =	6,640	3-Year Averages	
% Public Land =	67%	Hunters per square mile =	0.21
Major Land Type =	Rangeland	Harvest per square mile =	0.12
	Agriculture	Success Rate =	25%
		%6+ Points =	83%

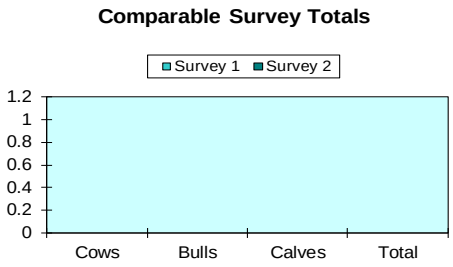
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Bulls per 100 Cows							

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
Comparable Surveys Total										
Per 100 Cows										

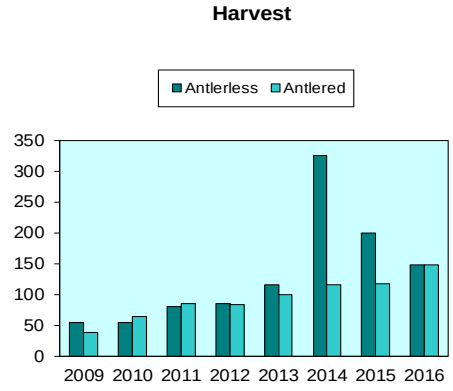
Note: ND = no survey data available.

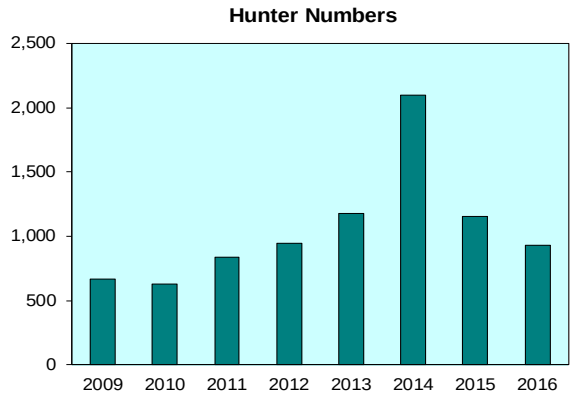


Zone Harvest Statistics

	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	55	55	81	86	116	325	200	148
'A' Tag	32	28	22	31	26	15	10	3
'B' Tag	0	0	0	0	0	270	66	39
CH Tag	23	27	58	58	90	40	124	106
Antlered Harvest	38	65	85	83	99	116	118	148
'A' Tag	6	18	9	17	16	45	30	46
'B' Tag		0	0	0	0	0	2	0
CH Tag	32	47	75	65	83	71	86	102
Hunter Numbers	667	629	839	943	1,175	2,101	1,157	931
'A' Tag	549	481	551	641	570	361	424	348
'B' Tag	0	0	0	0	0	1,395	217	129
CH Tag	118	148	297	318	605	345	516	454
% 6+ Points	68	68	76	82	78	80	86	82

Note: % 6+ pts does not include spike-only harvest.





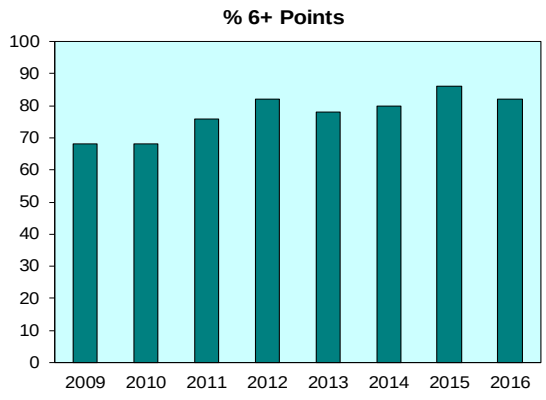


Figure 19. South Hills Zone Elk Status and Objectives.

Big Desert Zone (GMUs 52A, 68)

Management Objectives

Objectives for the Big Desert Zone (Figure 20) are to reduce elk populations to lower levels. As agricultural crop and property damage have increased, so have antlerless tag numbers. Hunts have been designed to help address elk damage to agricultural crops in the times and places where it occurs. Hunter success has remained high in the Big Desert. Where agricultural concerns are manageable, elk numbers will be maintained at levels which limit agricultural damage yet provide a desirable hunting opportunity and experience. As with other zones limited by agricultural impacts, the overall goal is to strike a balance between being responsive to depredation issues while still providing quality hunting opportunity.

Historical Perspective

The elk population in Big Desert Zone has increased substantially from early historical records. Accounts of trappers through this area in the mid-1800s suggest that, although elk were common, buffalo, bighorn sheep, and pronghorn were far more numerous. Unregulated harvest of the late 1800s and early 1900s likely reduced populations to relatively low levels.

Elk hunting in Big Desert Zone began in 1983 with 30 either-sex tags for GMU 63. Since that time, elk numbers and tag numbers have increased substantially. In 2001, Big Desert Zone was reduced from 6 GMUs (52A, 53, 63, 63A, 68, 68A) to 2 GMUs (52A, 68). Between 2001 and 2007, all elk tags in the Big Desert Zone were issued on a controlled hunt basis. Beginning in 2008, an archery-only general elk hunt was authorized in this zone.

Habitat Issues

Big Desert Zone represents some of the least productive habitat found in eastern Idaho. Comprised of mostly dry desert shrub habitat types, Big Desert Zone provides limited summer range for elk.

The BLM administers the majority of public ground (67% of total area) in Big Desert Zone. Private ground makes up 24%, state endowment lands 4%, and other federal agencies (National Park Service, USFWS, Atomic Energy Commission) make up about 5%.

A number of water guzzlers have been developed primarily for nongame, upland game, and pronghorn within Big Desert Zone. Although the impacts to other wildlife are unknown, elk have permanently destroyed some guzzlers and can prematurely dry up storage tanks.

Wildfires continue to play a big role with habitat throughout Big Desert Zone. In many cases, fire has replaced sagebrush stands with perennial grasses, theoretically improving habitat conditions for elk.

Biological Issues

With the exception of a few Idaho National Laboratory (INL) aerial surveys generally covering the northeast corner of the zone, population surveys have not been conducted in Big Desert Zone. Therefore, estimates for recruitment and total numbers are based on other data.

During January 2006, 62 elk (51 cows, 10 calves, one spike bull) were trapped from the Ketchum area and released north of Minidoka near Bear Trap Cave on the border between GMUs 52A and 68. The Ketchum trap site will be monitored in upcoming years to evaluate whether elk return to Ketchum or winter near their release site.

Over the past few years, depredation issues have increased in the southern portion of GMU 52A. Because of this, new hunts have been implemented in this area to better target depredating elk. Close monitoring of elk depredations will continue, and additional hunts may be implemented or amended to continue to address this issue.

In 2017 the archery hunt in GMU 68 was extended to include the month of August in an attempt to alleviate chronic depredation issues and limit agricultural damage along agriculture desert interface.

Inter-specific Issues

Livestock, mule deer, and pronghorn are the primary ungulates sharing range with elk in Big Desert Zone. We are unaware of significant concerns regarding elk competition for forage with livestock. It is unknown what, if any, impacts an increasing elk population may have on pronghorn or mule deer.

Predation Issues

Coyotes are the predominant large predators within this zone. However, they are not believed to be a significant factor in elk population dynamics.

Winter Feeding Issues

Emergency supplemental feeding of elk has not been conducted recently. The relatively inaccessible nature of this zone in winter and generally limited snowfall preclude many concerns for winter feeding. Because of the lack of wintertime depredations in the past, many hay producers leave their stacks unprotected on the edge of the desert. This may have created a few small bands of wintering elk that remain on the desert and rely on those stacks for supplemental forage. This trend was most noticeable during the 2016-2017 winter when heavy snowfalls drove those animals off of the desert and created several haystack depredations. This is a situation that will need to be monitored in the future.

Information Requirements

The greatest data need for Big Desert Zone is reliable population data that provide estimates of abundance, composition, recruitment, and distribution data that would assist in developing effective harvest and depredation control strategies.

Elk

Big Desert Zone (GMUs 52A, 68)

Square Miles =	3,553	3-Year Averages	
% Public Land =	80%	Hunters per square mile =	0.14
Major Land Type =	Range	Harvest per square mile =	0.09
	Agriculture	Success Rate =	31%
		%6+ Points =	64%

Winter Status & Objectives

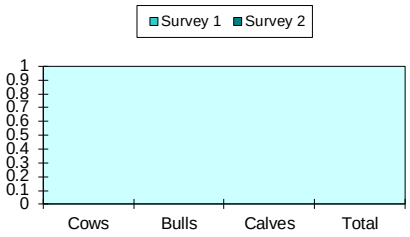
Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Bulls per 100 Cows							

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
52A	ND					ND				
68	ND					ND				
Comparable Surveys Total		0	0	0	0		0	0	0	0
Per 100 Cows										

Note: ND = no survey data available.

Comparable Survey Totals

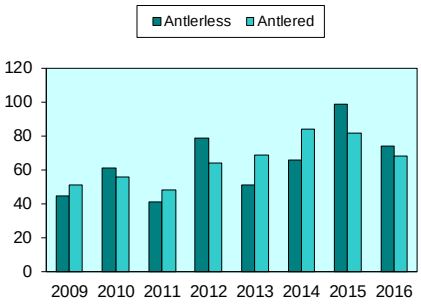


Zone Harvest Statistics

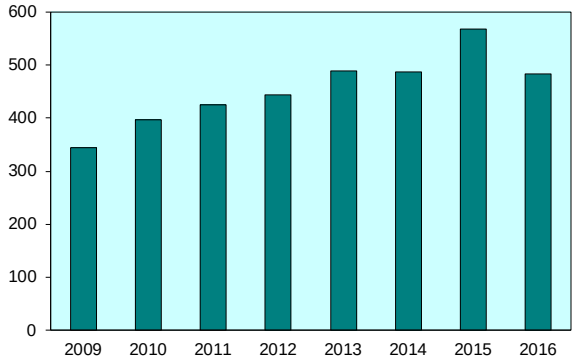
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	45	61	41	79	51	66	99	74
'A' Tag	0	6	3	5	3	6	6	0
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	45	55	38	74	48	60	93	74
Antlered Harvest	51	56	48	64	69	84	82	68
'A' Tag	12	13	10	13	23	32	24	31
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	39	43	38	51	46	52	58	37
Hunter Numbers	345	396	425	444	489	487	567	483
'A' Tag	96	150	105	116	159	145	199	173
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	249	246	320	328	330	342	368	310
% 6+ Points	46	61	64	62	57	54	73	65

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

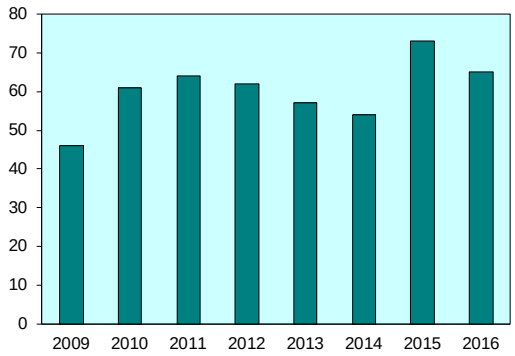


Figure 20. Big Desert Zone Elk Status and Objectives.

Snake River Zone (GMUs 53, 63, 63A, 68A)

Management Objectives

Objectives for Snake River Zone (Figure 21) are to maintain a wintering elk population of 25-35 cows and 5-10 bulls, including 1-5 adult bulls. Although no population survey estimate exists for this zone, field reports combined with INL surveys indicate that current numbers exceed objectives. Our reported harvest has exceeded population objectives in this zone since before 2009. The low population objective is necessary to alleviate significant depredation concerns in GMUs 53 and 63. Aggressive harvest rates will be necessary to achieve population objectives.

Historical Perspective

The elk population in Snake River Zone has increased substantially from early historical records. Accounts of trappers through this area in the mid-1800s suggest that, although elk were common, buffalo, bighorn sheep, and pronghorn were far more numerous. It is likely that the unregulated harvest of the late 1800s and early 1900s reduced populations to relatively low levels.

Snake River Zone (GMUs 53, 63, 63A, 68A) was contained within Big Desert Zone (GMUs 52A, 68) from the beginning of the zone system in 1998 through 2000.

Elk hunting in Snake River Zone began in 1983 with 30 either-sex tags for GMU 63. Since that time, elk numbers and harvest opportunity have increased substantially.

Habitat Issues

Snake River Zone represents some of the least suitable habitat found in eastern and southern Idaho. Comprised of mostly agriculture and dry desert shrub habitat types, Snake River Zone provides limited summer range for elk.

The BLM administers the majority of public ground in Snake River Zone. Other primary ownership includes private and INL ground. The INL, which is largely non-hunted, provides daytime refuge for several hundred elk that forage on private cropland at night. Efforts will continue to improve management options available to the Department for elk on INL.

A number of water guzzlers have been developed primarily for nongame, upland game, and pronghorn within Snake River Zone. Although the impacts to other wildlife are unknown, elk have permanently destroyed some guzzlers and can prematurely dry up storage tanks.

Wildfires continue to alter large swaths of habitat throughout Snake River Zone. In many cases, fire has replaced sagebrush stands with perennial grasses, theoretically improving habitat conditions for elk.

Biological Issues

With the exception of a few INL aerial surveys, population surveys have not been conducted in Snake River Zone. Therefore, estimates for recruitment and total numbers are based on other data. Given the relatively rapid increase in elk observed over the last 15 years, it is believed that production is high. In recent years, depredation issues have increased in the portions of GMU 53

near the border of GMU 52A. Recruitment rate are likely high in the Snake River Zone, so maintaining population objectives will require high harvest rates.

Inter-specific Issues

Livestock, mule deer, and pronghorn are the primary ungulates sharing the range with elk in Snake River Zone. We are unaware of significant concerns regarding elk competition for forage with livestock. It is unknown what, if any, impacts an increasing elk population may have on pronghorn or mule deer.

Predation Issues

Coyotes are the predominant large predator within this zone. However, they are not believed to be a significant factor in elk population dynamics.

Winter Feeding Issues

Emergency supplemental feeding of elk has not been conducted recently. The relatively inaccessible nature of this zone in winter and generally limited snowfall preclude many concerns for winter feeding.

Information Requirements

The greatest data need for Snake River Zone is reliable population data that provides estimates of abundance, composition, recruitment, and distribution data that would assist in developing effective harvest and depredation control strategies.

Elk

Snake River Zone (GMUs 53, 63, 63A, 68A)

Square Miles =	4,618	3-Year Averages	
% Public Land =	43%	Hunters per square mile =	0.34
Major Land Type =	Agriculture	Harvest per square mile =	0.21
		Success Rate =	26%
		%6+ Points =	44%

Winter Status & Objectives

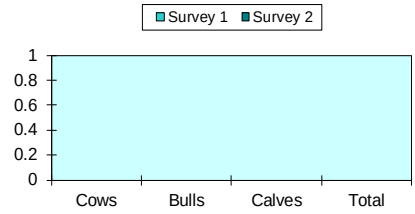
Zone Total	Current Status: Year	Cows	Bulls	Adult Bulls	Objective: Cows	Bulls	Adult Bulls
Bulls per 100 Cows							

Population Surveys

GMU	Survey 1: Year	Cows	Bulls	Calves	Total	Survey 2: Year	Cows	Bulls	Calves	Total
Comparable Surveys Total										
Per 100 Cows										

Note: ND = no survey data available.

Comparable Survey Totals

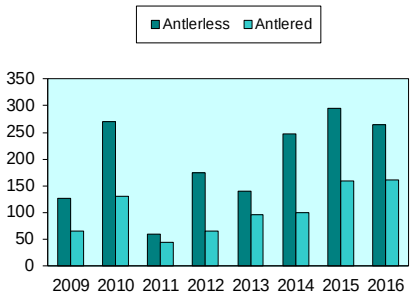


Zone Harvest Statistics

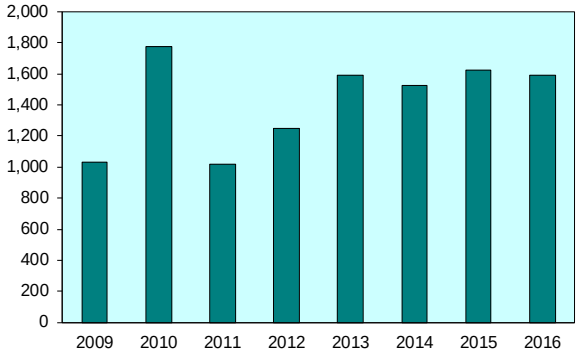
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	127	270	60	174	140	248	296	265
'A' Tag	125	262	55	169	135	231	296	241
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	2	8	5	5	5	17	0	24
Antlered Harvest	65	130	45	66	97	100	159	161
'A' Tag	65	130	45	65	97	100	159	161
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	0	0	0	1	0	0	0	0
Hunter Numbers	1,029	1,773	1,018	1,249	1,591	1,524	1,624	1,591
'A' Tag	1,013	1,726	985	1,214	1,582	1,493	1,587	1,552
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	16	47	33	35	9	31	37	39
% 6+ Points	25	41	24	36	40	51	38	46

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

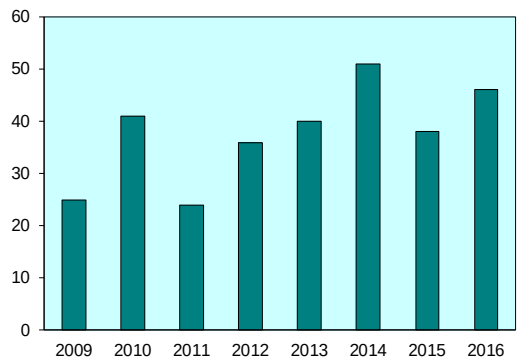


Figure 21. Snake River Zone Elk Status and Objectives.

Bannock Zone (GMUs 70, 71, 72, 73, 73A, 74)

Management Objectives

Objectives for Bannock Zone (Figure 22) are to maintain elk populations, hunter opportunity, and hunter success similar to current levels. Maintaining elk populations at levels which limit agricultural impacts will remain a priority. The Bannock Zone is one of few where aerial surveys are not conducted due to the large area and small dispersed groups of elk. Elk populations in this zone are managed through harvest data analysis of antlerless and percent 6-point bulls.

Historical Perspective

According to the Pocatello Deer-Elk Herd Management Plan (1945), in the early 1900s, elk were not found in the area and "deer were a rarity." In 1916-1917, 35 elk were transported by train from Gardiner, Montana, and released west of Pocatello. Counts in the 1930s and 1940s found 500-600 elk. By 1950, elk were reported to be spreading into the Elkhorn Mountain and John Evans Canyon areas (GMU 73), Blackrock (GMU 71), and Crystal and Midnight creeks (GMU 70).

In a 1940 report, Ted Trueblood said, "Elk (in this area) are a liability and a problem; deer would be an asset."

Elk hunts were first offered in the zone in 1933. Elk numbers declined in the 1950s due to "over-hunting by whites and Indians," and seasons were closed. Permit hunts were offered in some GMUs between 1962 and 1968. Populations remained at very low levels into the late 1980s. Since that time, elk have expanded throughout the Bannock Zone, but are generally found in small groups with a sporadic distribution.

Habitat Issues

The topography of Bannock Zone (2,395,189 acres) is characterized by low, north-south mountain ranges separated by broad valleys. Elevations range from 4,000-9,000 feet. Mountains support mixed conifer/aspen stands on north slopes and mountain brush/grass communities on southern exposures. Juniper and mountain mahogany are common on lower slopes. Valleys are agricultural with large expanses of grain, pasture, and hay. Grazing, logging, and urbanization are additional factors affecting habitats in the zone.

Land ownership is approximately 56% private, 31% federal, 6% state, and 7% Indian reservation. Access is widespread with few areas more than one mile from some type of road.

Winter range consists of windswept ridges, Conservation Reserve Program (CRP) acreage, and other agricultural fields. Depredation damage complaints from private landowners have been stable.

Biological Issues

Calf recruitment rates have not been measured in this zone. All incidental information indicates a highly productive herd. Newly colonizing populations without any known competition tend to

have high recruitment rates. Given that recruitment is probably high, high harvest rates will be necessary to achieve population objectives.

Inter-specific Issues

The concurrent increase in numbers of elk and decrease in mule deer on some winter ranges has raised concerns about possible competition for forage and/or social intolerance. Livestock operators in several areas have complained about increasing elk use of forage on public land grazing allotments and private lands.

Predation Issues

Mountain lions are the major natural predators of elk in the zone and are judged to be at moderate levels in most areas; however, expanding populations of elk do not indicate that predation is significantly impacting numbers. Coyotes are quite common but not believed to be a major predator of elk. Black bears exist at extremely low levels within the zone and, therefore, are not an important source of mortality for elk. There are no known wolf packs in the zone; however we receive the occasional public wolf observation report.

Winter Feeding Issues

During the harsh winter of 2016-2017 winter feeding was approved for three sites in the Bannock Zone. Elk were fed near Downy in GMU 74, and also near Twin Lakes in GMU 73. These three sites accommodated approximately 370 elk. These sites were approved to reduce risk associated with elk crossing highways, depredation concerns, and to address snow depths along with low temperatures.

Information Requirements

Elk tags have been stable over the past 5 years. A greater level of precision in estimating elk numbers and population change (recruitment) would help in determining appropriate levels and types of hunting to help achieve population objectives.

Elk

Bannock Zone (GMUs 70, 71, 72, 73, 73A, 74)

Square Miles =	3,742	3-Year Averages	
% Public Land =	32%	Hunters per square mile =	0.46
Major Land Type =	Rangeland	Harvest per square mile =	0.09
	Agriculture	Success Rate =	20%
		%6+ Points =	57%

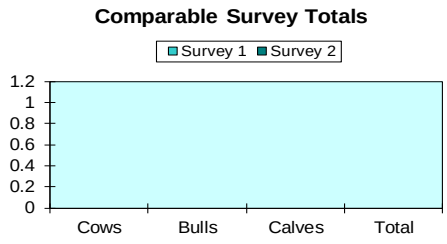
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Bulls per 100 Cows							

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
Comparable Surveys Total										
Per 100 Cows										

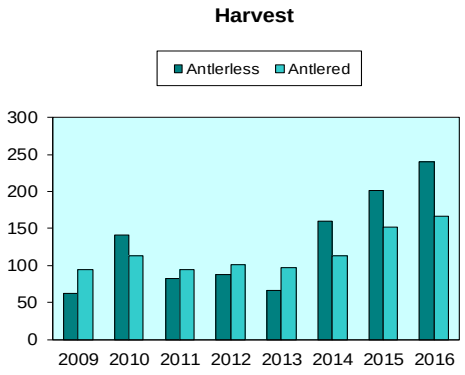
Note: ND = no survey data available.

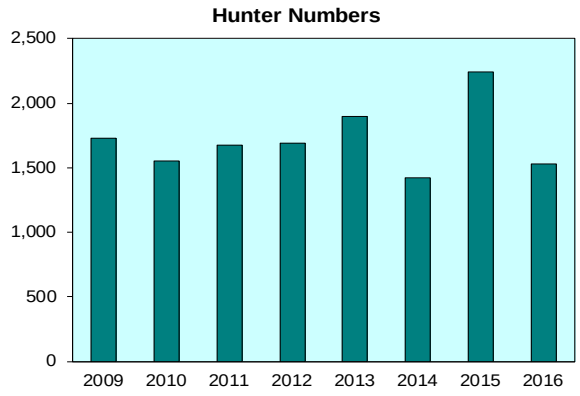


Zone Harvest Statistics

	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	62	141	83	88	67	160	201	240
'A' Tag	48	104	78	81	58	158	198	240
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	14	37	5	7	9	2	3	0
Antlered Harvest	94	113	94	101	97	113	152	167
'A' Tag	43	40	39	61	32	53	60	59
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	51	73	55	40	65	60	92	108
Hunter Numbers	1,730	1,549	1,672	1,688	1,901	1,422	2,242	1,532
'A' Tag	1,368	1,221	1,375	1,429	1,610	1,165	1,957	1,313
'B' Tag	0	0	0	0	0		0	0
CH Tag	362	328	297	259	291	257	285	219
% 6+ Points	37	57	55	59	60	60	56	57

Note: % 6+ pts does not include spike-only harvest.





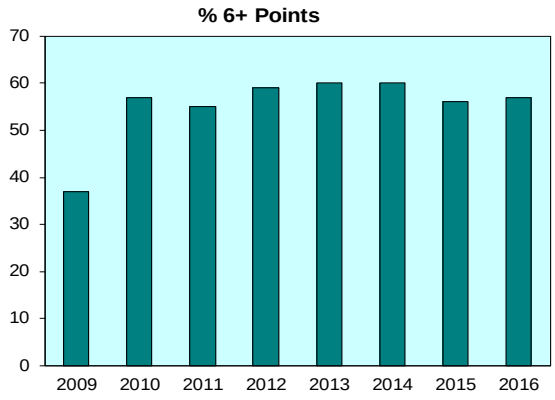


Figure 22. Bannock Zone Elk Status and Objectives.

Diamond Creek Zone (GMUs 66A, 76)

Management Objectives

Objectives for Diamond Creek Zone (Figure 23) are to maintain a wintering elk population of 1,500-2,200 cows and 488-715 bulls, including 315-462 adult bulls. Limited amounts of suitable winter range in GMU 66A preclude significant increases in the wintering population for that GMU. Although GMU 76 could support a higher wintering population, it would be at the expense of significant depredation concerns and increases in elk occupying mule deer winter ranges. The most recent aerial survey (2013) indicates the population is below objectives for cows.

Historical Perspective

The elk population in Diamond Creek Zone has increased dramatically from early historical records. Accounts of trappers through this area in the mid-1800s suggest that although elk were common, buffalo and bighorn sheep were far more numerous. Undoubtedly, the unregulated harvest of the late 1800s and early 1900s maintained at or reduced populations to relatively low levels. By 1952, elk were believed to be numerous enough to warrant the first hunting season with 250 tags for either-sex elk in GMUs 66, 66A, and 69. An aerial survey of GMU 76 during February 1952 resulted in 193 elk observed with a total population estimate of 230. Elk in GMU 66A are primarily migratory and winter with elk in GMUs 66 and 69. The first hunt in GMU 76 began in 1964 with 75 either-sex tags.

As the elk population grew, so did hunting opportunity. Although this zone has primarily been managed via controlled hunt tags, several general hunting seasons have occurred since regulated harvest began. Between 1955 and 1959, general hunts were held in GMUs 66, 66A, and 69 varying between a three-day antlered-only to a 10-day either-sex season. Again in 1968 and 1969, nine-day antlered-only general seasons were offered. The last general hunting opportunity in GMU 66A occurred in 1975 with a three-day antlered-only season.

The most recent population survey (2013) estimated a total of 2,352 elk in GMU 76. This total represents an increase over the 2009 estimate. Historically, elk in GMU 76 summered and wintered within the GMU; however, as populations have increased, there has been use of wintering areas outside the GMU.

In efforts to deal with depredations and potential human safety issues on highways, the Department has instituted extra tags for elk “conditioning” in late winter. These hunts are in December and designed to make private land and areas near highways as unattractive as possible for problem elk herds. They proved to be a success in the 2005 season; however, hunts did not continue into January and elk came back off public lands and returned to old habits. The Department continued the hunts in 2006 and added some hunts for the month of January to continue pressure, forcing elk to stay on public lands. In 2007 controlled elk hunts were dropped 30% to 400 tags. Further reductions in elk tags occurred in 2009 and 2010. Reductions were made in cow tags to 300 late season cow tags (an additional 100 tag reduction), and further reduced cow tags and split them by GMU, 700 tags in GMU 76 and 300 tags in GMU 66A. Archers were also reduced from an average of 2,100 per year to a fixed number of 1,836 per year, with 38% of these tags allocated to non-residents. In 2010 the trophy bull tags were

decreased from 50 to 35, and the archery quota was maintained at 1,836. The number of controlled tags offered and the quota for archers remained unchanged during the 2014 and 2015 seasons.

Habitat Issues

Diamond Creek Zone represents some of the most productive habitat found in southeastern Idaho. Three main vegetation types predominate: sagebrush-grassland, aspen, and conifer. Past habitat-use research indicates that aspen habitat types are highly preferred, especially during non-snow periods. Fire suppression efforts and intensive livestock grazing in the past have resulted in increased shrub and conifer cover with a reduction in the aspen component since historical times.

Approximately 65% of the land in the Diamond Creek Zone is publicly owned, primarily USFS. The 35% private land is used for rangeland pasture and small grain and hay production. Depredation complaints have generally increased in the last decade. Predominate land uses of the publicly-owned ground include livestock grazing, timber management, recreation, and phosphate mining. Approximately 35% of the known U.S. reserves of phosphate ore are located in Diamond Creek Zone.

Open habitat types combined with moderate road densities (0.7-2.3 miles/square mile) and, in some cases, unrestricted ATV travel result in a relatively high vulnerability standard for elk in Diamond Creek Zone.

The Diamond Creek Zone has rich veins of elemental phosphate within its boundaries. This has been and continues to be a habitat concern given the number of forested tracks converted into grassland, and the number of mines in operation and that will be created over the next 30 years. Additionally, the impact of elk feeding on these sites with high selenium concentrations in the forage is not entirely understood.

Biological Issues

Calf:cow ratios (44:100 in the 2013), as measured during aerial surveys, indicate a healthy, productive herd in the Diamond Creek Zone. High calf:cow ratios are consistent with growing populations that are not heavily influenced by density-dependent factors. Given these high levels of recruitment, relatively high harvest rates of antlerless elk are necessary to stabilize populations. Additionally, liberal bull harvest rates can be sustained by high recruitment rates.

Inter-specific Issues

Although both livestock and elk numbers within Diamond Creek Zone are high, there appears to be little concern by livestock operators of competition for grass. However, localized concerns do exist for livestock over utilization during dry years with drought conditions and on ridge-tops (primarily sheep utilization) used by wintering elk.

During the mid-1900s, GMU 76 supported a high population of mule deer with relatively few elk. Important mule deer wintering areas included Brown's Canyon to Yellowjacket Creek, east of Henry, Stump Creek, Crow Creek, and the Soda Front from Wood Canyon to Dingle. Today,

these winter ranges are predominately occupied by elk. It is unknown whether habitat changes and/or competition (resource or social intolerance) have led to this change. However, there appear to be areas with suitable deer winter range vegetation that are only occupied by elk. Extensive populations of wintering mule deer are not expected to occur with current distribution and numbers of elk in this zone.

Predation Issues

Potentially major predators of elk in Diamond Creek Zone include black bears and mountain lions. The black bear population is extremely low and probably has remained unchanged for many years. Mountain lions are believed to have increased during the last 30 years. However, current recruitment rates and other elk population parameters suggest this increased mountain lion population is not having a significant effect. Coyotes are common but not believed to be a significant predator on elk. There are no known wolf packs in the zone, however wolves have been observed in the zone and public wolf observation reports are not uncommon.

Winter Feeding Issues

Emergency supplemental feeding of elk has been provided during 6 winters since 1981 in Diamond Creek Zone. Numbers of animals fed have ranged from 200-900. Recurrent emergency feeding areas include near Freedom, Thomas Fork Valley, Crow Creek, Stump Creek, Banks Valley and Bischoff Canyon. Additionally, it is believed that some elk summering in this zone migrate to annual winter feed grounds in adjacent Wyoming. During 1985, 122 elk were trapped near Stump Creek and translocated elsewhere. On-site testing for Brucellosis resulted in no positive responses. However, during 1992-1993, a group of 300 wintering elk in Idaho and Wyoming along the Thomas Fork Valley were trapped and marked in Wyoming. One out of the 40 elk tested showed a positive Brucellosis response. During the severe 2016-2017 winter there were 5 feed sites authorized for elk that served about 900 animals. Deep crusted snow, public safety, and depredation concerns were responsible for these fees sites being authorized.

Information Requirements

Recently (during the mid to late 2000s), observed changes in winter distribution of elk in the Diamond Creek Zone has occurred, and reasons for these shifts are poorly understood. Possible explanations include a population that has reached habitat fill, habitat change resulting in less suitable winter range, and/or random behavioral response to differing environmental conditions. A better understanding of the processes involved in winter range selection would aid in a better ecological understanding of elk in this zone and lead to more responsive management actions.

The Diamond Creek Zone continues to be an extremely popular area for archery hunting because of higher than average hunter success rates and elevated percentages of 6+ points in the harvest. Currently, there is growing interest surrounding the effectiveness of archers as technological advancements improve the amount of wounding loss that occurs, and maintaining adequate opportunities for both archery and any-weapon sportsmen. It will be essential that the Department continues to obtain accurate and timely harvest estimates in Diamond Creek for effective management.

Elk

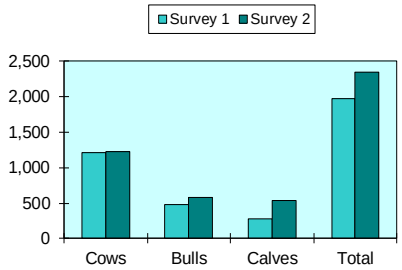
Diamond Creek Zone (GMUs 66A, 76)

Square Miles =	1,659	3-Year Averages	
% Public Land =	60%	Hunters per square mile =	1.87
Major Land Type =	Forest	Harvest per square mile =	1.17
		Success Rate =	32%
		%6+ Points =	53%

Winter Status & Objectives

	Current Status				Objective		
Zone	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Total	2013	1,218	583	372	1,500-2,200	488-715	315-462
Bulls per 100 Cows			**48**	**31**		**30-35**	**18-22**

Comparable Survey Totals



Population Surveys

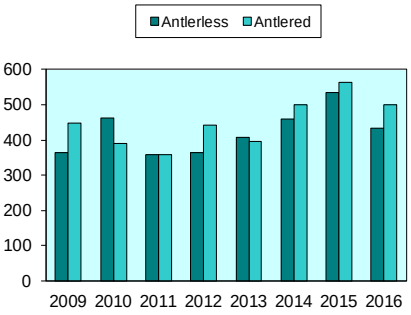
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
66A,76	2009	1,205	478	285	1,968	2013	1,218	583	534	2,335
Comparable Surveys Total		**1,205**	**478**	**285**	**1,968**		**1,218**	**583**	**534**	**2,335**
Per 100 Cows			**40**	**24**				**48**	**44**	

Zone Harvest Statistics

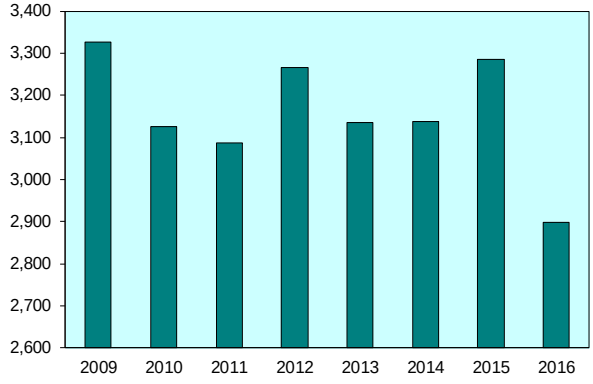
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	364	461	358	364	408	460	534	433
'A' Tag	65	74	70	54	87	96	92	109
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	299	387	288	310	321	364	442	324
Antlered Harvest	449	389	357	442	397	499	562	500
'A' Tag	301	250	237	285	234	303	346	312
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	148	139	120	157	163	196	216	188
Hunter Numbers	3,326	3,125	3,088	3,266	3,136	3,137	3,286	2,899
'A' Tag	1,805	1,692	1,673	1,836	1,745	1,755	1,848	1,600
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	1,521	1,433	1,415	1,430	1,391	1,382	1,438	1,299
% 6+ Points	46	40	28	54	43	48	55	55

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

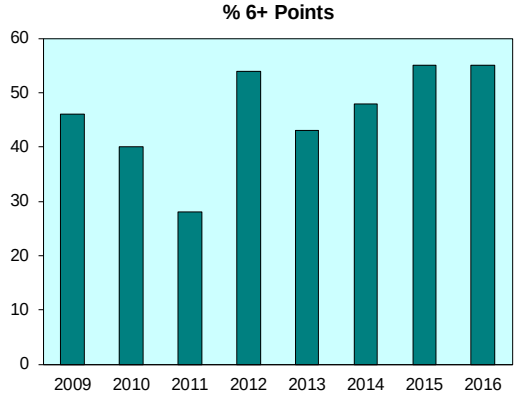


Figure 23. Diamond Creek Zone Elk Status and Objectives.

Bear River Zone (GMUs 75, 77, 78)

Management Objectives

Objectives for Bear River Zone (Figure 24) are to maintain a wintering elk population of 400-700 cows and 84-147 bulls, including 48-84 adult bulls. Although this zone could support a higher wintering population, it would be at the expense of significant depredation concerns and increases in elk occupying mule deer winter ranges. The most recent aerial survey (2017) indicates that the population has increased since 2010 with substantial increases in total and adult bulls.

Historical Perspective

The elk population in Bear River Zone has increased substantially from early historical records. Accounts of trappers through this area in the mid-1800s suggest that although elk were common, buffalo and bighorn sheep were far more numerous. Undoubtedly, the unregulated harvest of the late 1800s and early 1900s maintained at or reduced populations to relatively low levels.

Elk hunting in this zone began in the 1940s with controlled either-sex hunts, was closed for several years, and started up again in 1956 with general hunts for either-sex. GMU 75 was closed on and off through the 1960s. From 1968 through 1975, all GMUs were open to general either-sex hunting. Starting in 1976 through the present, all GMUs have been open for general antlered-only opportunity. In 1984 and 1985, a few either-sex tags were offered along with the antlered-only hunt. Since 1986, antlerless-only tags have generally increased.

In 2013 the general Bear River Zone B tag (general any weapon bull hunt) was capped at a quota of 550 tags. These tags were available to residents and non-residents on a first come first serve basis. For comparison in 2012 there were 646 B tags sold, accounting for 132 bulls harvested.

Prior to the late 1970s, the vast majority of elk that summered in this zone wintered in Utah. Since that time, elk wintering in this zone have dramatically increased.

Habitat Issues

Bear River Zone represents some of the highest quality habitat found in southeastern Idaho. Three main vegetation types predominate: sagebrush-grassland, aspen, and conifer. Past habitat-use research indicates that aspen habitat types are highly preferred, especially during non-snow periods. Fire suppression efforts and/or intensive livestock grazing in the past have resulted in increased shrub and conifer cover with a reduction in the aspen component since historical times.

The USFS administers the majority of public ground (49% of total area) in this zone. Predominant land uses of public ground include livestock grazing, timber management, and recreation. Private ground makes up the remaining 51% and is used primarily for rangeland pasture and small grain and hay production. Since most of the potential elk winter range is privately held, depredation concerns have been significant. Several stackyards have been developed in order to alleviate some of the depredation concerns. The urban sprawl of subdivisions and small-acreage home-sites in this zone has also led to significant conflicts with

wintering elk. The loss of winter range and conflicts with producers are the primary considerations limiting elk populations in Bear River Zone.

Because of relatively high amounts of conifer cover, Bear River Zone represents some of the best security cover found in southeastern Idaho. Increased use of ATVs and increases in road development will raise vulnerability standards in this zone.

Biological Issues

Calf:cow ratios, as measured during aerial surveys, increased from 34:100 in 2010 to 44:100 in 2017. A recruitment rate of approximately 25 calves per 100 cows is necessary to maintain elk populations and allow moderate levels of harvest. The 2017 aerial survey calf:cow ratio shows that the Bear River elk herd may be increasing. The reduction of the any weapon B tags also seems to have resulted in increased bull numbers throughout the zone.

Inter-specific Issues

The elk population in this zone has caused conflict with several livestock operations in the foothills. The main sources of concern are damage to fences and loss of hay, grain, and private rangeland forage.

Bear River Zone is also a highly productive mule deer area. Recent habitat changes appear to be favoring elk. Although these GMUs do show some niche separation during winter between elk and deer, recent observations indicate that elk are beginning to occupy suitable deer winter range.

Predation Issues

Potentially major predators of elk in Bear River Zone include black bears and mountain lions. The black bear population is extremely low. Mountain lions are believed to have increased during the last 30 years. However, current recruitment rates and other elk population parameters suggest this increased mountain lion population is not having a significant effect. Coyotes are common but not believed to be a significant predator on elk. We have occasional public wolf observation reports in the zone, but we have no known wolf packs.

Winter Feeding Issues

Emergency winter feeding of elk only occurs periodically in this zone. An unknown but substantial number of elk are believed to migrate and winter in Utah, with some known to use the feeding operation at Hardware Ranch. The winter of 2016-2017 proved to be a very hard winter in southeast Idaho. Emergency winter feeding for elk in the Bear River Zone was approved for seven feed sites effecting approximately 650 elk counted at those sites. There were also significant depredation issues mitigated by paneling haystacks during the winter, and the addition of several more permanent stackyards during the summer of 2017.

Information Requirements

An unknown but substantial number of elk are believed to migrate and winter in Utah. A better understanding of these numbers would benefit management recommendations.

Elk

Bear River Zone (GMUs 75, 77, 78)

Square Miles =	887	3-Year Averages	
% Public Land =	52%	Hunters per square mile =	2.24
Major Land Type =	Forest	Harvest per square mile =	0.96
		Success Rate =	21%
		%6+ Points =	34%

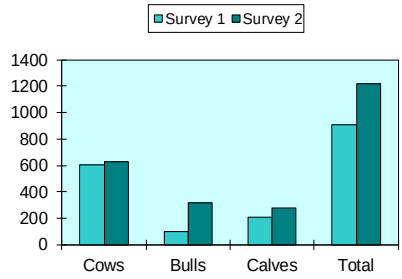
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2017	630	314	183	400 - 700	84 - 147	48 - 84
Bulls per 100 Cows			50	58		25-29	14-18

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	2010	606	98	205	909	2017	630	314	278	1,222
Comparable Surveys Total		606	98	205	909		630	314	278	1,222
Per 100 Cows			16	34				50	44	

Comparable Survey Totals

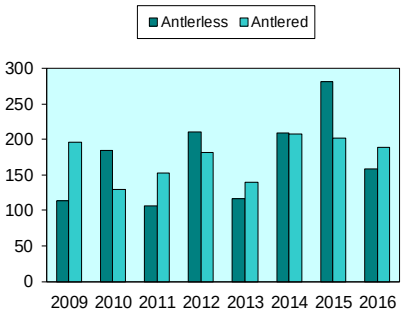


Zone Harvest Statistics

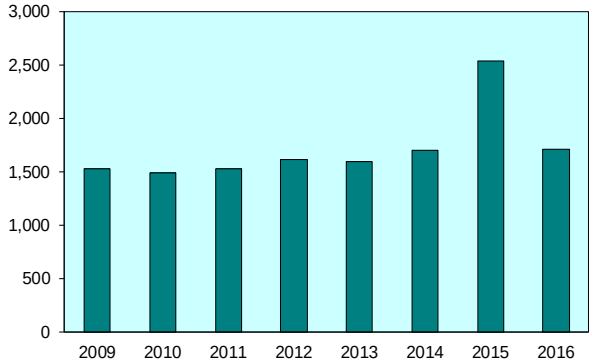
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	113	185	106	211	117	209	282	158
'A' Tag	102	168	106	202	112	204	276	148
'B' Tag	1	15	0	7	2	5	2	8
CH Tag	10	2	0	2	3	0	4	2
Antlered Harvest	196	130	152	182	139	208	202	189
'A' Tag	67	41	47	42	36	98	85	69
'B' Tag	116	80	93	123	90	97	100	104
CH Tag	13	9	12	17	13	13	17	16
Hunter Numbers	1,533	1,493	1,532	1,619	1,600	1,703	2,539	1,716
'A' Tag	845	798	880	973	1,056	1,176	1,876	1,211
'B' Tag	610	650	614	601	500	496	620	479
CH Tag	78	45	38	45	44	31	43	26
% 6+ Points	40	24	23	41	32	31	38	32

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

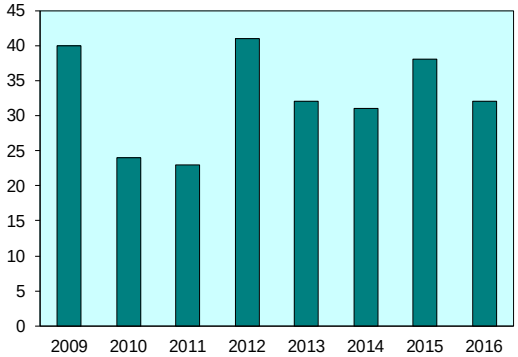


Figure 24. Bear River Zone Elk Status and Objectives.

Island Park Zone (GMUs 60, 60A, 61, 62, 62A)

Management Objectives

Objectives for the Island Park Zone (Figure 25) are to maintain a wintering elk population of 1,200-1,800 cows and 400-575 bulls, including 250-375 adult bulls. Proposed population objectives for Island Park Zone balance hunter opportunity and hunter success with crop and property damage on agricultural lands. Currently, elk wintering on the Sand Creek winter range in GMU 60A and 62 are slightly above objective for cows and within objective for bulls and adult bulls. In the past, obtaining adequate harvest on this population was difficult due to its migratory nature and the fact that significant portions of the herd spend fall in Yellowstone National Park and Harriman State Park where they are safe from harvest. During the early 2000's, weather during hunting season was adequate enough to get a good harvest, and we likely harvested the population harder than planned. Bull:cow ratios are difficult to measure for the hunted portion of the population, again, because they are inflated by those animals which avoid hunting. Additionally, a portion of the harvestable fall elk population in the Island Park Zone (particularly in GMU 61) migrates to winter ranges in Montana, and therefore is not counted as part of the Sand Creek sightability surveys in GMU 60A. Radio collar information suggests that well over half of the elk in the old Teton Zone (GMU 62) spend spring, summer, and fall in Wyoming or Yellowstone National Park. They often do not enter Idaho until after the general hunting seasons are over. This presents a difficult challenge for management. These migratory elk provide little opportunity for Idaho hunters. The Island Park Zone currently provides the widest array of hunting opportunity available, including archery, centerfire, and muzzleloader seasons; early and late hunting; and controlled any-bull and either-sex hunts.

Historical Perspective

In 2014, the Teton Zone was dissolved and GMU 62 was added to the Island Park Zone. Elk have been present, in varying numbers, in portions of the Island Park Zone throughout recorded history. There has been a general elk season in all or part of Fremont County since 1882. This undoubtedly is the longest running general hunting opportunity in the state. In GMU 62, general either-sex hunting was allowed until the mid-1970s. During much of the early twentieth century, these hunts were based upon elk populations summering in Yellowstone National Park and Wyoming.

In the late 1940s, elk were first observed wintering on high desert habitats of GMU 60A, with 582 wintering elk recorded in 1952. These wintering populations varied from about 700 to 1,200 elk until the mid-1970s, at which time the elimination of general either-sex elk hunting resulted in a rapidly increasing winter population. The population peaked in the winter of 1999-2000, when 4,134 elk were estimated on Sand Creek winter range. In GMU 62, the elk population was relatively stable through the 1980s with 30-40 animals wintering along Teton River in the basin, 40-50 animals being fed at a ranch on Conant Creek, and approximately 100 elk wintering in and adjacent to Teton River and its tributaries north of State Highway 33.

General bull hunting was restricted to spikes-only in 1991 in response to an accelerated timber harvest program on Targhee National Forest that resulted in poor bull escapement and low bull:cow ratios. Antlerless elk hunting opportunity has been managed through controlled hunts

and, beginning in 1993, tags have been offered for any-bull hunting opportunity throughout the Island Park Zone.

Habitat Issues

Most elk summer range in the Island Park Zone occurs on USFS lands and is dominated by gentle topography lodgepole pine communities. Douglas fir stands are common on sloped sites. Timber management practices from 1970-1990 severely altered habitats in the Island Park Zone. In the mid-1970s, approximately two-thirds to three-fourths of the merchantable lodgepole pine stands on the Targhee National Forest were classified as dead or dying due to a mountain pine beetle infestation. Consequently, the USFS dramatically accelerated timber harvest. The result was an extensive network of roads and clear-cuts, which reduced elk habitat effectiveness and greatly increased elk vulnerability. Implementation of road and area closures in some areas and increasing security cover from continued forest regeneration will continue to help offset some of these effects into the future.

The Sand Creek winter range supports a vegetative complex typical of high-desert shrub-steppe dominated by sagebrush. Bitterbrush and chokecherry are prominent on areas of stabilized sand. Land ownership consists of a checkerboard of state, BLM, and private property. Cooperative use-trade agreements have benefited the elk population. A large area of winter range in the western portion of GMU 62 has been converted to agriculture. Some of this land is now enrolled in the CRP program. Elk winter range was lost to the construction and subsequent failure of the Teton Dam, although the greatest habitat loss associated with that event was deer habitat. Agricultural encroachment and suburban developments continue to threaten winter range in the Island Park Zone.

There are a number of domestic elk ranching and, specifically, “shooter bull” operations in this area. These operations pose several threats to wild elk including loss of available habitat behind fences, obstruction of migration routes with fences, possible disease sources, and possible genetic introgression from escapees. In 2003, a 5,000-acre domestic elk operation was constructed on South Juniper Hill. This operation is on the fringe of historic elk winter habitat but has attracted elk to the area because of domestic elk inside the fence and put elk on top of historic deer winter range next to the fence. In 2005, construction was completed on a new pen on Big Grassy, which is the core of the traditional elk winter range. This pen is estimated to enclose 16 square miles of prime elk and moose winter habitat. An unknown number of domestic elk were placed in the pen in the middle of 2,000-3,000 wintering wild elk. These pens reduce potential carrying capacity of the winter range, and could pose other problems for the Island Park Elk herd.

Biological Issues

Until recently, winter elk populations had been increasing steadily in Island Park Zone since they were first noticed on the Sand Creek Desert in the late 1940s. A total of 582 were recorded in 1952. This total climbed steadily to the 4,134 elk counted in 2000 and then decreased to 3,246 in 2002 and 1,748 in 2006. Significant reductions in hunter opportunity (both to the general season and controlled hunts) were made after the 2006 survey. The population has apparently responded to these changes, as there were 3,271 elk estimated during the 2016 sightability

survey. An additional 575 elk were counted in GMUs 62 and 62A for a total of 3,846 elk in the Island Park zone.

Recruitment measured through sightability surveys indicates the moderately productive nature of the herd, with calf:cow ratios typically in the 30-35 calves:100 cows range. Bull:cow ratios have rebounded markedly since the implementation of spike-only general hunting in 1991. Bulls:100 cows ratios have ranged from 40-68. It should be noted, however, that these totals are buttressed by an unknown segment of the population that spends summer and fall in Harriman State Park and Yellowstone National Park. These animals are largely un-harvested, being subjected to hunting pressure only while migrating to winter range.

There are two groups of elk that have been historically fed in GMU 62. The Department has undergone many strategies to move or redistribute these elk through hunting. These animals have been fed during winter on private ranches at Teepee Creek and Conant Creek. Both feed grounds have been eliminated. As both a brucellosis control method and to comply with Commission policy, annual feeding operations should be eliminated. These feed grounds likely short-stopped elk that historically migrated further to the west during the winter. These elk summer in Wyoming and in the Bechler Meadows area of Yellowstone National Park.

An unknown segment of the harvestable fall population, primarily in GMU 61, migrates to winter ranges in Montana. These animals are likely available for harvest during at least a portion of the Island Park seasons, but are not in Idaho during sightability surveys. During spring 2009, the Department initiated a research project designed to assess newborn elk calf survival, document seasonal movements, and determine wintering destination for elk summering in GMU 61. The first year's calf capture effort (2009) was focused around Henry's Lake in GMU 61. Thirty-eight calves were collared around Henry's Lake, as far west as Icehouse Creek. Early calf survival (birth through 3 months of age) was 90% for the collar calves. Survival of calves through April of 2010 was 83%. Four calves died during monitoring: 1 mountain lion predation, 1 probable black bear predation, and 2 of unknown cause (i.e., not enough evidence to determine cause). Most (>90%) of the collared calves remained in Idaho during all of the Island Park Zone elk hunting seasons, while 2 calves ventured into Montana during the latter part of the general season. Of the 10 calves that retained their collars throughout the winter migration, 6 migrated to winter ranges in Montana (from the ID-MT border to as far north as Moose Creek in the Madison Valley), 3 wintered along the west side of Henry's Lake (Duck Creek), and 1 migrated to the traditional Island Park winter range on the Sand Creek desert (wintered east of Hamer). The calf that migrated to the Sand Creek desert was collared in the east end of the Shotgun Valley (Icehouse Creek), while all of the calves collared around Henry's Lake stayed around the lake or moved to Montana. The year two effort (2010) focused in the western portion of 61 (Centennial Mountains), from Icehouse Creek to I-15. Department personnel collared 42 newborn calves in the study area during the spring of 2010, with a good distribution of collared calves from east to west. The movements and survival of these calves will be monitored through the spring of 2011, and a final project report to be completed during the summer-fall of 2011.

During the winter of 2008-2009, 39 elk were translocated from GMU 74 (near Swan Lake) to winter range in GMU 60A (Egin-Hamer Road). These elk were a repeat depredation problem in GMU 74. All of the elk tested negative for Brucellosis prior to the translocation.

Domestic elk operations located in this zone present a significant risk of impacting wild herds. Many of these operations are shooter bull based with large pens and are within occupied elk range. This leads to significant opportunity for domestics to contact wild elk through the fence or by escape. This presents risk of disease transmission and genetic introgression.

Inter-specific Issues

Unfortunately, little evidence exists to evaluate the potential relationships between elk, mule deer, and moose in the Island Park Zone. White-tailed deer are scattered throughout the Island Park Zone mainly along riparian corridors, and appear to be expanding their range within the Zone. Heavy grazing/browsing by deer, elk, and moose may alter Columbian sharp-tailed grouse habitats. There is concern over elk herds establishing winter use in traditional mule deer winter range in Teton Canyon.

Domestic sheep and cattle grazing occur throughout the Island Park Zone which could pose some competitive concerns for elk, especially on winter range during drought years.

Predation Issues

Black bear densities appear to be moderate and stable in the Island Park Zone. Grizzly bear numbers are increasing and their range seems to be expanding westward in the Zone. Mountain lions are relatively rare. Coyotes are common, especially in the winter range portion of Island Park Zone, but are not known to have much impact on elk populations. Wolves introduced by the USFWS in Yellowstone National Park have become established in the Island Park zone, which could affect other predators and this elk population.

Winter Feeding Issues

No Department-sponsored elk feeding activities occur in the Island Park Zone except under emergency situations. Agricultural encroachment on Sand Creek winter range increases risk of elk depredations on stored crops, especially under adverse winter conditions. Some feeding by private citizens, resulting in the short-stopping of elk, has occurred on Ashton Hill. Observations in GMU 62 during the 2000-2001 aerial survey indicated that most elk in this zone were associated with private feeding operations. Educational efforts need to continue to give non-sanctioned feeders a better understanding of problems associated with artificially-fed elk.

During the winter of 2007-2008, approximately 800 mule deer were fed on an emergency basis at Sand Creek WMA. No elk were observed on this feed line during the operation, but elk were observed in the vicinity. During the very end of the winter of 2008-2009, the Department baited (10-15 bales of hay) a small group of elk (approximately 12) away from Ashton. The elk had been feeding on a hay stack and were staying in close proximity to the highway. The baiting was used to move them away from the highway, decreasing the public safety risk. Also during the winter of 2008-2009, approximately 200 elk wintered above the Sand Creek ponds. These elk had essentially become “trapped” in the area as snow accumulated quickly on the desert to the west. The Department was poised to supply these elk with supplemental feed if conditions warranted it, but the decision was made that conditions for these elk were satisfactory and the elk were not fed. No feeding or baiting occurred during winter 2010-2011 or 2016-2017.

During the winter of 2007-2008, most elk in the Teton Valley were concentrated at a Department sanctioned bait site along the Teton River (see below). A description of the history of each feed site follows.

A portion of the elk that winter in GMU 62 have been on a feed lot in the Chester area since 2015. The Department and the owner of the feed lot have been working on reducing depredations and looking at long term solutions.

Conant Creek - In the late 1950s, a private landowner began feeding approximately 20 elk on upper Conant Creek. Over the years, the Department has provided this landowner hay to bait the elk away from stored hay and cattle. The number of elk increased and in the interim, the Department tried to work with the landowner to solve the problem with options other than feeding. All such efforts were rejected and the landowner had successfully enlisted the support of politicians and sportsmen in continuing the feeding. Things changed in 2002 when the cattle herd tested positive for brucellosis. Since then, the cattle herd has been destroyed, a fence has been built to keep elk out of the feeding grounds, and no elk have been fed there.

Teepee Creek (Felt) - A landowner on Teepee Creek began feeding elk in the early 1990s. There are approximately 150 elk habituated to this operation. The Department has provided panels to the landowner to protect haystacks but has not provided any feed. During the winter of 2007-2008, a few elk were inadvertently fed in a horse corral but they seemed to disperse from the site later in the season. It is believed this and the Conant Creek operation have short-stopped elk from migrating to winter ranges further west.

Conversion of elk winter range into agricultural fields and domestic elk farms will likely increase depredation problems within this zone. These elk are now migrating west to the Hamer area during moderate to severe winters. This area has been almost completely converted to agricultural fields and offers very little for wintering elk. The department has resorted to depredation hunts in this area as thousands of elk depredate hundreds of widely scattered haystacks. Periodically, agricultural producers dump excess potatoes in the Sand Creek Desert, and elk have been observed wintering on these sites.

Information Requirements

Sightability estimates are needed periodically to monitor this elk population. Also, better knowledge of summer/fall spatial distribution of this elk herd could improve our ability to achieve harvest objectives. In addition, this information is valuable to assess the effectiveness of the travel management policy on the Targhee National Forest. A better understanding of interstate movements of the Island Park elk, particularly those moving to winter ranges in Montana, could improve our harvest management and allow us to better tailor our season structure to facilitate interstate elk management cooperation. The ongoing elk calf survival and movements study in GMU 61 should improve our understanding of this populations movements and harvest availability.

In GMU 62, a comprehensive inventory of winter range in this zone is needed to fully accomplish the objective of ending all winter feeding. The condition of some winter ranges may provide an opportunity for enhancement for elk, perhaps through seeding, burning, or changes in

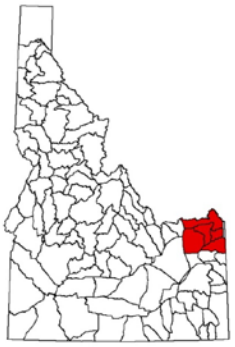
livestock management. As part of this, an assessment of the location, quality, and remaining terms of enrollment of the area's CRP lands is essential if the fed populations in this zone are to become self-sufficient. Continued work with private landowners in the Zone to secure stored crops and winter feed lots is also important to segregate wintering elk and cattle. Additionally, information on snowmobile use of these lands is needed. If the lands are to be made available to elk, snowmobiles should be discouraged.

Elk that summer in Yellowstone National Park near the Bechler Meadows and Grand Teton National Park historically migrated to the Sand Creek desert to winter. It was estimated that up to 1,000 elk migrated this way in the 1980's and 1990's. Current estimates are a few hundred. In 2016, the Grand Teton National Park staff contacted the Department wanting to mark some of these elk for more current data. The Department will work as available with other agencies for this study.

Elk

Island Park Zone (GMUs 60, 60A, 61, 62, 62A)

Square Miles =	2,886	3-Year Averages	
% Public Land =	63%	Hunters per square mile =	1.30
Major Land Type =	Forest	Harvest per square mile =	0.44
	Rangeland	Success Rate =	18%
		%6+ Points =	37%



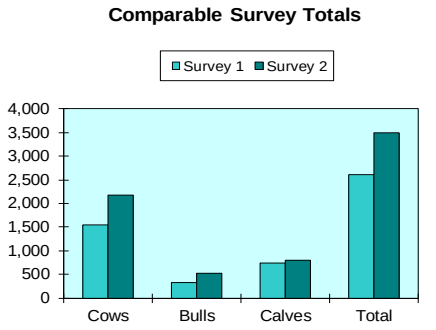
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2016	2,173	523	343	1,200-1,800	400-575	250-375
Bulls per 100 Cows			24	66		30 - 35	18 - 22

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
60	ND					2016	2	15	0	17
60A	2010	1,476	313	722	2,511	2016	2,033	470	766	3,269
61	ND					ND				
62	2011	65	7	20	92	2016	133	35	40	208
62A	ND					2016	5	3	3	11
Comparable Surveys Total		1,541	320	742	2,603		2,173	523	809	3,505
Per 100 Cows			21	48				24	37	

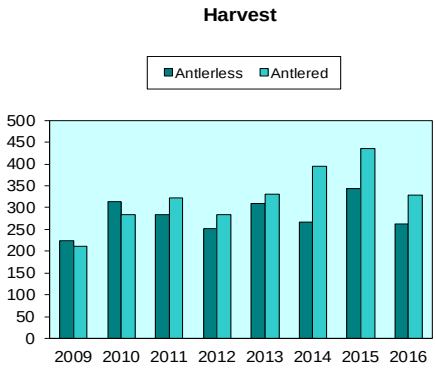
Note: ND = no survey data available.

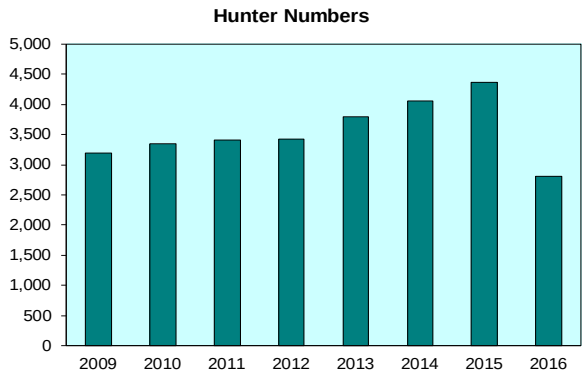


Zone Harvest Statistics

	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	224	314	283	251	309	267	343	263
'A' Tag	115	122	79	110	89	116	148	87
'B' Tag	0	1	0	0	0	0	0	0
CH Tag	109	191	204	141	220	151	195	176
Antlered Harvest	211	284	322	284	330	395	435	328
'A' Tag	136	149	183	198	174	264	291	237
'B' Tag	3	6	0	0	8	0	0	0
CH Tag	72	129	139	86	148	131	144	91
Hunter Numbers	3,195	3,352	3,415	3,417	3,786	4,058	4,365	2,804
'A' Tag	2,330	2,360	2,453	2,571	2,846	3,177	3,476	2,061
'B' Tag	47	60	0	0	63	0	0	0
CH Tag	818	932	962	846	877	881	889	743
% 6+ Points	27	34	20	26	48	30	46	33

Note: % 6+ pts does not include spike-only harvest.





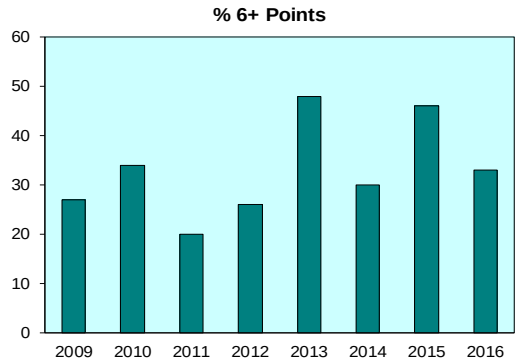


Figure 25. Island Park Zone Elk Status and Objectives.

Palisades Zone (GMUs 64, 65, 67)

Management Objectives

Objectives for the Palisades Zone (Figure 27) are to maintain 400-600 cows and 125-200 bulls, of which 75-125 should be adult bulls. An aerial survey conducted during 2009 indicated that the population is at objective for cows and total bulls, and above objective for adult bulls. Proposed population objectives for the Palisades Zone balance hunter opportunity and hunter success with crop and property damage on agricultural lands. Current and future management efforts will be consistent with eliminating the artificial feeding operation that was conducted at Rainey Creek and Victor, as directed by the Wildlife Brucellosis Task Force Report and Recommendations to the Governor (Sept. 1998). Following elimination of annual feeding, the population will be allowed to recover to the extent it can be supported on natural forage, particularly on winter ranges northwest of Dry Canyon. Population manipulation will be accomplished primarily through public hunting; however, capture and translocation could also be employed. This zone offers most of what little semi-backcountry hunting opportunity remains in eastern Idaho.

Historical Perspective

In 2014, the Teton Zone was dissolved and GMU 65 was added to the Palisades Zone. Reports of elk in the 1800s and early 1900s are imprecise and inconclusive for this area; however, it is likely elk were present. General either-sex hunting was allowed until the mid-1970s. At that time, over-harvest became a concern and the format was changed to allow 5 days of general hunting for bulls only. Hunting for antlerless elk was restricted to permits. The elk population was relatively stable through the 1980s with 50-60 animals wintering in the Game Creek/Moose Creek area and 30-40 animals wintering along Teton River in the basin. Elk damage to haystacks in Swan Valley dates back to the mid-1950s, corresponding with a loss of winter range from inundation by Palisades Reservoir on the South Fork of Snake River. In the mid-1970s, the Department began feeding elk in Rainey Creek to bait them away from livestock feeding operations. This activity continued until 2005 and involved approximately 150 animals. The Department does not plan to feed elk again at Rainey Creek or Victor. The elk population wintering in this zone has increased gradually over the last 3 decades.

Habitat Issues

Abundant spring, summer, and fall habitat exists in this zone. Winter range is limited and is more characteristic of mule deer habitat than elk habitat. Most elk winter range has been lost to agriculture and inundation by Palisades Reservoir, and is currently threatened by proposed housing developments. Potentially important winter ranges in the northern portion of the zone (Grandview Point) are now nearly vacant, likely due to displacement of elk by snowmobile activity. Winter range shrub communities on slopes in the vicinity of the mouth of Rainey Creek appear to have suffered from years of overgrazing by elk and mule deer. Mature mountain mahogany stands throughout the zone may be providing only limited forage, in addition to precluding all but a sparse understory of other species. Recently, urban sprawl, particularly in the east portion of GMU 65, has crept up the hillsides and reduced much of what limited winter range existed in that portion of the zone. Additionally, recent increases in winter recreation (snowmobiles and skiing) likely reduce suitable winter range in this Zone.

Biological Issues

The most pressing biological issues in this zone are related to the winter feeding of elk and the condition of available winter range for elk. The elk herd wintering in Rainey Creek, about 150 animals, has a documented brucellosis exposure rate exceeding 25%, based on testing of >100 individuals. Late hunts have had limited success in reducing this population. Until 2005, a program was implemented to capture and remove all positive-testing female animals and translocate negative testing animals to winter ranges northwest of Dry Canyon. This program was discontinued after 2005 and the Department has discontinued all feeding in Rainey Creek. Although a significant number of elk continue to use the Rainey Creek drainage during the winter, elk were more dispersed throughout the drainage, and adjacent areas, during the 2009 survey than they were during feeding operations prior to 2005. The Department goal is to keep wintering elk and cattle separated in Swan Valley and the Teton Basin using exclusionary devices (i.e., paneling, fencing) and hazing.

The aerial survey conducted in the Palisades Zone in 2016 indicated an increase in both the calf:cow ratio and bull:cow ratio of 41:100 and 57:100, respectively.

The Teton Basin population (GMU 65) has increased over the past 10 years and consists of 2 groups. One herd winters east and south of Victor. It is estimated the winter range in the area could support 50-60 animals. Addressing overpopulation through harvest is difficult in this area because many of the animals are in Wyoming until late winter. Historically, the other group winters along the Teton River in Teton Basin. Up to130 animals have been counted here and pose a major depredation threat under normal winter conditions. This herd most likely moves to the Teton Basin from the Big Hole Mountains. The survey in 2015-2016 counted 99 elk in this area. More elk were counted on the east side of the valley in 2015-2016. This group of elk, 55 individuals, is very close to the town of Tetonia and wintering on private property.

Domestic elk operations in this zone present a significant risk to wild elk herds. Many of these operations are shooter bull-based, with large pens in occupied elk range. This provides significant opportunity for domestic elk to contact wild elk through the fence or by escape. This situation creates a risk of disease transmission and genetic introgression.

Inter-specific Issues

In addition to elk, the Palisades Zone is home to an important mule deer population, a strong moose population, and is grazed extensively by domestic livestock. Inter-specific relationships among these species and elk are not well-monitored and are poorly understood. Competition between elk and mule deer is probably occurring in the immediate vicinity of Rainey Creek, where both species were frequently fed from the mid-1970s through 2005. There is also concern over wintering elk herds are using traditional mule deer winter range in the Heise area.

Predation Issues

Black bear and mountain lions are common in this zone. Hunters in this elk zone have reported seeing black bears consistently. Coyotes are common, especially on the winter range, but are not known to have much impact on elk populations. Wolves introduced by USFWS in 1995 have established a territory in GMU 67, which could affect elk populations. There have been several

confirmed grizzly bear sightings in this elk zone although it is not known whether these bears were moving through the area or consistently use the GMU's that make up the Palisades elk zone.

Winter Feeding Issues

In the late 1970s, a rancher near Irwin began feeding cattle near the mouth of Rainey Creek and along the USFS boundary. Concurrently, large areas of browse in the area were being converted to agriculture. The combination of these factors resulted in elk damaging stored hay and taking advantage of the livestock feed-lines. The Department resolved these conflicts by baiting the elk up into Rainey Creek. It is the Department's intent to eliminate all but emergency feeding of elk in this zone. This should also reduce any brucellosis-related concerns.

During the winter of 2007-2008, the Department baited approximately 125 elk to a site above Swan Valley on Pine Creek bench to prevent human safety concerns along Highway 26. A total of 24 tons of hay were fed over a 68-day period for this operation. Also during the winter of 2007-2008, Department personnel used snow machines to push elk away from livestock operations in Swan Valley on numerous occasions. The region responded to numerous complaints about elk-cattle interactions and elk-hay interactions during the winter 2010-2011; although no feeding or baiting activities were initiated.

The same winter most elk in the Teton Valley were concentrated at a Department of Fish and Game sanctioned bait site. In Victor a herd of approximately 50 elk traditionally wintered in the foothills east and south of Victor. Around 1990, a landowner began feeding this elk herd, which has grown each year and now numbers approximately 200 animals. The Department has rejected all requests to feed elk or establish a permanent feed ground at this site. Permanent stack yards, panels, and hazing have been employed to combat depredations at this site. A large damage payment was made to a nursery in the vicinity, which was then fenced at significant expense. The Department provided hay to this operation on two winters, which were deemed to be emergency cases.

Information Requirements

A comprehensive inventory of winter range in this zone is needed. Although some winter range in the Zone has been lost forever (e.g., areas flooded by Palisades Reservoir), the condition of some winter ranges may provide opportunities for habitat enhancement for elk, perhaps through burning or changes in livestock management. As part of this, an assessment of the location, quality, and remaining terms of enrollment of the area's CRP lands will be needed. Continued work with private landowners in the Zone to secure stored crops and winter feed lots is also important to segregate wintering elk and cattle. Additionally, information on snowmobile use of these lands is needed. If the lands are to be made available to elk, snowmobiles should be discouraged.

Elk

Palisades Zone (GMUs 64, 65, 67)

Square Miles =	771	3-Year Averages	
% Public Land =	52%	Hunters per square mile =	1.99
Major Land Type =	Forest	Harvest per square mile =	0.74
	Agriculutre	Success Rate =	17%
		%6+ Points =	59%

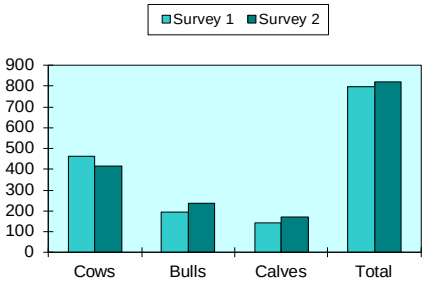
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2016	413	236	184	400 - 600	125 - 200	75 - 125
Bulls per 100 Cows			57	45		30 - 35	18 - 22

Population Surveys

Survey 1						Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
64/65/67	2009	461	195	141	797	2016	413	236	170	819
Comparable Surveys Total		461	195	141	797		413	236	170	819
Per 100 Cows			42	31				57	41	

Comparable Survey Totals

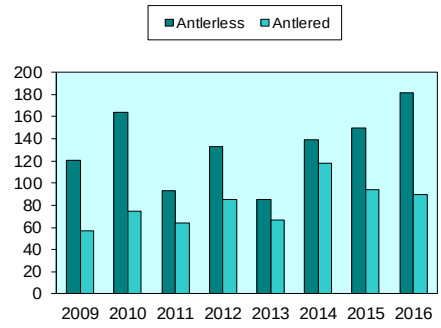


Zone Harvest Statistics

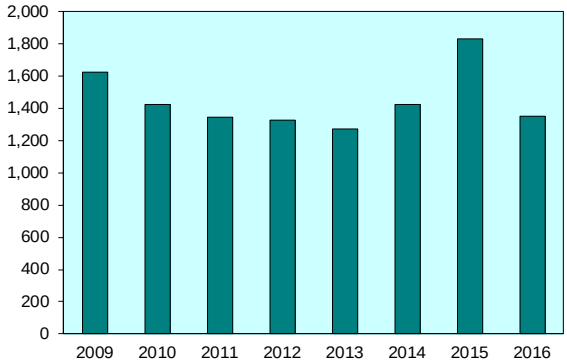
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	121	164	93	133	85	139	150	182
'A' Tag	111	129	71	106	59	96	112	142
'B' Tag	0	1	0	0	1	2	2	8
CH Tag	10	34	22	27	25	41	36	32
Antlered Harvest	57	75	64	85	67	118	94	90
'A' Tag	16	17	18	19	13	40	31	44
'B' Tag	36	41	37	50	48	69	58	43
CH Tag	5	17	9	10	6	9	5	3
Hunter Numbers	1,622	1,425	1,344	1,326	1,275	1,426	1,831	1,353
'A' Tag	1,142	978	601	699	832	902	1,194	862
'B' Tag	377	333	220	195	303	384	502	379
CH Tag	103	114	138	120	140	140	135	112
% 6+ Points	56	35	54	54	70	60	60	42

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

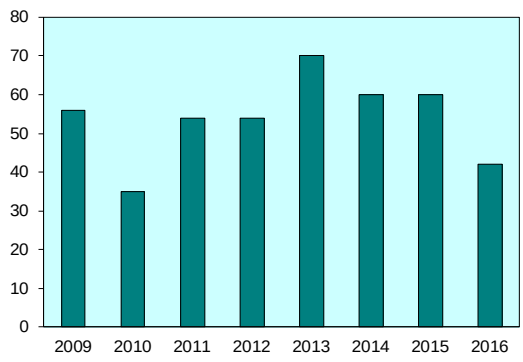


Figure 27. Palisades Zone Elk Status and Objectives.

Tex Creek Zone (GMUs 66, 69)

Management Objectives

Objectives for the Tex Creek Zone (Figure 28) are to winter 2,000-3,000 cows and 425-625 bulls, of which 250-350 should be adult bulls. The most recent aerial survey information, winter of 2012-2013, indicates that cows, bulls, and adult bulls are all within objective. However, a large number of elk that summer in GMU 66A (Diamond Creek Zone) winter in the Tex Creek Zone and objectives differ between the zones, therefore managing harvest and opportunity has been problematic. Management of Tex Creek elk should be coordinated with management of GMU 66A (Diamond Creek Zone). Depredation problems will be solved using hunting as a first option.

Historical Perspective

Elk were present in the Tex Creek Zone during the late 1840s, as reported by Osborne Russell in Journal of a Trapper (1914). According to residents of the area, elk were rarely seen during the early twentieth century. The elk population increased during the 1940s and by the mid-1950s depredation complaints on winter wheat were common. The first modern hunt was implemented in 1952 and consisted of 50 permits. Beginning in 1955, general hunting was allowed and has continued in some form to the present.

The elk population continued to grow through 2005, when the population was estimated at 5,200. Controlling growth of the Zone's elk population has driven harvest strategies during this period. Recently, historical over-harvest of bulls and under-harvest of cows has been addressed with implementation of the dual-tag zone system with general antlerless hunts and increased antlerless tags on late controlled hunts. Recent aerial surveys conducted in 2007, 2010, and 2013 estimated the population at 4,066, 3,831, and 3,899 elk, respectively.

Habitat Issues

Habitat throughout the Tex Creek Zone is, or has the potential to be, highly productive. The fertile, mineral rich soils of the area produce diverse plant communities including sagebrush-grasslands, extensive aspen patches, and cool moist conifer stands primarily on north- and east-facing slopes. Terrain is generally mild and much of the private land in the area is dry-farmed with cereal grains. Nearly half of the zone is private land with the balance of public lands administered by USFS, BLM, IDL, and the Department. A significant portion of the private land is CRP-enrolled and is contributing substantially to the area's carrying capacity during all seasons. Tex Creek WMA, partially owned and totally managed by the Department, provides 30,000 acres of prime winter habitat for elk, mule deer, and moose in the zone. This land was purchased to mitigate for habitat inundated or destroyed by the Ririe, Palisades, and Teton Dams.

In August 2016, a large wildland fire (Henry's Creek fire) burned 52,000 acres including approximately 75% of the Tex Creek WMA. Due to reduced winter forage on the Tex Creek area, the Department implemented a winter feeding operation in Indian Fork. Over 1,200 ton of alfalfa was fed to approximately 3,500 elk From December 2016 until March 2017.

Biological Issues

From a biological perspective, elk in GMUs 66-69 (Tex Creek Zone) and 66A (Diamond Creek Zone) should be managed as one population, in the same zone. The Tex Creek elk are productive and their future management will be heavily influenced by the need to control this population. Placing all seasonal ranges of these elk in the same zone would be appropriate to accomplish this objective.

Due to concern over total wintering elk numbers in GMU 69 being too high for the area and their impacts on the local mule deer herd, the antlerless hunt was restructured in 2004. The hunt was moved from 21 October - 7 November to 15 - 30 November. The objective of this change was to harvest more cows, especially those migrating into GMU 69 from GMU 66A. The hunt was successful in harvesting more cows but brought about some unethical hunter behavior. The later season, combined with some very unusual early storms and a lack of hunting pressure in late October and early November, brought large herds of elk onto winter range before the hunt opened. This left elk vulnerable and some hunters acted inappropriately. The hunt was successful at harvesting more elk, but even with the larger harvest, the herd was still estimated to be 5,200 animals in a post-hunt aerial survey. In 2005, the hunt was changed back to a 21 October opener but still remained open until 30 November. The season structure was changed again in 2013. The rifle portion of the A tag was shortened from 5 weeks to 3. The season now runs Oct 22 thru Nov 16. The statewide elk management plan was revised in 2013. As part of this revision an elk hunter survey indicated that elk hunters would like elk populations to be higher. The region was given direction to increase elk populations in those zones where they thought that increases were feasible and responsible; Tex Creek was identified as one of those zones.

Domestic elk operations in this zone present a significant risk to wild elk herds. Many of these operations are shooter bull-based, with large pens in occupied elk range. This provides significant opportunity for domestic elk to contact wild elk through the fence or by escape. This situation creates a risk of disease transmission and genetic introgression.

Inter-specific Issues

The Tex Creek Zone supports an important mule deer population. During the winter of 1992-1993, this deer population sustained significant mortality and did not recover as hoped. During the winters of 2005-2006, 2007-2008, and 2010-2011, this population, along with other eastern Idaho mule deer populations, again sustained significant fawn mortality due to severe and extended winter conditions. The area also supports a strong moose population and is grazed extensively by domestic livestock. In the past, mule deer and elk appeared to be spatially separated on winter range and there were no known conflicts between elk and moose; however, relationships among these species were not monitored or well understood. A graduate student research project was initiated in 2005 to explore elk and mule deer competition in the Willow Creek Canyon complex (Atwood 2009). This study found that elk and mule deer tended to segregate during mild winters, but that elk moved down onto traditional mule deer winter ranges during severe winters. Although elk ranges during the severe winter entirely encompassed the deer winter range, the winter diets of the species remained fairly segregated, suggesting minimal dietary competition. In addition, elk presence did not significantly affect mule deer movements,

diets, and stress levels. More research is needed to address mule deer and elk competition on summer and transitional ranges.

Predation Issues

Black bear densities appear to be low and stable in this zone. Mountain lions are common. Coyotes are also common, especially on the winter range, but are not known to have much impact on elk populations. Wolves introduced by USFWS in 1995 have moved through the area, which could affect elk. The one established pack in this Zone (Fall Creek) was removed by USDA-Wildlife Services in the summer of 2009 due to repetitive livestock depredations. There are currently no documented wolf packs in this Zone, although several unverified reports have been filed with the Department about 1-2 wolves in GMUs 66 and 69. A few grizzly bears have been reported in GMU 66 by elk and deer hunters..

Winter Feeding Issues

Elk are not fed in this zone except on an emergency basis, which occurred during the winters of 1988-1989, 1992-1993, 2003-2004, and 2016-2017. Because of the zone's proximity to known brucellosis-infected herds in Wyoming and Idaho, it is extremely critical that feeding on anything less than a genuine emergency basis be avoided. Large round bales of grass-alfalfa hay have been left in the field on Tex Creek WMA periodically to attract elk to the area and hold them on that winter range.

During winter 2003-2004, approximately 2,000 elk crossed Willow Creek and many were very close to Iona Hill. After a few elk were killed on the railroad tracks close to Iona, the Department decided to drive the elk back to Tex Creek WMA and bait them there with hay to keep them away from town and potential trouble. The operation required two driving operations and feeding ~76 tons of hay to over 1,400 elk. The elk were successfully held until the end of winter.

During the winter of 2007-2008, significant snow pack and extended winter conditions caused approximately 300 elk to move down along the Highway 26 corridor south of Ririe, creating human safety concerns along the roadway. An additional 80 elk moved down along roadways in east Ammon. On numerous occasions Department personnel used snow machines to push these elk groups to the south and east away from roadways. During the winter of 2008-2009, approximately 400 elk moved down near Highway 26 south of Ririe. On one occasion, Department personnel used snowmobiles to push these elk south and east away from the highway. As many as 1,000 elk moved down near Hwy 26 between Clark Hill and Iona during the winter of 2010-2011. The region dealt with dozens of complaints and depredation calls that were associated with these groups of elk but winter feeding was not initiated.

The Henry's Creek fire that burned 52,000 acres of the Tex Creek winter range greatly reduced winter forage for this elk herd. Due to this, the Department implemented a winter feeding operation in Indian Fork on the Tex Creek WMA. Over 1,200 ton of alfalfa was fed to approximately 3,500 elk from December 2016 until March 2017.

Information Requirements

In 1978, 1979, and 1980, the Department conducted radio-telemetry studies of elk wintering on Tex Creek WMA, the results of which indicated these elk summered primarily in GMUs 66 and 66A with some summering in GMUs 69 and 76. This work was duplicated in 1998-1999 and 2005-2009 with results showing similar trends in distribution and movement. All data on the movements and distribution of Tex Creek Zone elk should be fully analyzed, along with the movements and distribution of Diamond Creek Zone (GMUs 66A and 76) elk, to re-evaluate the management strategy for these intertwined populations.

Literature Cited

Atwood, M. P. 2009. Interactions between mule deer and elk on winter range at the Tex Creek Wildlife Management Area, Idaho. Thesis, Idaho State University, Pocatello, USA.

Russell, O. 1914. Journal of a Trapper, 1834-1843. Syms-York, Boise, Idaho.

Elk

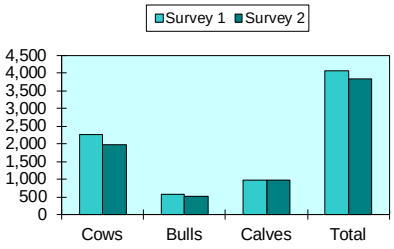
Tex Creek Zone (GMUs 66, 69)

Square Miles =	1,796	3-Year Averages	
% Public Land =	36%	Hunters per square mile =	2.27
Major Land Type =	Agriculture	Harvest per square mile =	0.90
	Rangeland	Success Rate =	20%
	Forest	%6+ Points =	35%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2013	1,973	507	290	2,000 - 3,000	425 - 625	250 - 350
Bulls per 100 Cows			26	15		18 - 24	10 - 14

Comparable Survey Totals



Population Surveys

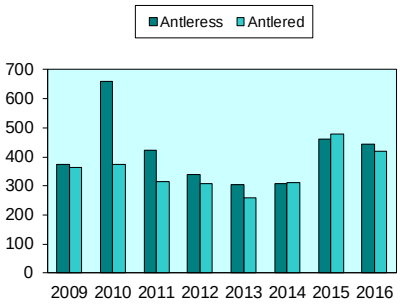
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
66/69	2010	2,277	577	974	4,066	2013	1,973	507	982	3,831
Comparable Surveys Total		2,277	577	974	4,066		1,973	507	982	3,831
Per 100 Cows			25	43				26	50	

Zone Harvest Statistics

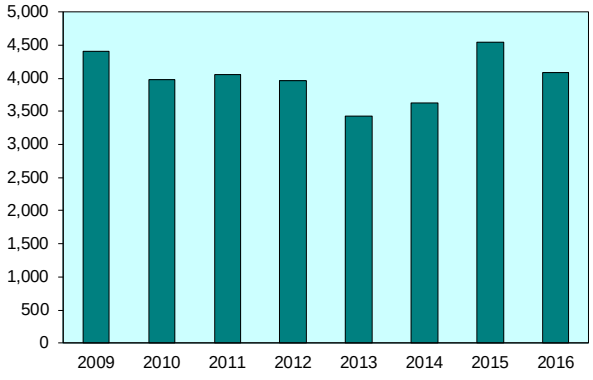
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	374	659	421	338	306	308	461	442
'A' Tag	366	619	402	316	272	262	411	346
'B' Tag	0	6	1	4	8	5	4	17
CH Tag	8	34	18	18	26	41	46	79
Antlered Harvest	364	375	316	308	259	313	479	419
'A' Tag	93	103	52	79	76	78	109	76
'B' Tag	247	266	255	218	174	221	362	335
CH Tag	24	1	9	11	9	14	8	8
Hunter Numbers	4,402	3,985	4,055	3,960	3,422	3,623	4,542	4,084
'A' Tag	3,043	2,686	2,825	2,829	2,244	2,361	3,115	2,433
'B' Tag	1,123	1,162	1,077	975	1,013	1,114	1,264	1,150
CH Tag	236	137	153	156	165	148	163	501
% 6+ Points	38	26	27	30	32	32	35	38

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

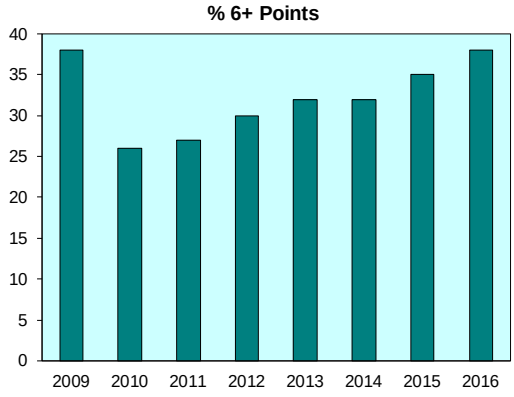


Figure 28. Tex Creek Zone Elk Status and Objectives.

Salmon Zone (GMUs 21, 21A, 28, 36B)

Management Objectives

Objectives for Salmon Zone in the 2014 Elk Plan are to maintain the cow elk populations that are currently within objective, and increase bull elk populations towards their proposed objectives midpoint. The current objectives are to maintain 4,850-7,400 cows, 1,020-1,560 bulls, and 585-885 adult bulls in the salmon zone. The ratio of calves per 100 cows has increased over the last 6 years from 25 to 31. This coupled with the increase in total elk from 7,666 to 9,810 are signs of a healthy productive elk herd. In addition bull ratios have increased from 11 per 100 cows to 16 and total bulls have increased from 606 to 1,085 over the past 6 years.

Historical Perspective

Although present from the time of the first white explorers and trappers, elk were in low abundance in Salmon Zone through much of the twentieth century. From 1917 until the 1940s, parts of GMUs 28 and 36B were designated as no hunting "game preserves." Sixty-two elk from Yellowstone Park were released in Panther Creek drainage (GMU 28) in 1937. As has occurred over much of the west, elk herds have expanded dramatically since the mid-1970s. Today, Salmon Zone winters approximately 7,700 elk. Aggressive antlerless harvest from 1992 to the late 1990s stabilized and reduced rapidly growing herds in GMUs 21 and 21A, and may have reduced growth rates in the other 2 GMUs.

To stimulate and maintain herd productivity, balance depredation concerns with a reasonably large elk population, and minimize potential impacts on mule deer, a five-year period of herd reduction totaling about 33% of previous numbers was accomplished in GMU 21 in the late 1990s. Antlerless harvest was increased beginning in 2005, but then reduced in all GMUs for 2008 seasons because of a significant reduction in elk numbers across the zone. A quota was established for Salmon Zone B-tags because the 2010 survey showed continued decline in cow and bull numbers. The 2016 survey showed that GMU 21 elk herds may have responded positively to the 2012 Mustang fire with increased productivity. .

About 2,750 people have participated in rifle hunts and 350 in archery hunts in Salmon Zone in recent years, harvesting approximately 100cows and 600 bulls annually.

Habitat Issues

Domestic livestock grazing, mining, and recreation are the dominant human uses of the landscape in Salmon Zone. Elk depredations on agricultural crops are localized, but are especially pronounced in dry years and during harsh winters. The Salmon Zone is defined as being moderately limited by agriculture impacts. The majority of elk depredations occur in GMUs 28 and 36B.

Spread of annual invasive grasses and noxious weeds such as knapweed and rush skeleton weed could ultimately have significant impacts on winter range productivity.

A large-scale forest fire occurred in the western portion of GMU 28 in 2000. Another landscape scale 350,000 acre forest fire occurred in 2012 in GMU 21. Fires set the landscape back from a climax successional state in dense lodge pole stands to an early to mid-seral state. This led to

increase elk forage quality and abundance. Calf ratios have shown increases in GMU 21 post fire.

Biological Issues

Aerial surveys in 1992 and 1994 found high winter elk densities in GMU 21A, a migratory herd shared by Idaho and Montana. Winter range concerns in Idaho and depredation concerns in Montana prompted significant increases in antlerless hunting in both states with a goal of reducing the herd to 2,000-2,500 wintering elk. The average total antlerless harvest increased from about 100 animals to about 300 animals, and by 2000, the herd was reduced to approximately 1,800 animals. Similar reductions occurred in GMU 21; total winter elk numbers dropped to 1,550 during surveys in 2001. Antlerless elk harvest was discontinued in GMUs 21 and 21A in 2000. The population in GMU 21A dramatically increased by 2005, reaching 3,345 animals. Therefore, antlerless harvest was implemented in the 2005 season. However, by 2008 numbers fell again to the top of objective levels and antlerless harvest was reduced for 2008. GMU 21A continued to see a slight decline in the cow population and a drop of almost half of the bulls between 2008 and 2010. Surveys in 2016 have shown a slight increase in both cow and bull numbers throughout the zone to levels within objective for both.

GMUs 28 and 36B experienced major population increases (57% and 30%, respectively) through the 1990s, despite modest increases in antlerless harvest. Antlerless harvest was reduced after 2000, particularly in GMU 28, in response to low calf: cow ratios. Total population in GMU 36B had been stable, but the sex ratio has become more skewed toward females. In contrast, cow numbers in GMU 28 reached record high numbers in 2005 and exceeded objectives by 1,000 animals. As a group, these GMUs were only moderately productive, averaging 30-35 calves:100 cows during the 1990s; production declined between 2005 and 2010 to average 27:100 and pulled back above 30:100 in recent years. Partly as a result of this modest productivity and partly because they are relatively accessible general hunt GMUs, GMUs 28 and 36B have weak bull:cow ratios (12-15 bulls per 100 cows). By 2008, numbers in GMU 36B fell 55% to below objective levels for both cows and bulls and levels in GMU 28 fell by 34%, prompting severe reductions in antlerless harvest. The 2010 survey revealed that GMU 36B cow population was within the bottom of the objective range and bull numbers had increased slightly, but remained below the objective level. However, both the cow and bull population in GMU 28 continued to decline despite minimal antlerless harvest. Quotas were implemented in 2010 for rifle bull tags in the Salmon Zone in order to decrease bull harvest and begin to bring the bull population back into management objective range. The 2016 survey showed that although both cow and bull numbers had increased to above minimum objective. The wintering numbers in GMU 28 appeared to have decreased, but this can likely be accounted for in the increased numbers found in 36B as seasonal movement across GMU boundaries.

Inter-specific Issues

This zone contains the majority of the most productive deer GMUs in Salmon Region; parts of GMUs 21, 21A, and 36B contain high densities of wintering deer. Current high elk densities may be having some impact on the area's capacity to produce deer. This may be particularly pronounced during severe winters when deep snow moves elk down onto deer winter ranges. Similar problems may also occur with bighorn sheep, but the amount of habitat overlap is much less.

Predation Issues

In Salmon Zone, cause specific mortalities have been tracked using GPS and VHF radio collars. In general, lion and wolf mortalities are the highest causes of predation. Over the last two years of cause specific mortality monitoring lions account for approximately 27-35% of all elk collar mortalities whereas wolves account for 9-18%. These rates vary some depending on where the mortalities occur. In backcountry wilderness areas wolf mortalities can be slightly higher while in front country areas most known predations are from lions. In the Salmon Zone, black bear densities appear to be moderate but probably do not account for many collared elk mortalities. However, black bears are known to be a predator on elk neonates and the level of occurrence in the Salmon Zone has not been documented. Coyotes are common, but not known to have much impact on elk populations. Only one of the collared calf mortalities in the past 2 years was determined to be caused by coyotes.

Winter Feeding Issues

Formal winter feeding of elk has ceased to exist in Salmon Zone. There are private residences which feed on an informal basis and those people have been warned of the dangers of winter feeding to their personal property, herd health, neighbors, and passing motorists.

Information Requirements

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest.

Elk

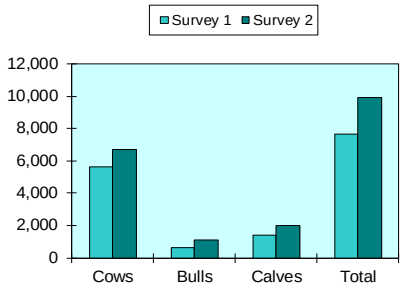
Salmon Zone (GMUs 21, 21A, 28, 36B)

		3-Year Averages	
Square Miles =	2,651	Hunters per square mile =	1.13
% Public Land =	95%	Harvest per square mile =	0.51
Major Land Type =	Forest	Success Rate =	30%
		%6+ Points =	22%

Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2016	6,729	1,092	569	4,850-7,400	1,020-1,560	585-885
Bulls per 100 Cows			16	8		18 - 24	10 - 14

Comparable Survey Totals



Population Surveys

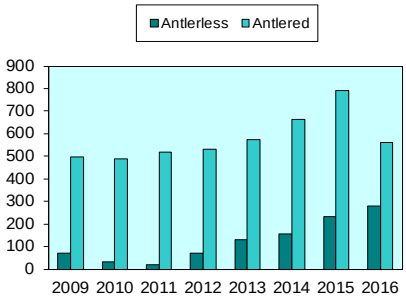
	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
21	2010	1,012	89	164	1,265	2016	1,465	342	551	2,358
21A	2010	1,776	173	500	3,345	2016	1,623	390	454	2,467
28	2010	2,084	241	531	4,547	2016	1,596	135	453	2,184
36B	2010	756	103	237	1,096	2016	1,975	218	608	2,801
Comparable Surveys Total		5,628	606	1,432	7,666		6,729	1,092	2,030	9,955
Per 100 Cows			11	25				16	30	

Zone Harvest Statistics

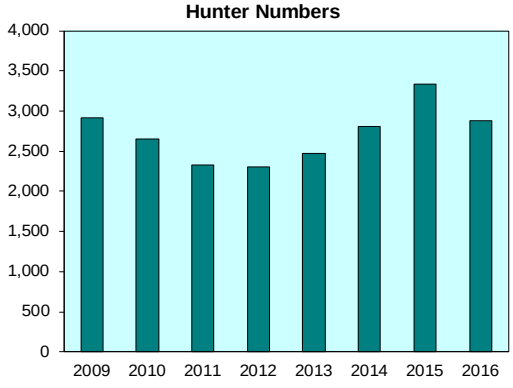
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	73	36	23	71	133	156	235	281
'A' Tag	62	21	9	14	80	118	133	106
'B' Tag	1	0	1	5	1	8	0	6
CH Tag	10	15	13	52	52	30	102	169
Antlered Harvest	499	491	520	531	575	665	792	562
'A' Tag	27	25	32	18	17	27	64	56
'B' Tag	471	459	488	513	557	638	728	505
CH Tag	1	8	0	0	1	0	0	1
Hunter Numbers	2,918	2,656	2,330	2,308	2,478	2,808	3,339	2,879
'A' Tag	387	254	266	178	357	459	629	526
'B' Tag	2,514	2,341	2,042	2,058	2,041	2,302	2,542	2,123
CH Tag	17	61	22	72	80	47	168	230
% 6+ Points	19	27	18	22	19	22	26	18

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

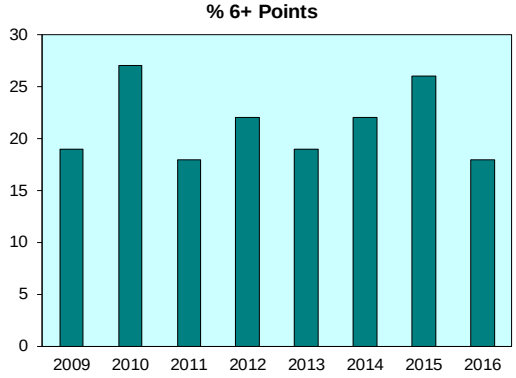


Figure 29. Salmon Zone Elk Status and Objectives.

Lemhi Zone (GMUs 29, 37, 37A, 51)

Management Objectives

Objectives for Lemhi Zone (Figure 30) are to maintain the elk population between 1,850-2950 cows and 600-960 bulls. The Lemhi Zone has been defined as moderately limited by agricultural impacts, and thus harvest objectives are designed to maintain population s at or near current levels while reducing private land depredations. In addition to maintaining depredation concerns with a robust elk population there is focus given to minimizing potential impacts on mule deer populations in the area.

Historical Perspective

Elk abundance was low in Lemhi Zone through much of the twentieth century. However, as has occurred over much of the west, elk herds have expanded dramatically over the last couple decades. At the last abundance survey in 2011 the Lemhi Zone wintered approximately 4,964 elk, a reduction of over 900 from 2007, but notably higher than even the 1990s.

Most of the zone has been managed for decades under very conservative controlled hunt strategies. In 1993, GMU 51 changed from general any-bull harvest to general hunting for spike bulls only with controlled any-bull tags. About 1,400 people each year participated in rifle hunts in Lemhi Zone through the late 1990s. However, with increases in antlerless elk opportunities and increased following in archery hunting, hunter numbers have increased to approximately 3,600 per year. Conservative bull harvest management has produced exceptional bull:cow ratios and a reputation for large mature bulls. The percent of 6 point bulls or better in the harvest has remained over 44% of the total bull harvest in the last 5 years. In 2016 alone the percent 6 point or better in the general archery harvest was 24% and in the controlled any weapon hunts was 59% for a combined average of 44%.

Habitat Issues

Cattle ranching, irrigated farming, and outdoor recreation are the dominant human uses of the landscape in Lemhi Zone. The zone is in a generally arid region where forage production can be strongly influenced by growing season precipitation. During drought years mid to low elevation rangeland production can be greatly limited and competition between domestic livestock and elk increases. Elk depredations on agricultural crops are common and are especially pronounced in dry years and harsh winters. Changes in land owner demographics has led to more nontraditional uses of private lands in the Lemhi zone and in many cases elk refuges have been created. This has led to an increase in depredation complaints on adjacent lands and in many cases altered elk spatial use of the landscape.

In some areas of Lemhi Zone, elk winter in mature stands of mountain mahogany. In other areas, elk winter on open sagebrush-grassland ridgetops. Spread of annual invasive grasses and noxious weeds, such as knapweed and leafy spurge, could ultimately have significant impacts on winter range productivity.

Biological Issues

In 1992, GMUs 29 and 37A contained strongly-performing elk populations; a base of 1,200 cows was producing 600 calves and 600 bulls. By 1998 and into 2003, the herd had increased to over 1,700 cows, but was still only producing 600 calves. This loss in productivity may have been related to higher-than-desirable elk densities. Between 2007 and 2011 the number of cows decreased to 1300 while maintaining about 600 calves. Through intensive antlerless harvest, the herd in GMU 37 was significantly reduced. Harvest was reduced beginning in 2003 as the herd neared desired levels. An abundance survey has not been conducted in the Lemhi Zone since 2011; however model projections estimate the population, at the current female harvest rate, to approach the minimum management objective within a few years. Female harvest may have to be adjusted to a level that maintains current objectives, while adequately addressing depredation issues.

Inter-specific Issues

Although the Lemhi Zone historically supported high deer densities, the zone currently has relatively modest deer populations. Current high elk densities may be having some impact on deer winter range browse availability. Elk have the ability to browse forage at heights that reduce availability to the smaller statured deer and thus may decrease mule deer productivity.

Predation Issues

Black bear densities appear to be low and stable in Lemhi Zone. Mountain lion densities are low to moderate and appear to have increased in recent years in GMUs 29, 37, and 37A, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations. Wolf densities are low to moderate throughout the zone and do not appear to be impacting elk productivity.

Winter Feeding Issues

Because this is an arid area with relatively little snowfall, winter feeding has not occurred recently in Lemhi Zone.

Information Requirements

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest. Additional elk collaring may be needed to determine elk movement between the Lemhi and Pioneer zones. In addition elk collaring is planned for portions of GMU 37 that are currently experiencing chronic depredation issues. This collaring data should allow us to more accurately address depredation issues without impacting the overall zone populations.

Elk

Lemhi Zone (GMUs 29, 37, 37A, 51)

Square Miles =	2,703	3-Year Averages	
% Public Land =	89%	Hunters per square mile =	1.17
Major Land Type =	Rangeland	Harvest per square mile =	0.95
	Forest	Success Rate =	38%
		%6+ Points =	49%

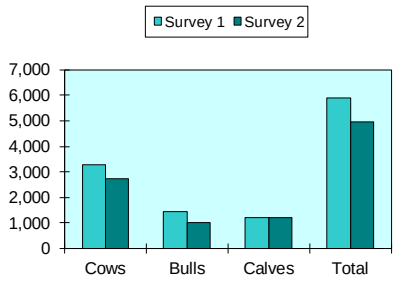
Winter Status & Objectives

Zone Total	Year	Current Status Cows	Bulls	Adult Bulls	Objective Cows	Bulls	Adult Bulls
	2011	2,753	1,005	594	1,850-2,950	600-960	370-590
Bulls per 100 Cows			**37**	**22**		**30 - 35**	**18-22**

Population Surveys

		Survey 1					Survey 2			
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
29/37A	2007	1,834	614	630	3,078	2011	1,381	562	590	2,533
37	2007	691	349	290	1,330	2011	614	246	315	1,175
51	2003	737	479	281	1,497	2011	758	197	301	1,256
Comparable Surveys Total		**3,262**	**1,442**	**1,201**	**5,905**		**2,753**	**1,005**	**1,206**	**4,964**
Per 100 Cows			**44**	**37**				**37**	**44**	

Comparable Survey Totals

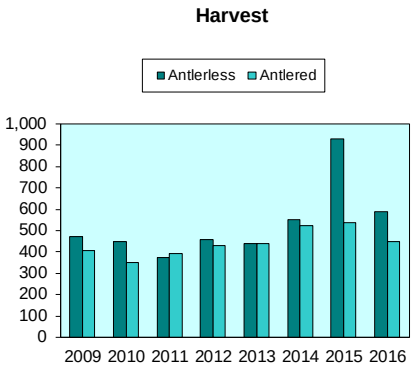


Zone Harvest Statistics

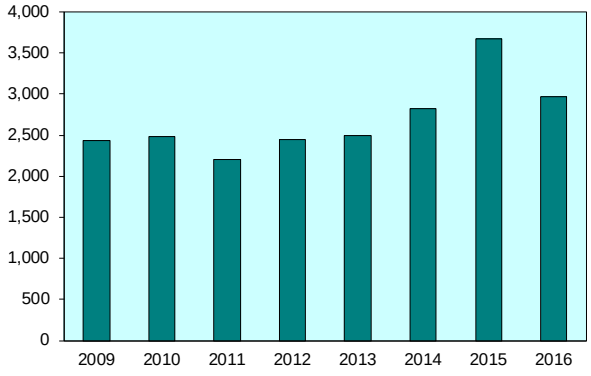
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	472	447	373	459	437	552	930	590
'A' Tag	125	129	95	132	142	277	538	345
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	347	318	278	327	295	275	392	245
Antlered Harvest	408	352	393	431	440	524	539	450
'A' Tag	125	123	158	145	172	245	234	181
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	283	230	235	286	268	279	305	269
Hunter Numbers	2,430	2,482	2,203	2,451	2,496	2,821	3,670	2,972
'A' Tag	1,043	1,102	1,104	1,313	1,359	1,745	2,481	1,890
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	1,387	1,380	1,099	1,138	1,137	1,076	1,189	1,082
% 6+ Points	38	41	41	39	54	45	56	45

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

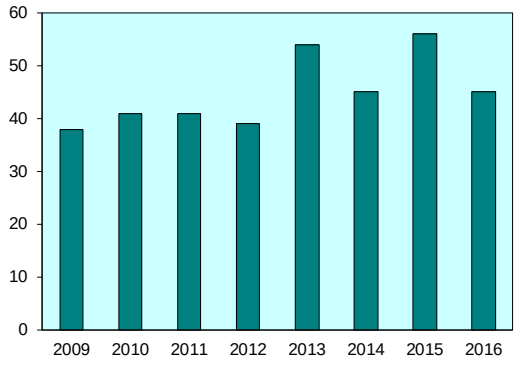


Figure 30. Lemhi Zone Elk Status and Objectives.

Beaverhead Zone (GMUs 30, 30A, 58, 59, 59A)

Management Objectives

The Beaverhead Elk Zone is a 'moderately limited by agricultural impacts' managed Zone per the Department 2014-2024 Elk Plan. Objectives for Beaverhead Zone (Figure 31) are to maintain elk populations within proposed objectives (2,050-3,075 cows and 555-830 bulls). To maintain herd productivity, balance depredation concerns with maintaining a reasonably large elk population, and minimize potential impacts on mule deer. A five-year period of herd reduction totaling about 40% was recommended in GMUs 30 and 30A during the late 1990s. Surveys in 2004 indicated populations were at or slightly below objective levels. Accordingly, cow harvest was reduced to maintain relatively high productivity and stabilize herd size. Surveys in 2009 revealed that cow numbers were at the upper end of the objective range and in 2016 cow numbers were over objective.

Historical Perspective

Elk abundance was low in Beaverhead Zone through much of the twentieth century. In fact, elk numbers were apparently low enough that a few elk from Horse Prairie and Yellowstone National Park were translocated to GMUs 30 and 30A around 1918. GMUs 30 and 30A were closed to hunting through the 1940s, managed as general hunts during the 1950s, and changed to general hunts with harvest quotas in the 1960s. Since 1970, GMUs 30 and 30A have been managed under very conservative controlled hunt strategies. Controlled antlerless hunts were initiated in GMUs 59 and 59A in 1979 and in GMU 58 in 1988. In 1991, GMUs 58, 59, and 59A changed from general any-bull management to general hunting for spike bulls with controlled any-bull tags. In 2010, general spike hunting was eliminated and muzzleloader antlerless hunting was initiated. As has occurred over much of the west, elk herds have expanded dramatically since the mid-1970s. Today, Beaverhead Zone winters approximately 5,000 elk and supports 2,000-2,300 hunters annually. Both hunter numbers and total harvest trended upward between 2009 and 2016.

Many elk in this zone spend winter in Idaho and migrate to summer ranges in Montana. Traditionally, elk in GMUs 58, 59, and 59A summered in Idaho and wintered in Montana; however, since the early half of the 1980s, more elk are wintering in Idaho. In recent years, high elk densities have become a controversial issue with landowners and livestock grazers in both states. The elk management strategy must include close coordination with Montana Fish Wildlife and Parks due to extensive and variable seasonal migrations across the state boundaries.

Habitat Issues

Cattle ranching, livestock grazing, and recreation are dominant human uses of the landscape in Beaverhead Zone. The zone is in a generally arid region where forage production can be strongly influenced by growing season precipitation. During drought years, high elevation mesic habitats are more heavily utilized by elk while low elevation riparian areas and wet meadows are more heavily utilized by cattle. Elk depredations on agricultural crops are common and are especially pronounced in dry years and harsh winters. Hunting near cultivated fields during August (known as Greenfield hunts) for antlerless elk were implemented into GMU's 58, 59, 59A for the 2017/18 hunting season to address these depredations.

Spread of annual invasive grasses and noxious weeds, such as knapweed and leafy spurge, could ultimately have significant impacts on winter range productivity. Elk wintering on windswept ridgetops in GMUs 59 and 59A are periodically subject to *Oxytropis* poisoning.

Biological Issues

The elk population in GMU 30 experienced very high growth rates through the mid-1990s, despite attempts to increase antlerless harvest and considerable depredation hunt activity. GMUs 30A, 58, 59, and 59A show relatively stable populations. The most recent population survey indicates that calf production is increasing and bull:cow ratios are stable. Department is collaring elk in the Zone to provide a better understanding of these migrations to improve management. Montana is collaring elk in the Tendoy's to this end as well, and to monitor for brucellosis; if brucellosis is detected, they will immediately provide a press release. Montana is pursuing additional cow harvest in their general season format to address high elk numbers on traditional winter ranges. Effective 'self-limiting' depredation cow hunt strategies in this Zone need to be flexible with long season dates and liberal tag allocations to harvest cows when they are a problem. However, the Zone resident 'mountain elk' population in Idaho need to be protected and not let depredation hunts target these animals.

Inter-specific Issues

Although historically Beaverhead Zone supported high mule deer densities, the zone currently has relatively moderate deer populations. Current high elk densities may be having some impact on deer populations and/or winter range.

When elk numbers are high, as they are currently, livestock operators often perceive elk to be strong competitors for range forage. However, elk generally remove a minor portion of the forage compared to livestock. During some winters, elk move into GMU 63 and cause haystack depredations in the Monteview, Cedar Butte, and Beaver Creek areas.

Predation Issues

Black bear densities appear to be low and stable in Beaverhead Zone. Mountain lion densities are moderate and appear to have increased in recent years in GMUs 30 and 30A, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations. Wolf densities are relatively low and do not appear to be impacting elk populations.

Winter Feeding Issues

Because this is an arid area with relatively little snowfall, winter feeding has not occurred recently in Beaverhead Zone.

Information Requirements

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest.

Elk

Beaverhead Zone (GMUs 30, 30A, 58, 59, 59A)

		3-Year Averages	
Square Miles =	2,037	Hunters per square mile =	1.27
% Public Land =	85%	Harvest per square mile =	1.15
Major Land Type =	Rangeland	Success Rate =	38%
	Forest	%6 Points=	51%

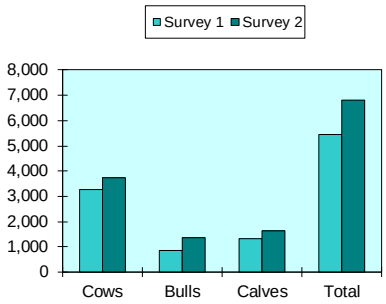
Winter Status & Objectives

Current Status					Objective		
Zone Total	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2016	3,728	1,358	835	2,050-3,075	555-830	330-485
Bulls per 100 Cows			36	22		25 - 29	14 - 18

Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
30	2009	1,380	369	524	2,273	2016	1,527	438	568	2,533
30A	2009	142	161	58	361	2016	27	64	7	98
58	2009	824	180	351	1,355	2016	363	225	187	775
59/59A	2009	911	152	400	1,463	2016	1,732	482	819	3,033
Comparable Surveys Total		3,257	862	1,333	5,452		3,728	1,358	1,627	6,827
Per 100 Cows			26	41				36	44	

Comparable Survey Totals

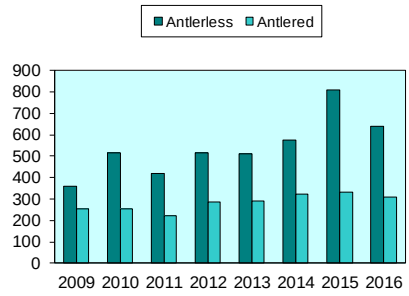


Zone Harvest Statistics

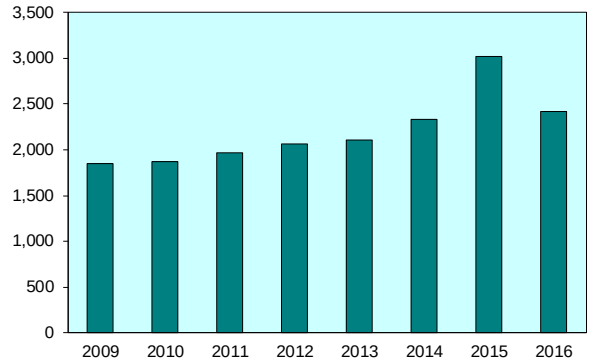
	2009	2010	2011	2012	2013	2014	2015	2016
Antlerless Harvest	358	517	419	515	513	576	808	639
'A' Tag	152	175	171	191	192	202	279	238
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	206	342	248	324	321	374	529	401
Antlered Harvest	253	256	221	286	293	322	331	311
'A' Tag	119	118	113	137	137	182	169	161
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	134	138	108	149	156	140	162	150
Hunter Numbers	1,845	1,874	1,963	2,063	2,107	2,335	3,015	2,423
'A' Tag	1,123	1,082	1,099	1,233	1,229	1,339	2,016	1,454
'B' Tag	0	0	0	0	0	0	0	0
CH Tag	722	792	864	830	878	996	999	969
% 6+ Points	38	46	39	42	45	49	57	48

Note: % 6+ pts does not include spike-only harvest.

Harvest



Hunter Numbers



% 6+ Points

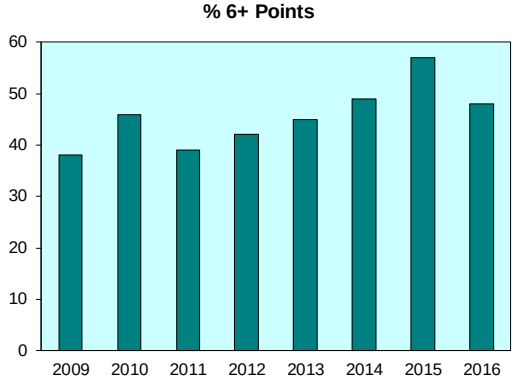


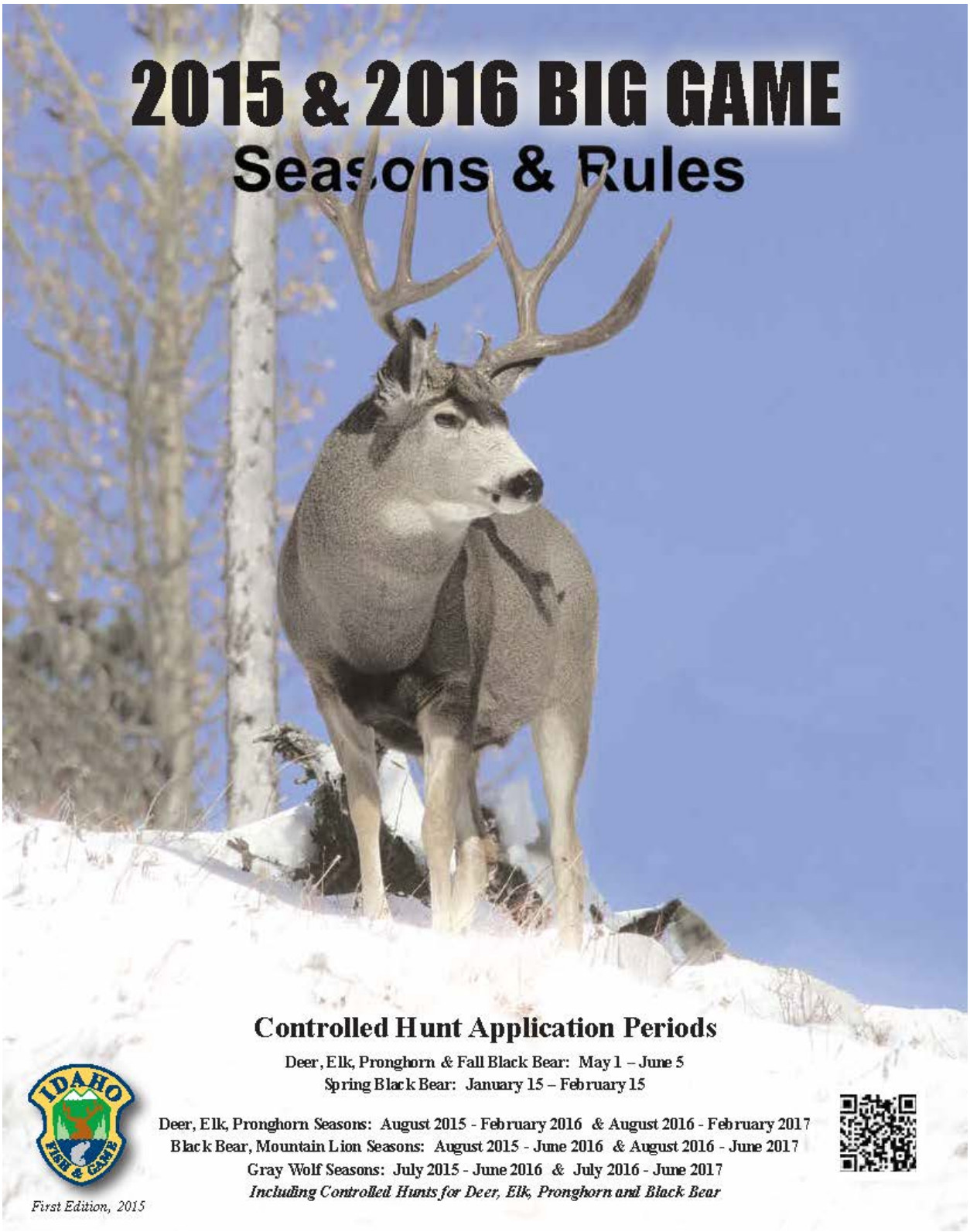
Figure 31. Beaverhead Zone Elk Status and Objectives.

Appendix A

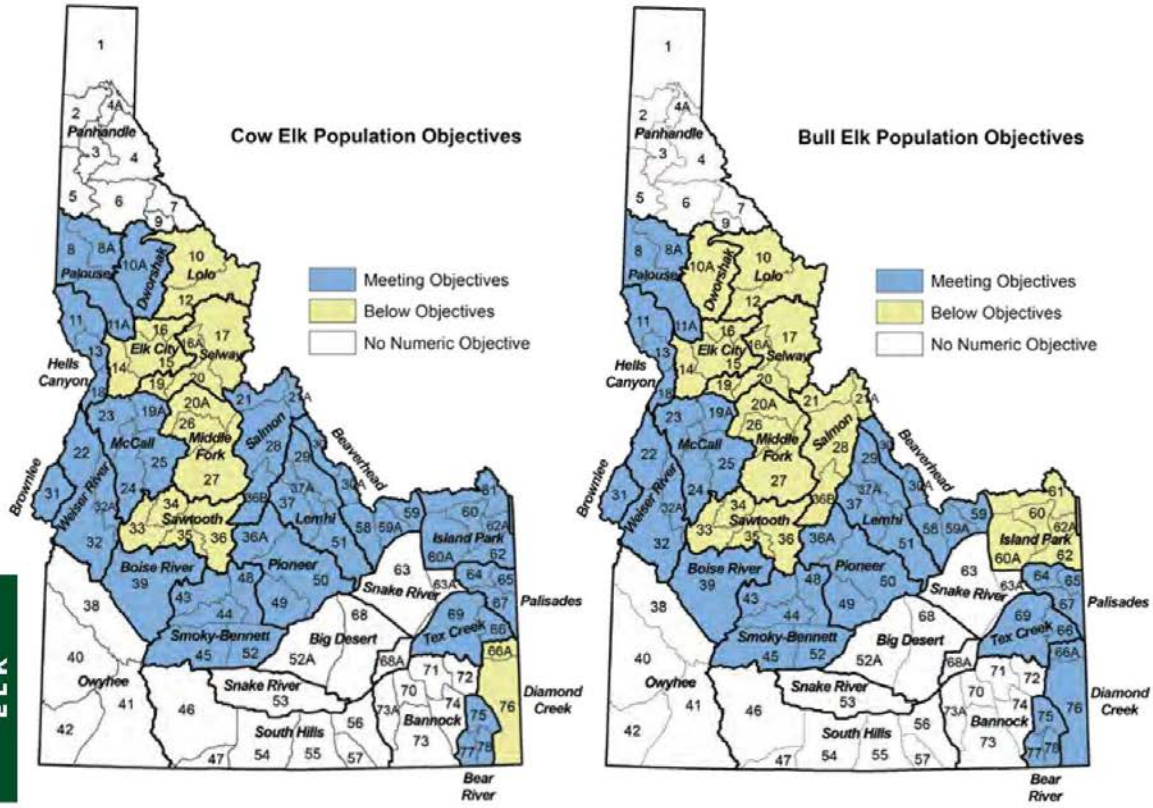
IDAHO

2016 SEASON

ELK RULES


2015 & 2016 BIG GAME
Seasons & Rules
Controlled Hunt Application Periods
Deer, Elk, Pronghorn & Fall Black Bear: May 1 – June 5
Spring Black Bear: January 15 – February 15
Deer, Elk, Pronghorn Seasons: August 2015 - February 2016 & August 2016 - February 2017
Black Bear, Mountain Lion Seasons: August 2015 - June 2016 & August 2016 - June 2017
Gray Wolf Seasons: July 2015 - June 2016 & July 2016 - June 2017
Including Controlled Hunts for Deer, Elk, Pronghorn and Black Bear
IDAHO
FISH & GAME
First Edition, 2015

2015 Elk Population Status by Elk Zone



ELK

Elk populations fluctuate constantly in response to weather, predation, land management actions, fire events, invasive species, private land use, and development. To maintain elk hunting experiences desired by sportsmen, the Idaho Department of Fish and Game manages herds within desired ranges by adjusting hunting seasons and hunter numbers to provide high quality hunting opportunities, maintain availability of general season hunts with over-the-counter tag sales, and minimize conflicts with agriculture. Fish and Game also works closely with land managers and private landowners to ensure the existence of high quality elk habitat throughout the state. In 2014 we modified the boundaries of a few elk zones to better match up with elk populations and their seasonal movements.

Elk herds currently meet or exceed management objectives in 16 of 22 elk management zones with established numeric objectives for number of cow elk, and in 14 of 22 zones with set objectives for number of bull elk. Hunting opportunities in these zones range from trophy quality bull hunts to "extra" cow hunts. In the handful of zones that are not currently meeting our objectives, we are working hard to improve elk survival and increase the populations by reducing or eliminating cow harvest, adjusting bull harvest, and intensively managing predators to reduce the impacts of predation on those herds.

Changing conditions and management challenges have always been part of the landscape, but with responsive management and more than 107,000 elk, Idaho continues to provide an incredible variety of excellent elk hunting opportunities desired by sportsmen.

For additional information on elk management objectives and hunter success rates, please visit our website at: http://fishandgame.idaho.gov/cms/hunt/elk/

2015 & 2016 Elk Hunting Seasons

Elk hunting is managed in 28 elk zones. In addition, Fish and Game has established a two-tag system to offer elk hunters the most general season choices. Hunters may select one zone and choose either an "A tag" or a "B tag" for that zone. A few zones offer only an A tag.

In general, A tags provide more opportunity for muzzleloader and archery hunters, and B tags provide more opportunity for centerfire rifle hunters.

Controlled hunts, allocated by random drawing, also are available in most of the state. Any person who receives a controlled hunt tag for elk is prohibited from hunting in any other elk hunt, **except** for depredation hunts, extra antlerless elk hunts or by buying a leftover nonresident elk tag, if available.

Note: Residents or nonresidents may buy one unsold nonresident general season deer and elk tag at the nonresident price, starting August 1, to be used as a second tag.

Antlered elk: Only elk with at least one antler longer than 6 inches may be taken in any season which is open for antlered elk only. In antlered seasons, including spike-only, antlers must accompany the carcass while in transit.

Antlerless elk: Only elk without antlers or with antlers shorter than 6 inches may be taken in any season which is open for antlerless elk only.

Spike elk: Only elk with no branching on either antler and at least one antler longer than 6 inches may be taken in any season which is open for spike elk only. A branch is an antler projection at least 1 inch long and longer than the width of the projection.

Brow-tined elk: Only elk having at least one antler with a visible point on the lower half of the main beam which is 4 inches or greater in length may be taken in any season open for brow-tined elk only.

Archery & Muzzleloader Permits

Any person hunting in an archery only season must have their license with archery permit validation, including controlled hunts. In a muzzleloader only season, hunters must have a muzzleloader permit validation, including controlled hunts.

Youth Hunt Only: See page 105 for more information.

Junior Resident General Elk Tag

Junior resident elk hunters who purchase a general season elk zone tag while they are between ages 10 and 17, inclusive, may participate in any A or B tag elk season within the specified zone, regardless of whether they purchased an A tag or B tag. All other season, weapon restrictions, and commission rules apply. Controlled hunts are excluded.

Nonresident Deer and Elk Tags

Nonresident deer and elk tags, **excluding** Nonresident Junior Mentored/DAV deer and elk tags, are valid to take a black bear, mountain lion or gray wolf instead of a deer or elk, if a season is open for that species, where and when the deer or elk tag is valid, and if there is an open deer or elk season in that same unit. See page 110.

For information on Chronic Wasting Disease please see page 31.

Legal in spike elk hunts

Spike Elk

One antler must be at least 6 inches or longer. (Not legal in brow-tined elk hunts.)

Not legal in spike elk hunts or brow-tined elk hunts

Branch antlered bull (or larger)

Not legal for spike-only hunts if branched point is longer than 1 inch.

Antler branch is a projection 1 inch or more in length.

Legal in brow-tined elk hunts

Caution - Archers and Muzzleloaders:

"Any weapon" hunts will be open during the archery or muzzleloader season in all or parts of the following zones: Palouse, Salmon, Weiser River, McCall, Lemhi, Beaverhead, Pioneer, Boise River, Smoky-Bennett and South Hills. Please use appropriate caution.

Panhandle Zone (Units 1, 2, 3, 4, 4A, 5, 6, 7, 9)				
	September	**October**	**November**	**December**
A Tag	**Archery only** — antlered **only** Sep 6 - Sep 30	**Any weapon** — antlered **only** Oct 25 - Oct 29	**Muzzleloader only** — antlered **only** Unit 4 **only** Nov 20 - Dec 1	**Archery only** — antlered **only** Dec 10 - Dec 16
B Tag	**Archery only** — antlered **only** Sep 6 - Sep 12	**Any weapon** — antlered **only** Oct 10 - Oct 24		**Muzzleloader only** — spike **only** Dec 2 - Dec 9

Palouse Zone (Units 8, 8A, 11A)				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** Within 1 mile of private cultivated fields outside National Forest System Boundary, See Note 2, Page 45 Aug 1 - Sep 15			**Muzzleloader only** — spike or antlerless Unit 8A **only** Dec 2 - Dec 14 See Note 1, Page 45
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep 14 **See archers caution Page 34**	**Any weapon** — antlered **only** Oct 10 - Oct 24		
		Any weapon — any elk Oct 15 - Oct 21 Private Lands **only**, excluding corporate timber lands		

Hells Canyon Zone (Units 11, 13, 18) — Controlled Hunts Only	
A Tag	**No A Tags in this Zone — See Controlled Hunts**
B Tag	**No B Tags in this Zone — See Controlled Hunts**

ELK

Lolo Zone (Units 10, 12)

	August/September	October	November	December
A Tag	**Archery only** — antlered **only** Aug 30 - Sep 30			
	Note: 404 A Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	
B Tag		**Any weapon** — antlered **only** Oct 10 - Nov 3		
	Note: 1,088 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Dworshak Zone (Unit 10A)

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30			**Muzzleloader only** — spike or antlerless: Dec 2 - Dec 5 spike **only**: Dec 6 - Dec 14
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep 14	**Any weapon** — antlered **only** Oct 10 - Nov 3		
	Note: 2,380 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Elk City Zone (Units 14, 15, 16)

	August/September	October	November	December
A Tag	**Archery only** — any elk Unit 15 **only** Aug 30 - Sep 30		**Muzzleloader only** — spike or antlerless Unit 14 & 16 **only** Nov 21 - Dec 9	**Archery only** — any elk Unit 15 **only** Dec 5 - Dec 20
B Tag	**Archery only** — spike or antlerless Unit 15 **only** Aug 30 - Sep 14	**Any weapon** — antlered **only** Oct 10 - Oct 24		
	Note: 1,790 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Selway Zone (Units 16A, 17, 19, 20)				
	September	**October**	**November**	**December**
A Tag		**Any weapon** — antlered **only** Oct 1 - Oct 31		
	Note: 647 A Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	
B Tag	**Any weapon** — antlered **only** Sep 15 - Sep 30		**Any weapon** — antlered **only** Nov 1 - Nov 11	
	Note: 1,067 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Middle Fork Zone (Units 20A, 26, 27)				
	September	**October**	**November**	**December**
A Tag		**Any weapon** — Units 20A & 26: antlered **only** Unit 27: brow-tined bulls **only** Oct 1 - Oct 31		
	Note: 1,551 A Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	
B Tag	**Any weapon** — Units 20A & 26: antlered only Unit 27: brow-tined bulls only Sep 15 - Sep 30		**Any weapon** — Units 20A & 26: antlered **only** Unit 27: brow-tined bulls **only** Nov 1 - Nov 18	
	Note: 1,636 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

ELK

Salmon Zone (Units 21, 21A, 28, 36B)				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** Units 21A, 28 & 36B **only** Aug 1 - Sep 30 Within 1 mile of private cultivated fields outside National Forest System Boundary, See Note 2, Page 45			**Archery only** — any elk Unit 28 **only** Dec 1 - Dec 31
	Archery only — any elk Units 21, 21A & 36B **only** Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag		**Any weapon** — antlered **only** Oct 15 - Nov 8		
	Note: 2,507 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Weiser River Zone (Units 22, 32, 32A)				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** Units 22 & 32A only: Aug 15 - Sep 30 Outside National Forest System Boundary **only**, See Note B below, *Extremely Limited Access*			
	Archery only — any elk Aug 30 - Sep 30 See Note A below, **See archers caution Page 34,** Motorized Hunting Rule Applies in Units 32 & 32A, See Pages 101 - 103			
B Tag		**Any weapon** — antlered **only** Oct 25 - Nov 3 Motorized Hunting Rule Applies in Units 32 & 32A, See Pages 101 - 103 Short range weapons **only** on Montour WMA		

Note A - Closed area: That portion of Unit 32 west of the following boundary: Beginning at the Unit 32/38 boundary at Emmett, then north on Highway 52 to the Van Dussen Road, then north on the Four Mile Road to the Unit 32/32A boundary is **closed**.

Note B- Open areas: That portion of Unit 22 that lies outside National Forest System Boundary and drains into the Weiser River, upstream from and including the Pine Creek drainage and downstream from and including the West Fork Weiser River drainage but excluding the entire Lost Creek Drainage. That portion of Unit 32A that lies outside National Forest System Boundary and drains into the Weiser River upstream from and including the Middle Fork Weiser River drainage and downstream from but excluding the East Fork Weiser River drainage. Most elk are on private property in this area. The National Forest System Boundary is a legislatively set boundary - it is not necessarily the boundary of Forest Service property. State, private, and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.)

McCall Zone (Units 19A, 23, 24, 25)				
	August/September	**October**	**November**	**December**
A Tag	**Short range weapons only** — antlerless **only** Units 23 & 24 **only** Outside National Forest System Boundary, See Note B below Aug 15 - Sep 30	**Any weapon** — spike **only** Short range weapons **only** within described boundaries in Unit 24, See Note A below Oct 5 - Oct 14	**Muzzleloader only** — antlerless **only** Units 23 & 24 **only** Nov 10 - Nov 30	
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag		**Any weapon** — antlered **only** Oct 15 - Nov 3 Short range weapons **only** within described boundaries, See Note A below.		

Note A - Short range weapons **only** in that portion of Unit 24 within the following boundary: Beginning in McCall at the junction of State Highway 55 and Boydstun Street, then south on Boydstun Street to West Valley Road, then west and south along West Valley Road and West Mountain Road to Cabarton Road, then north on Cabarton Road to State Highway 55, then north on State Highway 55 to Farm-To-Market Road, then north on Farm-To-Market Road to Elo Road, then west on Elo Road to State Highway 55, then north on State Highway 55 to the point of beginning.

Note B - You may hunt only outside the National Forest System Boundary. The National Forest System Boundary is a legislatively set boundary - it is not necessarily the boundary of Forest Service property. State, private, and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.)

Lemhi Zone (Units 29, 37, 37A, 51)				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** Aug 1 - Sep 30 Within 1 mile of private cultivated fields outside National Forest System Boundary, See Note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103		**Muzzleloader only** — antlerless **only** Nov 25 - Dec 9 Motorized Hunting Rule Applies, See Pages 101 - 103	
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34,** Motorized Hunting Rule Applies, See Pages 101 - 103		**Any weapon** — spike **only** Units 37 & 51 **only** Nov 1 - Nov 7 Motorized Hunting Rule Applies, See Pages 101 - 103	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

ELK

Beaverhead Zone (Units 30, 30A, 58, 59, 59A)

	August/September	October	November	December
A Tag	**Any weapon** — antlerless **only** Unit 30 **only**: Aug 1 - Sep 30 Within 1 mile of private cultivated fields outside National Forest System Boundary, See Note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103	**Muzzleloader only** — antlerless **only** Oct 15 - Oct 31 Motorized Hunting Rule Applies, See Pages 101 - 103		
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34,** Motorized Hunting Rule Applies, See Pages 101 - 103			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Brownlee Zone (Unit 31)

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Sawtooth Zone (Units 33, 34, 35, 36)

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30			
	Note: 566 A Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	
B Tag		**Any weapon** — antlered **only** Oct 15 - Nov 8		
	Note: 1,526 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Pioneer Zone (Units 36A, 49, 50)				
	August/September	October	November	December
A Tag	**Any weapon** — antlerless **only** Units 36A & 50 **only**: Aug 1 - Sep 30 Within 1 mile of private cultivated fields outside National Forest System Boundary, See Note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103 **Archery only** — any elk Aug 30 - Sep 30 **See archers caution Page 34,** Motorized Hunting Rule Applies, See Pages 101 - 103		**Muzzleloader only** — antlerless **only** Nov 1 - Nov 14 Units 36A & 50 **only** Motorized Hunting Rule Applies, See Pages 101 - 103	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Owyhee Zone (Units 38, 40, 41, 42) — Controlled Hunts Only				
	August/September	October	November	December
A Tag	**No A Tags in this Zone — See Controlled Hunts**			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Boise River Zone (Unit 39)				
	September	October	November	December
A Tag			**Archery only** — any elk Nov 10 - Nov 30 See Note 3, Page 45, **See archers caution Page 34**	
B Tag			**Any weapon** — antlered **only** Nov 1 - Nov 9 Portion of Unit **closed**, See Note 4, Page 45	

ELK

Smoky-Bennett Zone (Units 43, 44, 45, 48, 52)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Units 43 & 48 **only** Aug 30 - Sep 30 **See archers caution Page 34**		**Any weapon** — spike **only** Units 43, 44 & 48 **only** Nov 1 - Nov 7	
B Tag	**Muzzleloader only** — antlerless **only** Units 45 & 52 **only** Sep 1 - Sep 14 Motorized Hunting Rule Applies, See Pages 101 - 103			

South Hills Zone (Units 46, 47, 54, 55, 56, 57)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Units 55, 56 & 57 **only** Aug 30 - Sep 30 **See archers caution Page 34** Motorized Hunting Rule Applies in Unit 56,See See Pages 101 - 103		**Muzzleloader only** — antlerless **only** Unit 56 **only** Nov 1 - Nov 14 **See muzzleloaders caution Page 34** Motorized Hunting Rule Applies, See Pages 101 - 103	
B Tag	**Any weapon** — antlerless **only** Aug 1 - Aug 29 Within 1 mile of private cultivated fields outside National Forest System Boundary, See Note 2, Page 45 Motorized Hunting Rule Applies in Units 47 & 56, See Pages 101 - 103			

Big Desert Zone (Units 52A, 68)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30 Motorized Hunting Rule Applies in Unit 52A, See Pages 101 - 103			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Snake River Zone (Units 53, 63, 63A, 68A)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Unit 68A **only**: Aug 1 - Sep 30	**Any weapon** — antlerless **only** Unit 63 **only**: Sep 1 - Dec 31 Short range weapons **only** on Mud Lake WMA		
	Any weapon — any elk Unit 63 **only**: Aug 1 - Aug 31 Short range weapons **only** on Mud Lake WMA	**Short range weapons only** — antlerless **only** Unit 63A **only**: Sep 1 - Nov 30		
	Short range weapons only — any elk Unit 63A **only**: Aug 1 - Aug 31	**Archery only** — antlerless **only** Unit 68A **only**: Oct 1 - Dec 31		
	Short range weapons only — any elk Unit 53 **only**: Aug 1 - Dec 31 Motorized Hunting Rule Applies, See Pages 101 - 103			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Island Park Zone (Units 60, 60A, 61, 62, 62A)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30	**Any weapon** — spike **only** Oct 15 - Oct 28 Short range weapons **only** on Chester Wetlands WMA	**Muzzleloader only** — spike or antlerless Unit 61 **only** Nov 11 - Dec 9	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Palisades Zone (Units 64, 65, 67)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30	**Any weapon** — antlerless **only** Oct 22 - Nov 16		
B Tag	**Archery only** — spike or antlerless Aug 30 - Sept 14	**Any weapon** — antlered **only** Oct 15 - Oct 21		

ELK

Tex Creek Zone (Units 66, 69)

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30 Motorized Hunting Rule Applies, See Pages 101 - 103	**Any weapon** — antlerless **only** Oct 22 - Nov 16 Motorized Hunting Rule Applies, See Pages 101 - 103		
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep 14 Motorized Hunting Rule Applies, See Pages 101 - 103	**Any weapon** — antlered **only** Oct 15 - Oct 21 Motorized Hunting Rule Applies, See Pages 101 - 103		

Bannock Zone (Units 70, 71, 72, 73, 73A, 74)

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30 Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 101 - 103	**Any weapon** — antlerless **only** Oct 25 - Nov 15 Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 101 - 103	**Muzzleloader only** — antlerless **only** Nov 16 - Nov 30 Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 101 - 103	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Bear River Zone (Units 75, 77, 78)

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30 Motorized Hunting Rule Applies, See Pages 101 - 103	**Any weapon** — antlerless **only** Oct 25 - Nov 15 Motorized Hunting Rule Applies, See Pages 101 - 103		**Muzzleloader only** — antlerless **only** Dec 1 - Dec 31 Motorized Hunting Rule Applies, See Pages 101 - 103
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep14 Motorized Hunting Rule Applies, See Pages 101 - 103	**Any weapon** — antlered **only** Oct 15 - Oct 24 Motorized Hunting Rule Applies, See Pages 101 - 103		
	Note: 550 B Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	

Diamond Creek Zone (Units 66A, 76)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30 Motorized Hunting Rule Applies, See Pages 101 - 103			
	Note: 1,836 A Tag Quota Available First-Come, First-Served.		2015 Capped tags go on sale for Residents 7/10/2015 and Nonresidents 12/1/2014.	
			2016 Capped tags go on sale for Residents 7/10/2016 and Nonresidents 12/1/2015.	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

ELK GENERAL SEASON SPECIAL AREA DESCRIPTIONS

• **Note 1 — Unit 8A Muzzleloader Spike or Antlerless Hunt** — That portion of Unit 8A east of State Highway 6 and State Highway 9 and north of the following line: Beginning at the boundary of Unit 8A at its junction with State Highway 8 at Deary, then east on Highway 8 to Forest Service Road 1963 at Helmer, then south and east on Forest Service Road 1963 to Long Meadow Creek, then southeast on Long Meadow Creek to Dworshak Reservoir, then east along the shoreline of Dworshak Reservoir to the Unit 8A boundary at Dent Bridge.

• **Note 2 — Outside the National Forest System Boundary in Palouse, Salmon, Lemhi, Beaverhead, Pioneer and South Hills Zones: — Antlerless Hunts:** These hunts are open only outside the National Forest System Boundary within 1 mile of private fields on which cultivated crops are currently growing. The National Forest System Boundary is a legislatively set boundary — it is not necessarily the boundary of Forest Service property. State, private and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.) "Private fields on which cultivated crops are currently growing" is defined as: fields on which soil has been used or broken up for the raising of crops, and artificially irrigated pasture. "Currently" means during the current or most recent growing season. Lands enrolled in the Conservation Reserve Program (CRP) or other set-aside farm programs are specifically excluded.

• **Note 3** — **Unit 39 Archery Hunt CLOSED Area:** That portion of Unit 39 within Ada County, **and** that portion of Unit 39 within the following boundary: Beginning at the intersection of State Highway 21 and the Middle Fork Boise River Road (Forest Road 268), east on Forest Road 268 to Cottonwood Creek-Thorn Creek Road (Forest Road 377), to South Fork of Thorn Creek to confluence of Thorn Creek, north and west on Thorn Creek to the confluence with Mores Creek, south and west along the center of Mores Creek including the Mores Creek arm of Lucky Peak Reservoir to Highway 21 to the point of beginning is **closed**.

• **Note 4 — Portion of Unit 39 closed:** That portion of Unit 39 south and east of Blacks Creek Road and south of the South Fork of Boise River is **closed**.

Elk Controlled Hunts

For details on controlled hunt rules and restrictions please see pages 106 - 109.

Hunters: Please check Elk Controlled Hunt Area descriptions on pages 57 - 60. Hunt Areas may change.

2015 & 2016 Controlled Elk Hunts (22,365 Tags Plus Unlimited Tags) Antlered Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2001	11	80	Oct 10 - Nov 3	
2002	18	225	Oct 10 - Nov 3	
2003	19A	10	Oct 1 - Oct 14	
2004	23	10	Oct 1 - Oct 14	
2005	29	180	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2006	30	75	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2007	30-1[a] (See pg 58)	30	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2008	31	50	Oct 15 - Nov 8	
2009	36A-1[b] (See pg 59)	63	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2010	36A-2[a] (See pg 59)	117	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2011	37	65	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2012	37A	70	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2013	40	45	Oct 15 - Nov 24	
2014	40-1[a] (See pg 59)	5	Sep 25 - Oct 14	***Caution: An archery only hunt is open at the same time***
2015	41-1[b] (See pg 59)	10	Nov 1 - Nov 15	*Very limited access*
2016	41-1[b] (See pg 59)	10	Nov 16 - Nov 30	*Very limited access*
2017	41-1[b] (See pg 59)	10	Dec 1 - Dec 15	*Very limited access*
2018	42	15	Oct 15 - Nov 24	
2019	43	10	Sep 25 - Oct 10	
2020	43	90	Oct 15 - Nov 9	
2021	44	10	Sep 25 - Oct 10	
2022	44	175	Oct 15 - Nov 9	
2023	45-1[a] (See pg 59)	100	Oct 1 - Oct 31	*Very limited access, Motorized Hunting Rule Applies, See Pages 101 - 103*
2024	46-1[a] (See pg 59)	10	Oct 15 - Nov 9	*Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2025	46-1[a] (See pg 59)	25	Dec 5 - Dec 31	*Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2026	48	10	Sep 25 - Oct 10	
2027	48	115	Oct 15 - Nov 9	
2028	49	10	Sep 25 - Oct 10	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2029	49	200	Oct 15 - Nov 9	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2030	50-1[b] (See pg 60)	10	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2031	50-1[b] (See pg 60)	100	Oct 15 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Elk Hunts Antlered Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2032	51	10	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2033	51	125	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2034	52A-1[a] (See pg 60)	75	Oct 1 - Nov 30	
2035	54	10	Nov 1 - Nov 14	
2036	55-1[a] (See pg 60)	30	Oct 15 - Oct 31	*Motorized Hunting Rule Applies in Unit 56, See Pages 101 - 103*
2037	58-1[a] (See pg 60)	75	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2038	60-1[a] (See pg 60)	30	Oct 1 - Oct 14	
2039	60-2[a] (See pg 60)	100	Nov 1 - Nov 30	
2040	61	50	Nov 1 - Nov 10	
2041	66A-1[a] (See pg 60)	35	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2042	66A-1[a] (See pg 60)	300	Oct 15 - Oct 24	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2043	70-1[a] (See pg 60)	25	Oct 1 - Oct 14	*Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 101 - 103*
2044	70-1[a] (See pg 60)	200	Oct 15 - Oct 24	*Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 101 - 103*
2045	75-1[a] (See pg 60)	25	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 101 - 103*

2015 & 2016 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2046	1-1[b] (See pg 57)	50	Aug 1 - Dec 31	
2047	3-1[a] (See pg 57)	150	Aug 1 - Dec 31	
2048	5-1[b] (See pg 57)	50	Aug 1- Oct 31	
2049	5-1[b] (See pg 57)	50	Nov 1 - Dec 31	
2050	8-1[a] (See pg 57)	125	Oct 20 - Dec 1	
2051	8-2[a] (See pg 57)	250	Oct 20 - Dec 1	
2052	10A-1[b] (See pg 57)	25	Aug 1 - Sep 15	
2053	10A-1[b] (See pg 57)	50	Dec 10 - Dec 31	
2054	11	150	Oct 1 - Oct 9	
2055	11	200	Oct 10 - Oct 24	
2056	11	175	Nov 10 - Nov 24	
2057	11-1[b] (See pg 57)	125	Aug 1 - Sep 15	*Very limited access*
2058	11A	150	Oct 20 - Dec 31	*Very limited access*
2059	13	250	Oct 10 - Nov 3	*Very limited access because of few roads and private property*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2060	14-1[b] (See pg 57)	15	Aug 1 - Sep 15	*Very limited access*
2061	14-2[b] (See pg 57)	100	Dec 10 - Dec 31	
2062	16-1[b] (See pg 57)	50	Dec 10 - Dec 31	
2063	18	150	Oct 1 - Oct 25	
2064	18-1[b] (See pg 57)	50	Dec 1 - Dec 31	
2065	19A	25	Oct 15 - Nov 8	
2066	21-1[a] (See pg 57)	100	Oct 1 - Dec 31	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2067	22	200	Nov 10 - Nov 30	
2068	22-1[b] (See pg 57)	500	Oct 1 - Oct 12	
2069	22-1[b] (See pg 57)	400	Oct 13 - Oct 24	
2070	22-1[b] (See pg 57)	250	Oct 25 - Nov 3	
2071	22-2[b] (See pg 58)	100	Oct 1 - Oct 14	
2072	23-1[b] (See pg 58)	50	Oct 1 - Oct 14	
2073	23-1[b] (See pg 58)	30	Oct 15 - Nov 8	
2074	23-2[b] (See pg 58)	75	Oct 5 - Nov 5	*Very limited access*
2075	23-2[b] (See pg 58)	25	Dec 1 - Dec 31	*Very limited access*
2076	23-3[b] (See pg 58)	40	Oct 15 - Nov 8	*Very limited access*
2077	23-3[b] (See pg 58)	25	Dec 1 - Dec 31	*Very limited access*
2078	24-1[b] (See pg 58)	150	Oct 15 - Nov 8	
2079	24-2[b] (See pg 58)	75	Oct 15 - Nov 8	
2080	29	70	Nov 1 - Nov 20	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2081	30	160	Dec 1 - Dec 15	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2082	30A-1[b] (See pg 58)	50	Aug 1 - Sep 14	*Portion of Unit **only**,* *Contact Salmon Regional Office for map of hunt area,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2083	30A-1[b] (See pg 58)	50	Sep 15 - Oct 14	*Portion of Unit **only**,* *Contact Salmon Regional Office for map of hunt area,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2084	31	200	Oct 1 - Oct 14	
2085	31	100	Oct 15 - Nov 9	
2086	32-1[b] (See pg 58)	150	Oct 1 - Nov 3	*Very limited access,* *Short range weapons **only** on Montour WMA,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2087	32-1[b] (See pg 58)	250	Nov 4 - Nov 30	*Very limited access,* *Short range weapons **only** on Montour WMA,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2088	32A	250	Oct 1 - Oct 12	*Motorized Hunting Rule Applies, See Pages 101 - 103*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2089	32A	250	Oct 13 - Oct 24	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2090	32A	250	Oct 25 - Nov 3	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2091	32A	150	Nov 10 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2092	32A-1[b] (See pg 59)	50	Dec 1 - Dec 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2093	36A-1[b] (See pg 59)	10	Nov 15 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2094	36A-2[a] (See pg 59)	150	Nov 15 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2095	36B-1[b] (See pg 59)	20	Oct 1 - Nov 20	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45*
2096	36B-1[b] (See pg 59)	20	Nov 21 - Dec 31	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45*
2097	37	60	Oct 18 - Nov 3	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2098	37	100	Nov 4- Nov 24	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2099	37A	90	Nov 1 - Nov 20	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2100	39-1[b] (See pg 59)	550	Oct 5 - Oct 31	
2101	39-2[b] (See pg 59)	400	Oct 5 - Oct 31	
2102	40-1[a] (See pg 59)	100	Oct 15 - Oct 31	
2103	40-1[a] (See pg 59)	50	Nov 1 - Nov 24	
2104	41-1[b] (See pg 59)	35	Dec 1 - Dec 15	*Very limited access*
2105	41-1[b] (See pg 59)	35	Dec 16 - Dec 31	*Very limited access*
2106	43-1[a] (See pg 59)	100	Oct 15 - Nov 9	
2107	44	125	Oct 15 - Nov 9	
2108	44	75	Nov 10 - Nov 30	
2109	45-1[a] (See pg 59)	300	Oct 1 - Oct 31	*Very limited access, Motorized Hunting Rule Applies, See Pages 101 - 103*
2110	45-1[a] (See pg 59)	100	Nov 1 - Nov 30	*Very limited access, Motorized Hunting Rule Applies, See Pages 101 - 103*
2111	46-1[a] (See pg 59)	25	Oct 15 - Nov 9	*Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2112	46-1[a] (See pg 59)	35	Nov 15 - Nov 30	*Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2113	46-1[a] (See pg 59)	35	Dec 1 - Dec 14	*Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2114	46-1[a] (See pg 59)	35	Dec 15 - Dec 31	*Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2115	48-1[b] (See pg 59)	150	Oct 15 - Nov 9	
2116	48-2[b] (See pg 59)	150	Oct 15 - Nov 9	
2117	48-3[a] (See pg 59)	150	Aug 1 - Sep 15	
2118	49	200	Oct 15 - Oct 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2119	49	200	Nov 1 - Nov 14	*Motorized Hunting Rule Applies, See Pages 101 - 103*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2120	49	200	Nov 15 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2121	50-2[b] (See pg 60)	200	Dec 1 - Dec 15	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2122	50-3[b] (See pg 60)	200	Dec 1 - Dec 22	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2123	51	150	Oct 15 - Nov 3	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2124	51	150	Dec 10 - Dec 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2125	52A-1[a] (See pg 60)	150	Oct 10 - Nov 30	
2126	54	100	Oct 15 - Oct 31	
2127	55-2[a] (See pg 60)	50	Oct 15 - Oct 31	
2128	58	250	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2129	59-1[a] (See pg 60)	200	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2130	60-2[a] (See pg 60)	150	Nov 1 - Nov 30	
2131	61	100	Nov 1 - Nov 10	
2132	66A	300	Oct 25 - Nov 15	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2133	67-1[b] (See pg 60)	75	Oct 22 - Dec 14	*Very limited access, Portion of Unit **only***
2134	76	700	Oct 25 - Nov 15	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2135	76-1[a] (See pg 60)	100	Nov 16 - Dec 31	*Motorized Hunting Rule Applies, See Pages 101 - 103*

2015 & 2016 Controlled Hunts Either Sex Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2136	1	400	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Oct 24	*Any weapon*
2137	2	125	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Oct 24	*Any weapon*
2138	3	300	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Oct 24	*Any weapon*
2139	5	450	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Oct 24	*Any weapon*
2140	11-1[b] (See pg 57)	10	Aug 1 - Sep 15	*Very limited access*
2141	13	335	Oct 10 - Nov 3	*Very limited access because of few roads and private property*
2142	39-3[b] (See pg 59)	75	Nov 1 - Nov 9	*Very limited access*
2143	62-1[a] (See pg 60)	150	Nov 1 - Nov 30	

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Hunts Archery Only Elk - Archery Permit Required				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2144	18	75	Aug 30 - Sep 30	*Antlered **only***
2145	39	25	Sep 1 - Sep 30	*Antlered **only**,* ***Caution, See note 1, Page 51***
2146	40-1[a] (See pg 59)	10	Sep 25 - Oct 14	*Antlered **only**,* ***Caution, See note 1, Page 51***
2147	41-1[b] (See pg 59)	10	Sep 15 - Sep 30	*Antlered **only**, Very limited access*
2148	44	10	Aug 30 - Sep 24	*Antlered **only***
2149	45-1[a] (See pg 59)	25	Sep 15 - Sep 30	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2150	46-1[a] (See pg 59)	15	Aug 30 - Sep 20	*Antlered **only**, Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2151	54	10	Aug 30 - Sep 24	*Antlered **only***

2015 & 2016 Controlled Hunts Muzzleloader Only Elk - Muzzleloader Permit Required				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2152	11	50	Nov 25 - Dec 4	*Either sex*
2153	22	150	Dec 1 - Dec 31	*Antlerless **only***
2154	24	50	Dec 1 - Dec 20	*Antlerless **only***
2155	30A	30	Nov 1 - Nov 30	*Either sex,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2156	32A-2[b] (See pg 59)	150	Dec 1 - Dec 31	*Antlerless **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2157	33-1[a] (See pg 59)	50	Nov 10 - Nov 30	*Antlerless **only***
2158	33-2[a] (See pg 59)	50	Nov 10 - Nov 30	*Antlered **only***
2159	39	25	Sep 1 - Sep 30	*Antlered **only***
2160	39	500	Sep 8 - Sep 30	*Antlerless **only**,* ***Caution, See note 1, Page 51***
2161	46-1[a] (See pg 59)	10	Sep 25 - Oct 10	*Antlered **only**, Motorized Hunting Rule Applies in Unit 47, See Pages 101 - 103*
2162	54	10	Sep 25 - Oct 14	*Antlered **only***
2163	55-2[a] (See pg 60)	10	Nov 1 - Nov 14	*Antlered **only***
2164	61	200	Nov 11 - Dec 9	*Either sex*
2165	64-1[a] (See pg 60)	50	Oct 1 - Oct 9	*Either sex*
2166	66-1[a] (See pg 60)	50	Oct 1 - Oct 9	*Either sex,* *Motorized Hunting Rule Applies, See Pages 101 - 103*

Note:

1. **Caution archers and muzzleloaders:** An "any weapon" hunt will be open at the same time in this hunt area.

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Hunts Youth Only - Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2167	1	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	*Any weapon*
2168	2	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	*Any weapon*
2169	3	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	*Any weapon*
2170	5	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	*Any weapon*
2171	29	15	Oct 1 - Nov 20	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2172	30	15	Nov 1 - Dec 15	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2173	36A	25	Oct 1 - Dec 15	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2174	37	25	Oct 1 - Nov 20	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2175	44-1[a] (See pg 59)	150	Nov 10 - Nov 30	*Motorized Hunting Rule Applies in Units 45 & 52, See Pages 101 - 103*
2176	50-1[b] (See pg 60)	100	Oct 15 - Oct 28	*Motorized Hunting Rule Applies, See Pages 101 - 103*
2177	54	25	Aug 1 - Aug 29	
2178	60-1[a] (See pg 60)	50	Oct 15 - Oct 28	
2179	66-1[a] (See pg 60)	100	Oct 22 - Nov 30	*Motorized Hunting Rule Applies, See Pages 101 - 103*

2015 & 2016 Controlled Hunts Extra Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2180	18-1X[b] (See pg 57)	150	Oct 1 - Oct 25	*Very limited access, potential hunter congestion at access points*
2181	18-1X[b] (See pg 57)	150	Nov 4 - Nov 30	*Very limited access, potential hunter congestion at access points*
2182	32-1X[b] (See pg 58)	175	Aug 1 - Oct 31	*Very limited access, most elk are on private property*
2183	32-1X[b] (See pg 58)	175	Nov 1 - Dec 31	*Very limited access, most elk are on private property*
2184	52A-1X[a] (See pg 60)	50	Aug 1 - Aug 29	
2185	52A-1X[a] (See pg 60)	50	Oct 1 - Nov 30	

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2015 & 2016 Controlled Hunts Landowner Permission Required - Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2186*	31-1[b] (See pg 58)	250	Aug 1 - Dec 31	*For application information, See Page 109*
2187*	31-2[b] (See pg 58)	150	Aug 1 - Sep 30	*For application information, See Page 109*
2188*	32-2[b] (See pg 58)	100	Aug 1 - Aug 29 Oct 5 - Dec 31	*For application information, See Page 109* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2189*	39-4[b] (See pg 59)	25	Aug 1 - Aug 31 Dec 1 - Dec 31	*For application information, See Page 109*
*Landowner Permission Required Hunts are a form of Depredations Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 109 for application information.				

2015 & 2016 Controlled Hunts Landowner Permission Required EXTRA Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2190*	21-1X[a] (See pg 57)	100	Oct 1 - Dec 31	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45,* *Motorized Hunting Rule Applies, See Pages 101 - 103* *For application information, See Page 109*
2191*	39-1X[b] (See pg 59)	300	Oct 1 - Dec 31	*For application information, See Page 109*
2192*	41-1X[b] (See pg 59)	75	Oct 1 - Dec 31	*For application information, See Page 109*
2193*	44-1X[a] (See pg 59)	150	Aug 1 - Oct 31	*Private land **only**,* *For application information, See Page 109*
2194*	44-1X[a] (See pg 59)	50	Nov 1 - Dec 31	*Private land **only**,* *For application information, See Page 109*
2195*	45-1X[b] (See pg 59)	75	Aug 1 - Oct 31	*Private land **only**,* *For application information, See Page 109*
2196*	45-1X[b] (See pg 59)	25	Nov 1 - Dec 31	*Private land **only**,* *For application information, See Page 109*
2197*	49-1X[a] (See pg 59)	200	Aug 1 - Oct 31	*Private land **only**,* *For application information, See Page 109*
2198*	49-1X[a] (See pg 59)	100	Nov 1 - Dec 31	*Private land **only**,* *For application information, See Page 109*
*Landowner Permission Required Hunts are a form of Depredations Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 109 for application information.				

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.

For details on controlled hunt rules and restrictions please see pages 106 - 109.

2016 Controlled Hunts Extra Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2250	8-1X[a] (See pg 57)	55	Jan 1 - Jan 31	
2251	21-1X[a] (See pg 57)	50	Jan 1 - Feb 28	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103*
2252	41-2X[b] (See pg 59)	50	Jan 1 - Jan 14	*Very limited access*
2253	63-1X[b] (See pg 60)	50	Jan 1 - Feb 15	*Short range weapons **only** on Mud Lake Wildlife Management Area,*
These are 2016 hunts. Hunters may apply for these hunts during the 2015 application year. Hunters must purchase a 2016 hunting license before they can pick up these tags. Hunting licenses for 2016 will go on sale December 1, 2015.				

2016 Controlled Hunts Landowner Permission Required EXTRA Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2254*	21-1X[a] (See pg 57)	50	Jan 1 - Feb 28	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103 For application information, See Page 109*
2255*	41-1X[a] (See pg 59)	25	Jan 1 - Jan 14	*For application information, See Page 109*
*Landowner Permission Required Hunts are a form of Depredations Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 109 for application information. **These are 2016 hunts.** Hunters must purchase a 2016 hunting license before they can pick up these tags. Hunting licences for 2016 will go on sale December 1, 2015.				

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

2017 Controlled Hunts Extra Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2260	8-1X[a] (See pg 57)	55	Jan 1 - Jan 31	
2261	21-1X[a] (See pg 57)	50	Jan 1 - Feb 28	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103*
2262	41-2X[b] (See pg 59)	50	Jan 1 - Jan 14	*Very limited access*
2263	63-1X[b] (See pg 60)	50	Jan 1 - Feb 15	*Short range weapons **only** on Mud Lake Wildlife Management Area*
These are 2017 hunts. Hunters may apply for these hunts during the 2016 application year. Hunters must purchase a 2017 hunting license before they can pick up these tags. Hunting licenses for 2017 will go on sale December 1, 2016.				

2017 Controlled Hunts Landowner Permission Required EXTRA Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2264*	21-1X[a] (See pg 57)	50	Jan 1 - Feb 28	*Near cultivated fields outside National Forest Boundary, See note 2, Page 45, Motorized Hunting Rule Applies, See Pages 101 - 103 For application information, See Page 109*
2265*	41-1X[a] (See pg 59)	25	Jan 1 - Jan 14	*For application information, See Page 109*
*Landowner Permission Required Hunts are a form of Depredations Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 109 for application information. **These are 2017 hunts.** Hunters must purchase a 2017 hunting license before they can pick up these tags. Hunting licences for 2017 will go on sale December 1, 2016.				

2015 & 2016 Controlled Hunts Outfitter Allocation Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2199	11	5	Oct 10 - Nov 3	*Antlered **only***
2200	13	15	Oct 10 - Nov 3	*Either sex*
2201	18	9	Oct 10 - Nov 3	*Antlered **only***
2202	29	7	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 101 - 103*
2203	36A	3	Oct 1 - Dec 15	*Antlerless **only**, Youth hunt **only**, Motorized Hunting Rule Applies, See Pages 101 - 103*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 -109.

2015 & 2016 Controlled Hunts Outfitter Allocation Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2204	36A-1[b] (See pg 59)	3	Oct 1 - Oct 31	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2205	36A-1[b] (See pg 59)	1	Nov 15 - Nov 30	*Antlerless **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2206	36A-2[a] (See pg 59)	6	Oct 1 - Oct 31	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2207	36A-2[a] (See pg 59)	7	Nov 15 - Nov 30	*Antlerless **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2208	37	2	Oct 1 - Oct 31	*Antlered **only***
2209	37	3	Oct 1 - Nov 20	*Antlerless **only**, Youth hunt **only***
2210	37	3	Nov 4 - Nov 24	*Antlerless **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2211	37A	5	Oct 1 - Oct 31	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2212	43	4	Oct 15 - Nov 9	*Antlered **only***
2213	45-1[a] (See pg 59)	3	Oct 1 - Oct 31	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2214	49	9	Oct 15 - Nov 9	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2215	50-1[b] (See pg 60)	4	Oct 15 - Oct 31	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2216	54	1	Aug 30 - Sep 24	*Antlered **only**, Archery **only***
2217	54	1	Sep 25 - Oct 14	*Antlered **only**, Muzzleloader **only***
2218	54	1	Oct 15 - Oct 31	*Antlerless **only***
2219	58-1[a] (See pg 60)	2	Nov 1 - Nov 30	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2220	61	2	Nov 1 - Nov 10	*Antlered **only***
2221	61	3	Nov 11 - Dec 9	*Either sex, Muzzleloader **only***
2222	62-1[a] (See Page 60)	15	Nov 1 - Nov 30	*Either sex*
2223	66A-1[a] (See pg 60)	2	Oct 1 - Oct 14	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2224	66A-1[a] (See pg 60)	12	Oct 15 - Oct 24	*Antlered **only**,* *Motorized Hunting Rule Applies, See Pages 101 - 103*
2225	67-1[b] (See pg 60)	2	Oct 22 - Dec 14	*Antlerless **only**,* *Very limited access, Portion of Unit **only***

Outfitted controlled hunts:

Before submitting an application for an outfitter-allocated controlled hunt, hunters must have a written agreement with an outfitter licensed in the hunt area. Successful applicants must hunt with an outfitter licensed for the hunt area. The outfitter must purchase the hunter's tag by August 20. Successful applicants authorize Idaho Fish and Game to provide names and addresses to the outfitters licensed for that controlled hunt. For a list of licensed outfitters in the applicable controlled hunt area, a sample written agreement, and additional information contact the Idaho Outfitters and Guides Licensing Board at their website - www.oglb.idaho.gov or by calling 208-327-7380.

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 106 - 109.

Submitted by:

Wayne Wakkinen Regional Wildlife Manager	Clay Hickey Regional Wildlife Manager	Rick Ward Regional Wildlife Manager
Regan Berkley Regional Wildlife Manager	Daryl Meints Regional Wildlife Manager	Zach Lockyer Regional Wildlife Manager
Curtis Hendricks Regional Wildlife Manager	Greg Painter Regional Wildlife Manager	

Approved by: IDAHO DEPARTMENT OF FISH AND GAME

Toby Boudreau Asst. Chief, Bureau of Wildlife Federal Aid Coordinator	Scott Reinecker, Chief Bureau of Wildlife