IDAHO DEPARTMENT OF FISH AND GAME

Steven M. Huffaker, Director

Project W-170-R-27

Progress Report

ELK

Study I, Job 1

July 1, 2002 to June 30, 2003

Prepared by:

Jim Hayden, David Spicer ..... Panhandle Region
Jay Crenshaw ..... Clearwater Region
Jon Rachael, Neil Johnson, Jeff Rohlman ..... Southwest Region
Randy Smith, Bruce Palmer..... Magic Valley Region
Carl Anderson, Corey Class..... Southeast Region
Daryl Meints, Jeff Short..... Upper Snake Region
Tom Keegan.....Salmon Region

Compiled and edited by: Brad Compton, Wildlife Game Manager

September 2003
Boise, Idaho

Findings in this report are preliminary in nature and not for publication without permission of the Director of the Idaho Department of Fish and Game.

The Idaho Department of Fish and Game adheres to all applicable state and federal laws and regulations related to discrimination on the basis of race, color, national origin, age, gender, or handicap. If you feel you have been discriminated against in any program, activity, or facility of the Idaho Department of Fish and Game, or if you desire further information, please write to: Idaho Department of Fish and Game, PO Box 25, Boise, ID 83707; or the Office of Human Resources, U.S. Fish and Wildlife Service, Department of the Interior, Washington, DC 20240.

This publication will be made available in alternative formats upon request. Please contact the Idaho Department of Fish and Game for assistance.

TABLE OF CONTENTS

STATEWIDE....1
SUMMARY....1
PANHANDLE REGION....5
PANHANDLE ZONE (UNITS 1, 2, 3, 4, 4A, 5, 6, 7, 9)....5
CLEARWATER REGION....9
PALOUSE ZONE (UNITS 8, 8A, 11A)....9
LOLO ZONE (UNITS 10, 12)....13
DWORSHAK ZONE (UNIT 10A)....17
HELLS CANYON ZONE (UNITS 11, 13, 18)....21
ELK CITY ZONE (UNITS 14, 15, 16)....24
SELWAY ZONE (UNITS 16A, 17, 19, 20)....27
SOUTHWEST REGION, NAMPA....30
BOISE RIVER ZONE (UNIT 39)....30
SOUTHWEST REGION, MCCALL....33
MCCALL ZONE (UNITS 19A, 23, 24, 25)....33
WEISER RIVER ZONE (UNITS 22, 32, 32A)....37
BROWNLEE ZONE (UNIT 31)....40
MAGIC VALLEY REGION....43
PIONEER ZONE (UNITS 36A, 49, 50)....43
OWYHEE-SOUTH HILLS ZONE (UNITS 38, 40, 41, 42, 46, 47, 54, 55, 57)....47
SMOKY MOUNTAINS ZONE (UNITS 43, 44, 48)....51
BENNETT HILLS ZONE (UNITS 45, 52)....55
BIG DESERT ZONE (UNITS 52A, 68)....58
SNAKE RIVER ZONE (UNITS 53, 63, 63A, 68A)....61
SOUTHEAST REGION....64
BANNOCK ZONE (UNITS 56, 70, 71, 72, 73, 73A, 74)....64
DIAMOND CREEK ZONE (UNITS 66A, 76)....68
BEAR RIVER ZONE (UNITS 75, 77, 78)....72
UPPER SNAKE REGION....76
ISLAND PARK ZONE (UNITS 60, 60A, 61, 62A)....76
TETON ZONE (UNITS 62, 65)....80

TABLE OF CONTENTS (Continued)

PALISADES ZONE (UNITS 64, 67) 84
TEX CREEK ZONE (UNITS 66, 69) 87
LITERATURE CITED 88
SALMON REGION 90
MIDDLE FORK ZONE (UNITS 20A, 26, 27) 90
SALMON ZONE (UNITS 21, 21A, 28, 36B) 94
LEMHI ZONE (UNITS 29, 37, 37A, 51) 98
BEAVERHEAD ZONE (UNITS 30, 30A, 58, 59, 59A) 101
SAWTOOTH ZONE (UNITS 33, 34, 35, 36) 104

LIST OF FIGURES

Figure 1. Elk Status and Objectives Statewide 4
Figure 2. Panhandle Zone Status and Objectives 8
Figure 3. Palouse Zone Status and Objectives 12
Figure 4. Lolo Zone Status and Objectives 16
Figure 5. Dworshak Zone Status and Objectives 20
Figure 6. Hells Canyon Zone Status and Objectives 23
Figure 7. Elk City Zone Status and Objectives 26
Figure 8. Selway Zone Status and Objectives 29
Figure 9. Boise River Zone Status and Objectives 32
Figure 10. McCall Zone Status and Objectives 36
Figure 11. Weiser River Zone Status and Objectives 39
Figure 12. Brownlee Zone Status and Objectives 42
Figure 13. Pioneer Zone Status and Objectives 46
Figure 14. Owyhee-South Hills Zone Status and Objectives 50
Figure 15. Smoky Mountains Zone Status and Objectives 54
Figure 16. Bennett Hills Zone Status and Objectives 57
Figure 17. Big Desert Zone Status and Objectives 60
Figure 18. Snake River Zone Status and Objectives 63
Figure 19. Bannock Zone Status and Objectives 67

TABLE OF CONTENTS (Continued)

Figure 20. Diamond Creek Zone Status and Objectives 71
Figure 21. Bear River Zone Status and Objectives 75
Figure 22. Island Park Zone Status and Objectives.....79
Figure 23. Teton Zone Status and Objectives 83
Figure 24. Palisades Zone Status and Objectives.....86
Figure 25. Tex Creek Zone Status and Objectives.....89
Figure 26. Middle Fork Zone Status and Objectives.....93
Figure 27. Salmon Zone Status and Objectives 97
Figure 28. Lemhi Zone Status and Objectives 100
Figure 29. Beaverhead Zone Status and Objectives.....103
Figure 30. Sawtooth Zone Status and Objectives.....107

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	1-7	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

STATEWIDE

SUMMARY

Rocky mountain elk are Idaho's premier big game animal. Elk are distributed throughout Idaho from the sage-dominated deserts of the south to the dense cedar-hemlock forests of the north. Elk can be classified as habitat generalists, but it must be recognized they have certain basic habitat requirements. These include food, water, and, where hunted, hiding cover and security areas (blocks of elk habitat with limited access). Availability and distribution of these habitat components on each seasonal range ultimately determine the distribution and numbers of elk that may be supported.

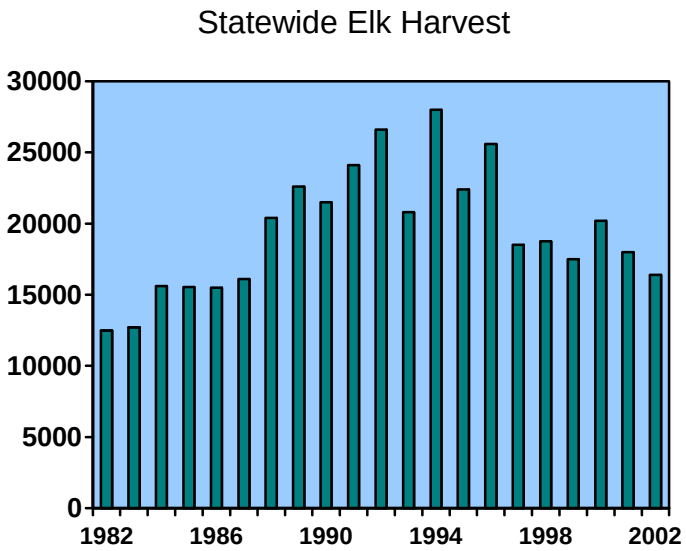
Elk hunter numbers have increased in Idaho as populations have increased. However, total pressure on the resource has dramatically increased. Human development has reduced available habitat on winter ranges and increased access into elk habitat, and technological developments and increased availability of leisure time have all contributed to increased hunting pressure on elk.

Access into elk habitat is a primary problem facing wildlife managers today. Roads built into elk habitat for timber management and other activities will increase hunter access, and often increase elk vulnerability to harvest. As a general rule, the problem is one of access; that is, of increasing the number of people in elk habitat. The effects of roads, apart from people, are mixed. On the negative side, elk may vacate otherwise suitable habitats to avoid human activity; the period of time before elk return to such areas depends on the severity and duration of the disturbance but may extend several years. Elk habitat is reduced not only by the amount of land taken by the roads themselves, but also because elk tend to avoid areas adjacent to such roads. On the positive side, timber harvest often associated with construction of roads may open "closed" stands of timber, creating additional forage for elk in some important winter ranges.

Although the trade-offs associated with road construction may vary with each individual situation, the increase in numbers of people associated with increased access is almost universally detrimental to elk. Elk move away from human disturbance whenever harassed, and elk that remain in logged and roaded areas are subject to more hunters over a longer period of time than elk that live in more secluded habitats.

Because human access into elk habitat is the primary problem associated with roads, perhaps the most critical habitat management factor facing wildlife managers is the use of roads. A comprehensive road management program, involving key elements including timing of construction activities, limitation on use of some roads for single-use only (i.e., timber removal), and complete or periodic closures of other roads to create large blocks of habitat with non-motorized access, could do much to benefit elk management.

Maintenance of the quality and quantity of habitat available to elk is crucial to their long-term survival. Many human activities destroy elk habitat, render portions unusable, decrease the ability of areas to support elk, or result in abandonment of certain areas completely. The Idaho Department of Fish and Game has direct control over only a minuscule portion of elk habitat in Idaho. The majority of elk habitat is managed by other public agencies or private landowners. We must rely on others to consider, along with us, the biological needs of the elk resource for Idaho citizens in their management programs.



Unlike deer, elk populations can generally be highly influenced by harvest. Most of the annual mortality of elk (one year and older) is associated with human harvest. Proper harvest management is to establish population goals and establish harvest opportunities that are consistent with achieving or maintaining these population objectives. In this plan, we establish objectives for wintering populations of cows, total bulls, and adult (3.5+ pre-season) bulls. The state has been divided into 29 elk management zones (groupings of units), dependent upon habitat similarity, management similarity, and/or discrete populations. Objectives have been established for each zone. 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, interspecific issues, population performance issues, and winter feeding issues.

Monitoring population objectives will occur periodically (every 2-5 years) in most cases, and annually in some cases. In addition to these winter surveys, the Department will monitor harvest and antler point class in the harvest. Prior to 1998, the telephone harvest survey provided information regarding harvest. Beginning in 1998, a mandatory harvest report was implemented. Given adequate compliance, more precise information on harvest and antler point data will be available.

Overall, elk populations statewide are near all-time highs. While localized impacts from the 1996-1997 winter in north-central and north Idaho reduced populations, elk numbers throughout southern, eastern, and much of western Idaho have continued to increase over time. Numerically, the state is at or near objectives for total cows, total bulls, and total adult bulls. However, individual zone objectives reflect the need for a distributional change in elk populations.

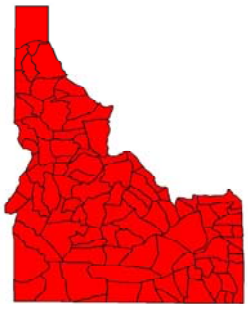
Calf:cow data collected during aerial surveys suggest declining recruitment ratios in many parts of Idaho. Declining recruitment rates can be explained by two possible hypothesis: 1) populations are at or near carrying capacity and density-dependent factors are regulating productivity, or 2) predation is playing a larger role in population dynamics than previously. Unfortunately, conclusive evidence does not exist as to which hypothesis is primarily affecting current population dynamics. Valid points can be made for either scenario.

Elk habitat in north-central Idaho was greatly improved during the early 1900s when extensive wildfires replaced heavily forested habitats with productive shrubfields. However, as these shrubfields have aged and conifer reestablishment has occurred, habitat potential has been reduced. Elk populations in these areas probably represent the longest established population in the state and might be expected to show density-dependent effects first. In fact, populations in north-central Idaho generally have the lowest calf:cow ratios statewide. These observations are consistent with populations that are at or near carrying capacity.

Conversely, the primary potential predators of elk including black bears, mountain lions, and wolves have increased over the last couple of decades. Approximately 280 wolves are currently within the state after being reintroduced by the U.S. Fish and Wildlife Service (USFWS). Although not well understood, an increase in total predators could reduce recruitment rates. It should be noted that in parts of the state where elk herds are productive and increasing, they have similar densities of predators to those areas where elk herds are not productive and are declining.

The quandary exists as to which management action to apply to improve recruitment rates and thus harvestable surplus. If density-dependent factors are primarily responsible, reducing the total population will "stimulate" the population and the harvestable surplus will increase. However, if density-independent factors (i.e., predation) are primarily responsible, the appropriate action would be to minimize antlerless harvest. A better understanding of the potential factors affecting elk population dynamics is needed before confidence can be gained as to what is the most appropriate management action.

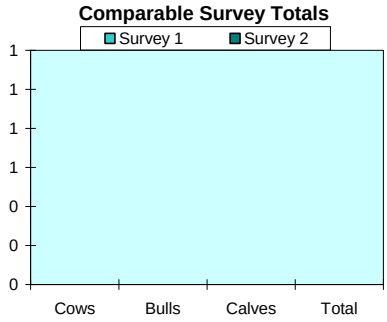
Elk Status & Objectives Statewide



Winter Status & Objectives

Statewide	Current Status				Objective		
	Cows	Calves	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Total	(81,400)	(21,200)	(19,500)	(11,500)	82,500	19,500	11,500
Bulls per 100 Cows			**(24)**	**(14)**		**18-24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.



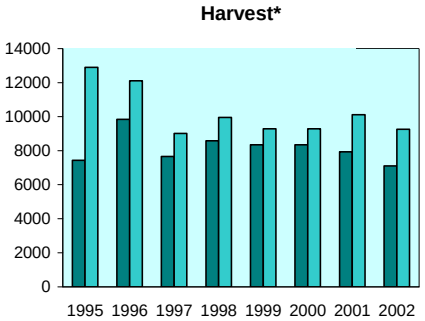
Population Surveys

Statewide	Survey 1				Survey 2			
	Cows	Bulls	Calves	Total	Cows	Bulls	Calves	Total
Comparable Surveys Total	66,397	16,416	23,299	108,383	68,133	15,410	17,663	102,700
Per 100 Cows		**25**	**36**			**23**	**26**	

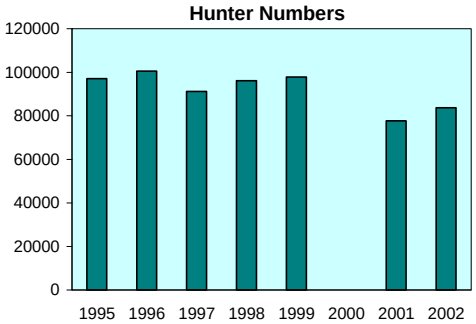
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	7432	9842	7659	8583	8346	8346	7932	7100
'A' Tag				1450	2842	2842	2660	2071
'B' Tag				560	754	754	572	564
CH Tag				5986	4750	4750	4700	4465
Antlered Harvest	12900	12100	9013	9954	9286	9286	10110	9261
'A' Tag				2488	2688	2688	2606	2321
'B' Tag				4390	4855	4855	5586	5043
CH Tag				1729	1729	1729	1918	1897
Hunter Numbers	96997	100479	91168	96139	97731	ND	77662	83712
'A' Tag				25140	33341	ND	27844	27567
'B' Tag				37994	43966	ND	31020	37239
CH Tag				21286	20424	ND	18798	18906
% 6+ Points	25	29	25	33	27	27	28	26

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



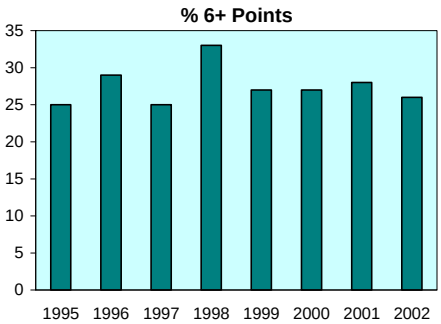


Figure 1. Elk Status and Objectives Statewide

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	1	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

PANHANDLE REGION

PANHANDLE ZONE (UNITS 1, 2, 3, 4, 4A, 5, 6, 7, 9)

Management Objectives

The objectives for the Panhandle Zone are to establish a population of 2,900-3,900 cows and 600-800 bulls, including 350-475 adult bulls, as measured via aerial surveys of the Panhandle Zone Trend Area. Due to poor snow coverage, the trend area was not flown during the past year. As of two years ago, the zone met objectives for cow numbers, but was low in bull numbers. Based on the classification of 1,859 elk during February 2003, recruitment of calf elk was high (43 calves per 100 cows) and it is likely that the Panhandle Zone elk herd has experienced positive growth since the 2002 flight. Regional staff anticipate the zone will meet goals for bull numbers during the next two years.

Historical Perspective

The Panhandle Zone is a large and diverse zone consisting of Game Management Units 1, 2, 3, 4, 4A, 5, 6, 7, and 9. Traditionally, the majority of the elk habitat, elk numbers, and elk hunting activity occurred in Units 4, 4A, 6, 7, and 9. These units are primarily composed of forested public lands and private timber companies and consistently record some of the highest hunter densities and elk harvest densities in the state. Expanding elk herds have recently increased hunter activities in Units 1, 2, 3, and 5, particularly in the agricultural areas of Units 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 game management units. A unique feature of the Panhandle Zone is a mandatory check of all elk harvested in the zone. This database, in operation since 1982, provides valuable information relevant to the elk population.

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 Units 1, 4, and 6. Elk populations increased, with periodic setbacks due to extreme winter conditions. The most recent impact to elk numbers in the Panhandle Zone occurred as a result of the severe winter of 1996-1997. While it is generally accepted that habitat conditions in the core areas have declined from the optimum in the 1950s and 1960s, past timber harvest, prescribed burning, and pioneering of elk into new areas will allow elk numbers to increase to pre-1997 levels and beyond. In the long-term (the time frame is unknown), in the absence of large-scale stand-replacing fire, elk habitat potential may decrease.

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 continues to be a concern despite access management plans developed by land management agencies to address wildlife and watershed issues.

Elk depredations on croplands are not a large problem and are normally handled by hazing and kill permits issued to the landowner. An occasional one-time depredation hunt will be conducted to alleviate a specific problem. Elk depredations on nursery orchards often occur, particularly at newly established sites. The high dollar-per-acre value of nursery crops requires quick, effective action that has included construction of fencing, deployment of electronic scare devices, and the use of guard dogs. Depredation hunts or increased general hunt harvest levels are not used to solve nursery depredations, as the number of offending animals is usually low and nurseries are often located adjacent to elk habitat inhabited by non-offending animals.

Biological Issues

The elk populations in the core areas of this zone have shown an overall growth pattern over the past ten to 15 years. Elk numbers in the peripheral game management units (Units 1, 2, 3, and 5) have shown substantial growth and now support considerable elk hunting opportunities. Growth and expansion in the Panhandle Zone elk herd have continued while offering general either-sex hunting opportunities. Cow:calf ratios indicate the potential for continued growth under the current general hunt. During February 2003 helicopter surveys, 1,859 elk were classified resulting in an estimated 43 calves:100 cows.

The severe winter of 1996-1997 reduced herd numbers in much of the Panhandle Zone. Reductions were considerable in some units. Favorable environmental conditions since the winter of 1996-1997, particularly snow depth on winter range, have allowed substantial recovery of elk populations in this zone. Reductions in cow harvest opportunities were initiated for the 1998 season and remain in place.

Interspecific 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 Units 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 Units 1, 4, 6, 7, and 9. The moose population in the Panhandle Zone has expanded considerably over the past decade with the highest densities occurring in Units 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

Harvest levels of black bear and mountain lion indicate that both species are at fairly high population levels relative to recent historic numbers (20-40 years ago). However, both species appear to be at lower levels than five years ago. Harvest peaked for mountain lions in 1997 and recent harvest levels are less than half of the level experienced in 1997. Black bear harvest has also dropped over the past five years but continues to show significant fluctuation. Research conducted in adjacent areas of Idaho and other states indicates that bear and mountain lion predation may have significant impacts, particularly on elk calves. Wolves have recently established residency in the Panhandle Zone. The impacts of predation on elk numbers in the zone are unknown at this time, but current cow:calf ratios obtained during summer and winter surveys do not indicate an immediate problem.

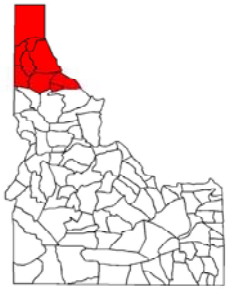
Winter Feeding Issues

Winter feeding of elk in this zone is not conducted by the Department. Numerous private individuals feed small bands of elk annually. The Department provided a minimal amount of feed for individuals to feed small groups of elk during the winter of 1996-1997. The impact was of no consequence to the elk herd in the Panhandle Zone.

Information Requirements

There are three levels of aerial survey information needed for management of the Panhandle Zone. The "Panhandle Region Trend Area" should be surveyed annually to determine population trends. Individual units should be surveyed on a rotational basis to develop population estimates and in the near future, the units impacted hardest by the winter of 1996-1997 should have herd composition counts conducted annually to monitor recruitment.

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



Winter Status & Objectives

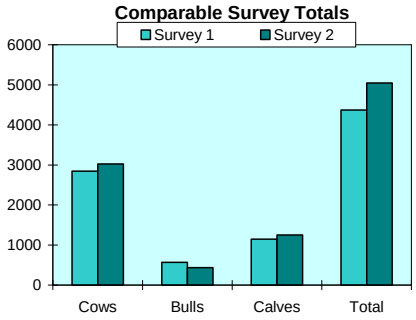
	Current Status				Objective		
Trend Area	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
	2002	3025	438	318	2900 - 3900	600 - 800	350 - 475
Zone Total		**3025**	**438**	**318**	**2900 - 3900**	**600 - 800**	**350 - 475**
Bulls per 100 Cows			**14**	**18**		**18-24**	**10-14**

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

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
1	ND					ND				
2	ND					ND				
3	1993	367	74	118	591	ND				
4	1991	2288	728	1019	4168	1997	2009	666	409	3097
4A	1994	121	17	36	174	ND				
5	ND					ND				
6	1993	1214	740	394	2465	2002	2646	488	1216	4985
7	1991	977	251	377	1605	1998	1044	541	150	1735
9	1990	626	130	136	895	1998	598	108	24	729
Trend Area	**2000**	**2844**	**568**	**1149**	**4371**	**2002**	**3025**	**438**	**1254**	**5046**
Per 100 Cows			**13**	**40**				**14**	**41**	

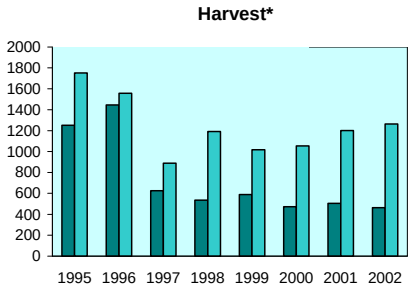
Note: ND = no survey data available.



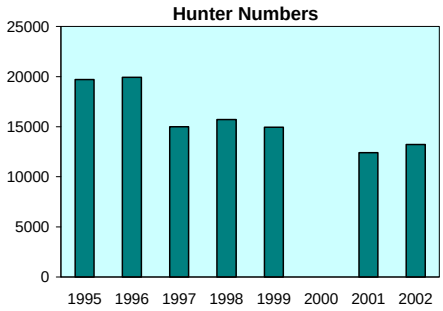
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	1251	1446	626	535	588	473	504	463
'A' Tag				53	52	59	110	68
'B' Tag				512	534	402	389	393
CH Tag				2	2	12	5	2
Antlered Harvest	1752	1558	889	1193	1017	1054	1201	1264
'A' Tag				214	225	208	297	319
'B' Tag				976	792	846	903	943
CH Tag				0	0	0	1	2
Hunter Numbers	19700	19921	14993	15716	14954	ND	12407	13227
'A' Tag				2616	2549	ND	2516	2786
'B' Tag				13100	12385	ND	9872	10421
CH Tag				20	20	ND	19	20
% 6+ Points	23	26	23	32	26	26	24	20

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



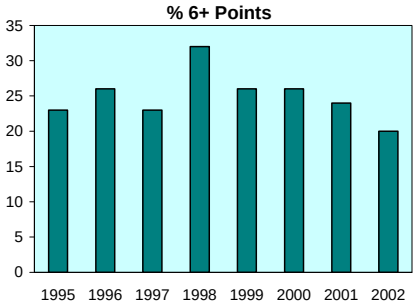


Figure 2. Panhandle Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	2	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

CLEARWATER REGION

PALOUSE ZONE (UNITS 8, 8A, 11A)

Management Objectives

The objectives for the Palouse Zone are to establish a population of 1,325 cows and 275 bulls, including 180 adult bulls at ratios of 18-24 bulls:100 cows and 10-14 adult bulls:100 cows. 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. Current antlerless harvest levels should allow the cow elk population to reach its objective by 2006. However, a significant reduction in bull harvest will be required to achieve the bull and adult bull number and ratio objectives.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along the 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 20th century, creating vast brushfields that provided abundant forage areas for elk. Elk numbers increased following creation of these brushfields, 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 the brushfields 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. Dryland agriculture began in this zone in the 1880s and, 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 nonforested 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 Units 8 and 8A provides high quality elk forage, and as populations have grown, so have the number of depredation complaints. Farmers recall few elk problems until the last decade or so. Elk currently cause damage to grain, legumes, rapeseed, canola, and hay 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. Late-season antlerless elk controlled hunts have been successful in controlling elk population growth and reducing the overall damage caused by elk.

Additionally, timber harvest in the corporate timber, private timber, state land, and federal land areas of Unit 8A increased dramatically through the 1980s and 1990s, mostly to capture white pine mortality and respond to increased demand for timber products. This activity created vast acreages of early successional 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 brushfields (both on summer and winter range). Additionally, mild winters throughout the 1980s likely enhanced calf survival. To address increasing depredation problems during the last 10 years, liberal antlerless elk harvest opportunities have been offered.

Recent and more accurate information on population performance is limited to a single sightability survey in Unit 8 (1997) and two surveys in Unit 8A (1992, 1997). The trend between the Unit 8A surveys indicates a stable population (growth in total numbers = -0.5%/ year), suggesting cow harvest levels in the zone have been at appropriate levels.

Elk productivity in this zone is very high, with calf:cow ratios in the mid-40s or higher. This allows for a liberal season length and harvest and a resilient elk population.

Interspecific Issues

The zone supports a substantial population of white-tailed deer, while mule deer are rare. The zone's moose population has expanded substantially over the past decade. 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. Wolves are typically not present in the 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.

Elk
Palouse Zone (Units 8, 8A, 11A)

Winter Status & Objectives

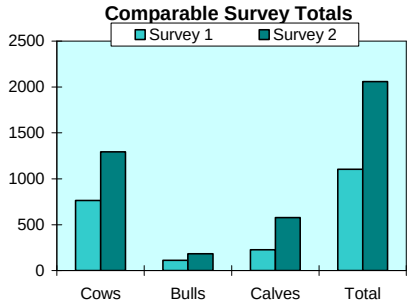
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
8	1997	221	15	4	325 - 475	50 - 100	25 - 75
8A	1997	663	122	61	650 - 950	150 - 200	75 - 150
11A	2002	410	47	1	100 - 150	20 - 30	10 - 20
Zone Total		**1294**	**184**	**66**	**1075 - 1575**	**220 - 330**	**110 - 245**
Bulls per 100 Cows			**14**	**5**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
8	ND					1997	221	15	143	379
8A	1992	765	113	226	1104	1997	663	122	288	1076
11A	ND					2002	410	47	147	604
Comparable Surveys Total		**765**	**113**	**226**	**1104**		**1294**	**184**	**578**	**2059**
Per 100 Cows			**15**	**30**				**14**	**45**	

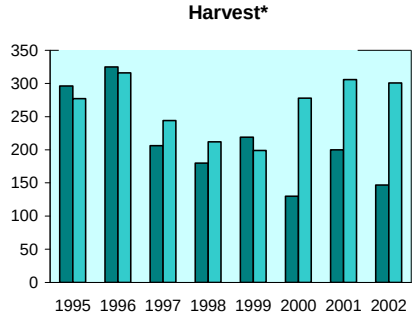
Note: ND = no survey data available.



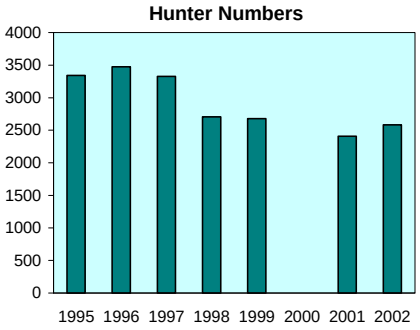
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	296	325	206	180	219	130	200	147
'A' Tag				18	45	30	50	24
'B' Tag						4	5	1
CH Tag	296	325	187	161	174	96	145	122
Antlered Harvest	277	316	244	212	199	278	306	301
'A' Tag				47	39	59	38	44
'B' Tag				165	159	197	256	251
CH Tag			1	1	1	22	12	6
Hunter Numbers	3340	3475	3326	2703	2677	ND	2408	2584
'A' Tag				351	424	ND	378	490
'B' Tag				1892	1811	ND	1726	1767
CH Tag	886	862	576	460	442	ND	304	327
% 6+ Points	20	11	35	13	25	18	17	13

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



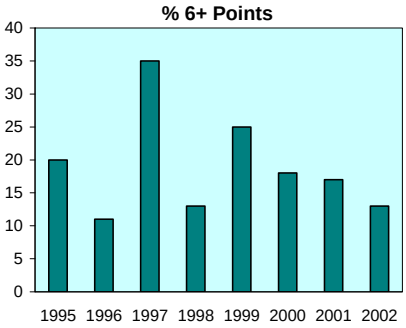


Figure 3. Palouse Zone Status and Objectives

LOLO ZONE (UNITS 10, 12)

Management Objectives

The objectives for the Lolo Zone are to establish a population of 7,600 cows and 1,600 bulls, including 975 adult bulls at ratios of 18-24 bulls:100 cows and 10-14 adult bulls:100 cows.

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) could be causing low calf production/recruitment. If predation is the overwhelming factor, population goals should be set higher (e.g., 15,000 adult elk), and there should be little or no cow harvest. However, if density dependence is significant, goals should be set at a low level, and cow harvest should be at moderate levels (5-10%). Also, both factors may be contributing significantly, leading to some intermediate level of objectives. At present, it is not possible to determine the relative contribution of those effects. In the absence of that knowledge, the objectives were set at intermediate levels.

If recruitment levels recover to some extent, the existing antlerless and bull-only harvest strategies, with the B-Tag cap of 1,600, should allow the zone to reach the bull, bull:cow, and adult bull:cow ratio objectives. If calf recruitment recovers to predecline levels (30-40 calves:100 cows), B-Tags could be greatly liberalized. However, if calf recruitment does not increase from its current level, further restrictions will be required.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along the 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 20th century, creating vast brushfields that provided abundant forage areas for elk. Elk numbers increased following creation of these brushfields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of the brushfields 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. 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 Unit 12 was designated as part of the Selway-Bitterroot Wilderness.

Biological Issues

Poor calf recruitment since the late 1980s, winter losses in 1996-1997, and a recent population decline in Unit 10 have contributed to dramatically decreasing elk herds within this zone. The current population is well below objectives.

The winter of 1996-1997 was marked by severe conditions, including extremely deep snow exceeding 200% of average snowpack in some areas. These conditions apparently caused higher-than-normal winter mortality, leading to a dramatic decline in the Unit 10 population (-48%). In addition, a survey was conducted in Unit 12 during the winter of 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 Units 10 and 12.

Calf productivity and/or recruitment have declined substantially since the late 1980s. Prior to then, winter calf:cow ratios often exceeded 30:100 and occasionally exceeded 40:100. From 1989 through 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. More recently, population surveys and composition surveys have revealed recruitment levels between 27 and 30 calves:100 cows in Unit 12, and 19 to 20 calves:100 cows in Unit 10.

Preliminary results from current research efforts suggest that both nutrition and predation may be potential causes of the low calf recruitment levels. Additional work, in an experimental framework, is needed to determine the relative significance of those potential causes.

To address the 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. The B-Tag cap represents a 60-65% reduction in any-bull rifle hunters. It is anticipated that if recruitment levels recover somewhat, the zone might reach objectives in 5 to 10 years under this management framework.

Interspecific Issues

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

Predation Issues

In DAUs 2-1 and 2-2, mountain lion harvest levels have increased over the last decade. Black bear harvest remained somewhat stable through the last two decades, averaging between 100 and 150 bears per year until 1998 when greatly liberalized seasons lead to dramatic increases in harvest. However, black bear population performance remains well above plan objectives. A wolf pack has taken up residence in the Kelly Creek area, and the Snow Peak pack winters in the lower North Fork area in Unit 10.

The distribution and frequency of credible wolf observations suggests the presence of multiple wolf packs in the Lolo Zone.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

The level of the Lolo Zone B-tag cap, and any future changes in the cap, are entirely dependent upon recruitment levels. At a minimum, recruitment should be measured with composition surveys, corrected for visibility bias, yearly or every other year to establish the level and trend of calf recruitment. In addition, complete sightability surveys should be conducted frequently to evaluate population performance.

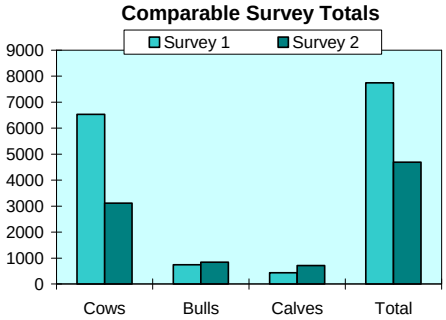
Elk
Lolo Zone (Units 10, 12)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
10	2003	1832	419	131	4200 - 6200	900 - 1300	500 - 750
12	2002	1281	422	253	1900 - 2900	400 - 600	225 - 350
Zone Total		**3113**	**841**	**384**	**6100 - 9100**	**1300 - 1900**	**725 - 1200**
Bulls per 100 Cows			**27**	**12**		**18 - 24**	**10 - 14**

Population Surveys

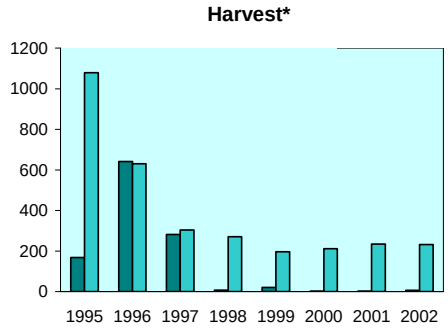
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
10	1998	4469	318	252	5079	2003	1832	419	371	2643
12	1997	2060	425	181	2667	2002	1281	422	343	2048
Comparable Surveys Total		**6529**	**743**	**433**	**7746**		**3113**	**841**	**714**	**4691**
Per 100 Cows			**11**	**7**				**27**	**23**	



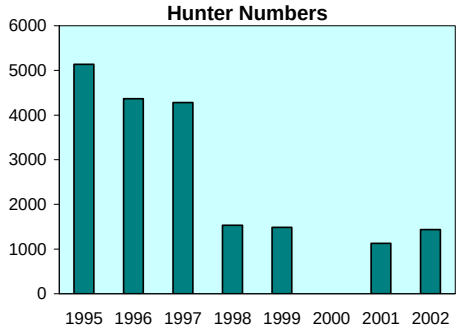
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	168	641	282	7	20	2	2	6
'A' Tag					20	2	2	6
'B' Tag				7		0	0	0
CH Tag	160	607	272			0	0	0
Antlered Harvest	1078	630	304	270	196	212	234	232
'A' Tag				59	6	42	46	46
'B' Tag				211	190	170	188	186
CH Tag		31	5			0	0	0
Hunter Numbers	5134	4365	4281	1533	1485	ND	1126	1435
'A' Tag				293	272	ND	239	322
'B' Tag				1240	1213	ND	887	1113
CH Tag	317	1353	1615			ND	0	0
% 6+ Points	20	19	16	25	14	28	19	22

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



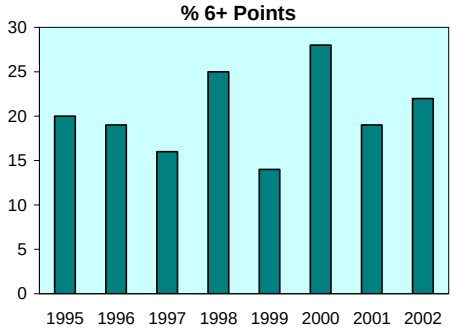


Figure 4. Lolo Zone Status and Objectives

DWORSHAK ZONE (UNIT 10A)

Management Objectives

The objectives for the Dworshak Zone are to establish a population of 3,600 cows and 750 bulls, including 425 adult bulls at ratios of 18-24 bulls:100 cows and 10-14 adult bulls:100 cows. The objective of 3,600 cows represents a level that could be achieved, with little cow harvest, under a worse-case scenario and should be viewed only as a conservative, interim goal until 2006. Subsequently, a more liberal population goal (over 3,600 cows) should be identified to exploit the full productive potential of Unit 10A. The bull objective represents a correspondingly conservative number that would be expected under a worse-case scenario and would correspond to the 18-24 bull:100 cow objective. Likewise, the goal for bull numbers is a conservative, interim number that should be increased to fully exploit the potential of Unit 10A.

The zone cow harvest strategy was modified for the 2000 hunting season to address overharvest. The current goal is a harvest of 90 to 110 cow elk, which would allow the population to reach objectives. B-tag sales were capped beginning with the 2002 hunting season to allow the zone to reach bull and adult bull objectives.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along the 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 20th century, creating vast brushfields that provided abundant forage areas for elk. Elk numbers increased following creation of these brushfields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of the brushfields 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 Dworshak Zone consists of Unit 10A, which is three-fourths timberland and one-fourth 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 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 the 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 and 1990s, timber harvest occurred on almost all available state and private land as demand for timber and management of these lands intensified. Despite the reservoir, extensive logging along the river corridor improved winter range in this unit. South aspect forests were cleared to provide timber products and inadvertently provided quality winter range.

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 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 damage in this zone.

Biological Issues

Historically, Unit 10A has supported a productive elk population. From 1992 through 1996, recruitment averaged 34 calves:100 cows. From 1997 through 1999, recruitment dropped to an average of 19 calves:100 cows. However, the 2001 sightability survey revealed recruitment at 30 calves:100 cows. If this level is sustained, antlerless harvest levels might be liberalized in the future.

Interspecific Issues

Unit 10A supports a substantial white-tailed deer population, few mule deer, and a small 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, in particular mountain lions, have increased to high levels in the last decade. In DAU 2-1, mountain lion harvest levels increased steadily from 1991 (43 lions) to a peak in 1997 (149 lions). Harvest subsequently declined. Anecdotal observations suggest this trend in harvest was related to a similar trend in mountain lion populations. Black bear harvest has increased slowly and recently stabilized. However, harvest levels remain below 2000-2010 bear management plan objectives. The long-term increase in bear and mountain lion populations may be adversely affecting elk population performance. However, there is inadequate information to objectively assess those potential impacts.

Wolves periodically use the meadow complexes in the Grangemont area during summer, and pack activity is common in the upper Dworshak reservoir area during winter.

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 at more frequent intervals to evaluate potential changes in recruitment.

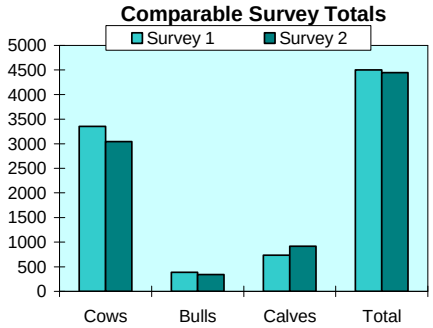
Elk
Dworshak Zone (Unit 10A)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
10A	2001	3045	339	194	2900 - 4300	600 - 900	350 - 500
Zone Total		**3045**	**339**	**194**	**2900 - 4300**	**600 - 900**	**350 - 500**
Bulls per 100 Cows			**11**	**6**		**18 - 24**	**10 - 14**

Population Surveys

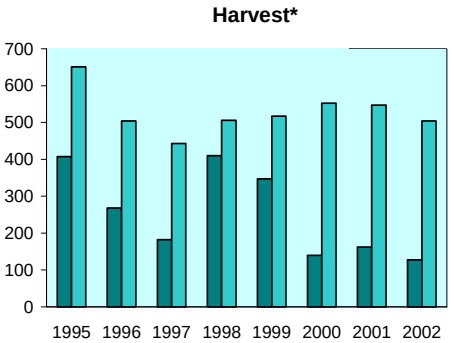
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
10A	1999	3355	385	734	4503	2001	3045	339	914	4445
Comparable Surveys Total		**3355**	**385**	**734**	**4503**		**3045**	**339**	**914**	**4445**
Per 100 Cows			**12**	**22**				**11**	**30**	



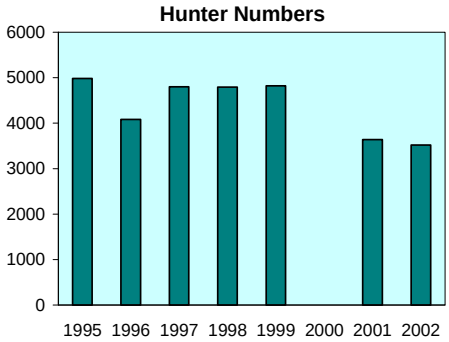
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	407	268	182	410	347	140	162	128
'A' Tag				339	291	118	135	105
'B' Tag				27		4	5	1
CH Tag	382	268	173	44	56	18	22	22
Antlered Harvest	651	504	443	506	517	552	547	504
'A' Tag				133	172	110	136	96
'B' Tag				373	344	441	409	407
CH Tag		5	3		1	1	2	1
Hunter Numbers	4981	4079	4800	4790	4819	ND	3639	3520
'A' Tag				1794	1917	ND	1065	1106
'B' Tag				2897	2809	ND	2533	2367
CH Tag	748	518	479	99	93	ND	41	47
% 6+ Points	8	13	6	7	4	10	11	10

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



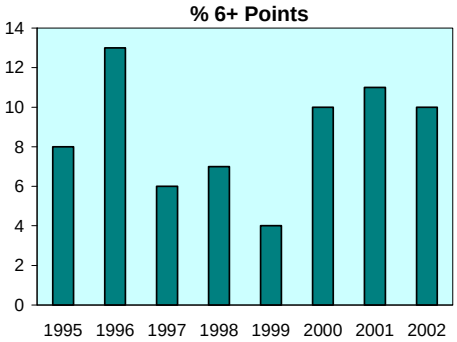


Figure 5. Dworshak Zone Status and Objectives

HELLS CANYON ZONE (UNITS 11, 13, 18)

Management Objectives

The objectives for the Hells Canyon Zone are to establish a population of 1,950 cows and 525 bulls, including 325 adult bulls at ratios of 25-29 bulls:100 cows in Unit 11, 18-24 bulls:100 cows in Unit 13, and 30-34 bulls:100 cows in Unit 18. Current permit levels should allow Units 11, 13, and 18 elk populations to reach objectives.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along the 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 20th century, creating vast brushfields that provided abundant forage areas for elk. Elk production in areas adjacent to this unit 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 the brushfields 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 successional forest cover types have become fragmented within the zone. Many grassland cover types have been invaded by various weeds and nonnative 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.

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 Unit 11 was under intensive use for dryland 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.

This zone contains large tracts of both privately- and publicly-owned land. Unit 11 is mostly private land except for the Craig Mountain Wildlife Management Area (CMWMA) along the Snake and Salmon rivers. The CMWMA consists of two major units: the Billy Creek unit (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. Unit 13 has been mostly under private ownership since settlement, and is managed mostly for agriculture and livestock. Historically, sheepherders ran their flocks in the canyons of Unit 18, and some logging occurred in the forested areas of this unit. Unit 18 is two-thirds public land with the remaining in private ownership located at lower elevations along the Salmon River. The majority of the Hells Canyon Wilderness Area, which was designated in 1975, is in Unit 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, while livestock forage is the primary concern in the remaining portion of this zone. Controlled antlerless elk seasons have been successful in reducing the overall damage.

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 increasing, with a declining bull:cow ratio and stable calf recruitment.

Interspecific Issues

Grazing by cattle is gradually decreasing in the 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 have declined dramatically, possibly alleviating any competitive relationships that may have existed with elk, although it is doubtful that any such effects would be significant.

Predation Issues

In DAUs 2-1 and 2-2, mountain lion harvest has increased over the last several years. In DAUs 1E and 1F, black bear harvest has increased steadily. Harvest levels in both DAUs are currently below plan objectives. Wolves have not become established in this zone.

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.

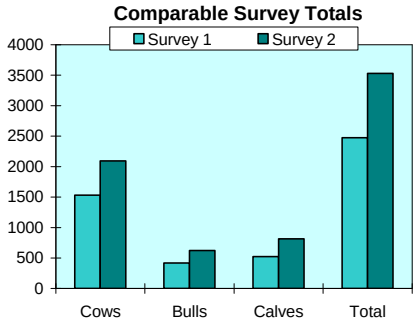
Elk
Hells Canyon Zone (Units 11, 13, 18)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
11	2002	646	184	66	600 - 900	150 - 250	100 - 150
13	2001	890	185	117	500 - 700	100 - 150	50 - 100
18	2000	558	253	161	500 - 700	150 - 225	100 - 150
Zone Total		**2094**	**622**	**344**	**1600 - 2300**	**400 - 625**	**250 - 400**
Bulls per 100 Cows			**30**	**16**		**25 - 29**	**14 - 18**

Population Surveys

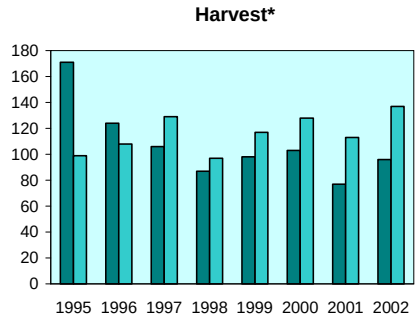
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
11	1999	646	149	209	1004	2002	646	184	327	1156
13	1994	556	105	219	880	2001	890	185	350	1425
18	1992	330	166	95	591	2000	558	253	138	949
Comparable Surveys Total		**1532**	**420**	**523**	**2475**		**2094**	**622**	**815**	**3530**
Per 100 Cows			**27**	**34**				**30**	**39**	



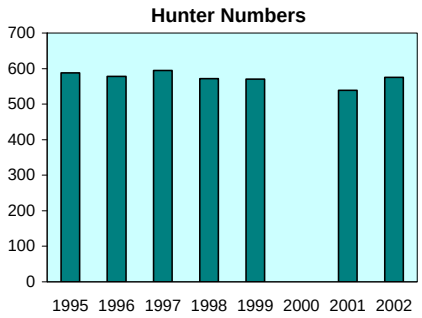
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	171	124	106	87	98	103	77	96
'A' Tag						0	0	0
'B' Tag						1	0	0
CH Tag	171	124	106	87	98	102	77	96
Antlered Harvest	99	108	129	97	117	128	113	137
'A' Tag						0	4	0
'B' Tag						4	3	0
CH Tag	99	108	129	97	117	124	106	137
Hunter Numbers	588	578	595	572	570	ND	539	575
'A' Tag						ND	7	11
'B' Tag						ND	27	20
CH Tag	588	578	595	572	570	ND	505	544
% 6+ Points	43	36	63	33	36	50	48	50

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



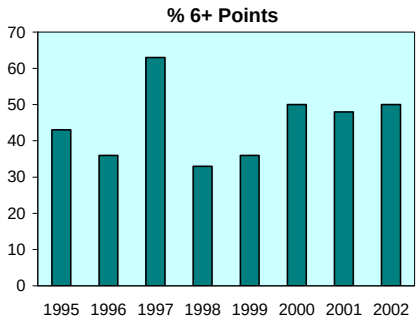


Figure 6. Hells Canyon Zone Status and Objectives

ELK CITY ZONE (UNITS 14, 15, 16)

Management Objectives

The objectives for the Elk City Zone are to establish a population of 3,900 cows and 850 bulls, including 475 adult bulls at ratios of 18-24 bulls:100 cows and 10-14 adult bulls:100 cows. The current cow harvest management strategy should allow that segment of the population to achieve its objective by 2006. B-tag sales were capped beginning with the 2002 hunting season to allow the bull segment of the population to reach objectives.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along the 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 20th century, creating vast brushfields that provided abundant forage areas for elk. Elk numbers increased following creation of these brushfields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of the brushfields 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 began rebuilding.

Habitat Issues

The prairie regions of this zone were converted to agriculture and ranching by the early settlers. In 1862, gold was discovered near the current location of Elk City in Unit 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 with mining activities to supply wood for the mines, but 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 Unit 16 was designated as a part of the Selway-Bitterroot Wilderness. In 1978, portions of Units 14 and 15 were included in the Gospel Hump Wilderness.

Landownership 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 is relatively high in comparison to most other Clearwater Region big game units. Productive conifer forests with intermixed grasslands characterize the majority of this zone. Many forested areas 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.

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

Biological Issues

Across the zone, cow elk are stable and bull elk are declining steadily, leading to a declining bull:cow ratio. Bull:cow ratios ranged between 12.9 and 13.6 on the 2000 surveys.

Historically, calf recruitment in Units 14 and 15 has been high, averaging 38 calves:100 cows from 1987 through 1993. However, the 2000 surveys revealed recruitment of 25 calves: 100 cows, suggesting that a decline in recruitment, similar to surrounding areas, may be occurring. Chronic low recruitment is a concern in Unit 16, which averaged 19 calves:100 cows from 1990 through 2000.

Interspecific Issues

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

Predation Issues

Mountain lion harvest in this zone has increased steadily over the past decade. Anecdotal information suggests a significant increase in mountain lion abundance. Black bear harvest has likewise increased over the past decade. Harvest is currently between 80 and 90 bears annually.

Wolves are well established in the zone. Pack activity has been confirmed in all three management units.

Winter Feeding Issues

Emergency winter feeding has not been conducted recently.

Information Requirements

All three units should be surveyed periodically to evaluate population performance relative to plan objectives.

Elk

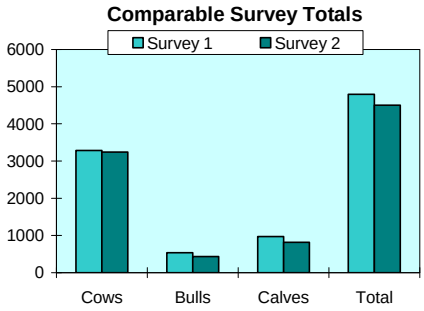
Elk City Zone (Units 14, 15, 16)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
14	2000	1640	223	96	1400 - 2000	300 - 450	150 - 250
15	2000	676	92	40	950 - 1450	200 - 300	100 - 175
16	2000	927	120	59	800 - 1200	175 - 250	100 - 150
Zone Total		**3243**	**435**	**195**	**3150 - 4650**	**675 - 1000**	**350 - 575**
Bulls per 100 Cows			**13**	**6**		**18 - 24**	**10 - 14**

Population Surveys

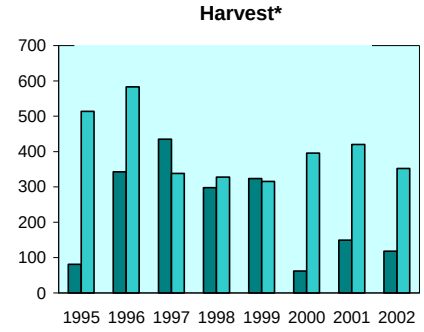
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
14	1993	1483	268	508	2259	2000	1640	223	446	2309
15	1998	923	162	303	1388	2000	676	92	170	945
16	1996	877	105	157	1148	2000	927	120	200	1246
Comparable Surveys Total		**3283**	**535**	**968**	**4795**		**3243**	**435**	**816**	**4500**
Per 100 Cows			**16**	**29**				**13**	**25**	



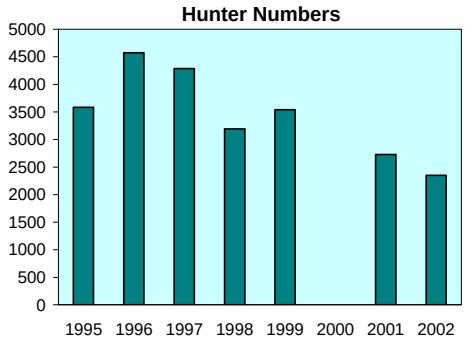
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	81	343	435	298	324	62	149	118
'A' Tag				6	103	91	117	83
'B' Tag				7		2	3	2
CH Tag	48	343	435	285	221	29	29	33
Antlered Harvest	514	583	338	328	316	396	420	352
'A' Tag				13	65	98	80	64
'B' Tag				315	251	291	339	286
CH Tag			1			6	1	2
Hunter Numbers	3585	4574	4285	3192	3540	ND	2726	2351
'A' Tag				271	723	ND	773	832
'B' Tag				2147	2062	ND	1907	1456
CH Tag	249	996	1124	774	755	ND	46	63
% 6+ Points	20	11	17	19	18	19	18	23

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



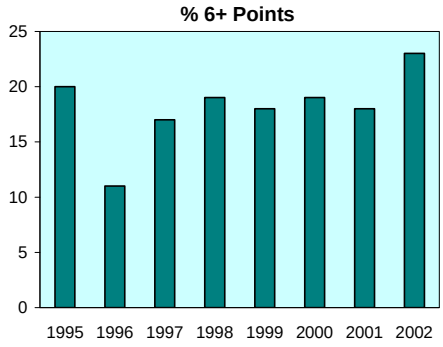


Figure 7. Elk City Zone Status and Objectives

SELWAY ZONE (UNITS 16A, 17, 19, 20)

Management Objectives

The objectives in the Selway Zone are to establish a population of 6,100 cows and 1,650 bulls, including 975 adult bulls at ratios of 25-29 bulls:100 cows and 15-18 adult bulls:100 cows.

Like the Lolo Zone, management of the Selway Zone elk population and setting appropriate population objectives presents a serious quandary. Calf recruitment has declined substantially and remains at low levels. Existing information suggests that both predation and density dependence (habitat limitations) could be causing this decline. If predation is the overwhelming factor, population goals should be set higher, and there should be little or no cow harvest. However, if density dependence is significant, goals should be set at a low level, and cow harvest should be at moderate levels (5-10%). Also, both factors may be contributing significantly, leading to some intermediate level of objectives. At present, it is not possible to determine the relative contribution of those effects. In the absence of that knowledge, the objectives were set at intermediate levels.

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.

Historical Perspective

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along the 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 20th century, creating vast brushfields that provided abundant forage areas for elk. Elk numbers increased following creation of these brushfields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of the brushfields 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 Selway River to dry, steep, south-facing ponderosa pine and grassland habitat along the Salmon River. Many areas along the 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 many low elevation areas frequented by elk.

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

Biological Issues

Sightability survey data, collected in this zone from 1987 through 2001, revealed declining numbers of adult elk and declining recruitment. Declining calf recruitment was initially detected in Units 16A and 17 in the 1995 surveys, while low recruitment was not observed in Units 19 and 20 until 1996. Composition surveys in Unit 17 during 2002 and 2003 revealed recruitment of 16 calves:100 cows, implying that recruitment remains low in the Selway Zone.

The winter of 1996-1997 was marked by severe conditions, including extremely deep snow exceeding 200% of average snowpack in some areas. These conditions apparently caused higher-than-normal winter mortality leading to a significant decline in the Unit 16A and 17 herds. The 1999 survey data suggest a 27% decline in adult elk over both units. The 2001 survey data suggest a significant decline in Unit 20 elk and a significant increase in Unit 19 elk. However, the fire activity during summer/fall 2000 may be responsible for significant changes in elk distribution among Units 19, 19A, 20, and 20A.

Interspecific Issues

The zone supports small, isolated white-tailed deer populations, low density mule deer populations, and moderate density moose populations. Moose have increased moderately over the past 20 years. Grazing by cattle is virtually nonexistent.

Predation Issues

Selway Zone mountain lion harvest has remained static for over the past decade. Black bear harvest is likewise stable. 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 or bear harvest. Recent trends in mountain lion and bear populations are questionable.

Wolves are well established in this zone. Anecdotal information suggests the presence of several packs.

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.

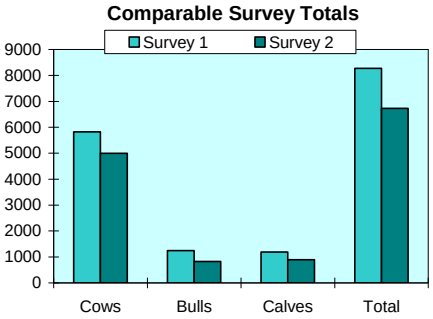
Elk
Selway Zone (Units 16A, 17, 19, 20)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
16A	1999	401	51	20	650 - 950	175 - 250	100 - 150
17	1999	2493	398	332	2400 - 3600	650 - 975	375 - 575
19	2001	1508	240	153	1050 - 1550	300 - 400	150 - 250
20	2001	596	138	96	800 - 1200	200 - 325	125 - 200
Zone Total		**4998**	**827**	**601**	**4900 - 7300**	**1325 - 1950**	**750 - 1175**
Bulls per 100 Cows			**17**	**12**		**25-29**	**14 - 18**

Population Surveys

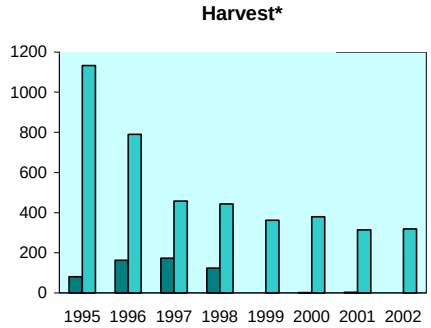
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
16A	1995	354	70	52	475	1999	401	51	86	539
17	1995	3447	721	764	4955	1999	2493	398	298	3188
19	1996	1149	182	243	1566	2001	1508	240	394	2142
20	1996	871	273	133	1277	2001	596	138	120	854
Comparable Surveys Total		**5821**	**1246**	**1192**	**8273**		**4998**	**827**	**898**	**6723**
Per 100 Cows			**21**	**20**				**17**	**18**	



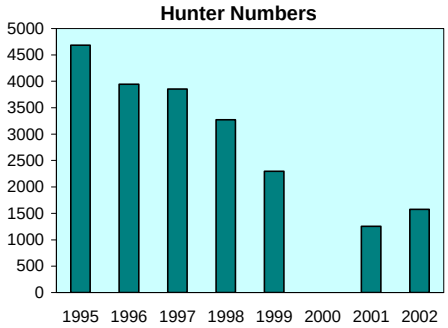
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	81	163	173	124	0	2	3	0
'A' Tag				124		2	0	0
'B' Tag						0	3	0
CH Tag	73	163	173			0	0	0
Antlered Harvest	1133	790	458	444	362	380	314	319
'A' Tag				78	78	73	84	66
'B' Tag				366	284	307	230	253
CH Tag		140	103			0	0	0
Hunter Numbers	4686	3943	3852	3273	2295	ND	1256	1577
'A' Tag				1430	650	ND	423	518
'B' Tag				1843	1645	ND	833	1059
CH Tag	190	1015	1364			ND	0	0
% 6+ Points	26	38	34	30	28	33	37	30

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



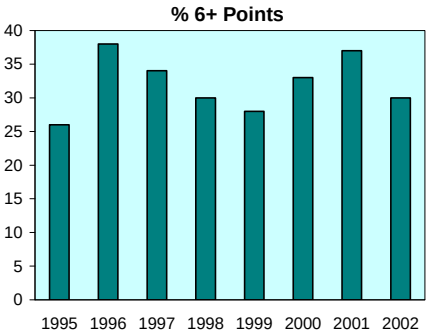


Figure 8. Selway Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	3	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

SOUTHWEST REGION, NAMPA

BOISE RIVER ZONE (UNIT 39)

Management Objectives

The objective for this zone is to maintain a population of 4,000+ cows and 800+ bulls, including 475+ adult bulls. The portion of the herd on the west side of the zone will be reduced to address significant landowner concerns about elk depredation. The bull:100 cow ratio will be maintained at the statewide minimum of 18-24, with 10-14 adult bulls:100 cows. This equates to maintaining the herd at its current level and providing for a harvest of 500+ bulls each year. Reducing harvest rates on bulls will be necessary to achieve the objectives for this zone.

Historical Perspective

Near the turn of the century, elk herds in the Boise River drainage were heavily harvested for hides and meat for the 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 herd has increased to over 5,000 head.

The interest in elk hunting in the Boise River Zone has increased right along with the growth in the elk population. This is now one of the top five elk units in the state with a harvest of nearly 1,000 bulls by 5,000 hunters.

Habitat Issues

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

There are large areas of private land on the west side of the unit in the Horseshoe Bend area. Landowners in this area have suffered significant damage to hay crops and private rangeland, especially in the spring. On the south side of the unit, winter and spring concentrations of elk have been in conflict with livestock operations. The urban sprawl of subdivisions and five-acre home-sites in the foothills around Boise have led to significant conflicts with wintering elk. The loss of winter range and conflicts with homeowners may be the most serious factor limiting elk populations in the 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 the summer and transition ranges have generally improved conditions for elk.

Biological Issues

The implementation of bulls-only hunting and a series of mild winters in the late 1980s has increased elk survival in this zone. Calf recruitment is fair to good with a ratio of 28-40 calves:100 cows. Bull harvest currently exceeds potential of bull calf recruitment. As an example, in 1997, 664 bulls were harvested and an estimated 550 bull calves were recruited.

Interspecific Issues

The Boise River Zone is also one of the top five mule deer hunting units in Idaho. The recent changes to the habitat have favored elk. The winter survey flights show the separation of wintering deer and elk. The mule deer are not using some of the wintering areas that were used when there was a lower elk population in the 1960s.

Predation Issues

Black bear and mountain lion populations are well established and apparently stable in the Boise River Zone. The mountain lion population is well above the levels of the 1950s. Wolves were reintroduced in Idaho in 1995 and, on occasion, have been on the northern edges of this zone. Wolves are not likely to be a significant factor for elk in the unit.

Winter Feeding Issues

Winter feeding sites were maintained along the 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. The native range has the capability to support the current elk herd in nearly all situations.

Information Requirements

This large unit contains both winter and summer range for this elk herd. The current sightability surveys provide excellent information on the status of the entire herd. The most pressing need is an evaluation of the impact of elk on the availability of rangeland forage to livestock.

Elk
Boise River Zone (Unit 39)

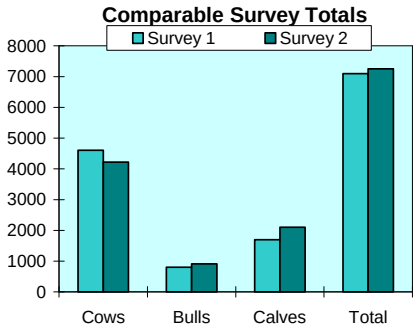
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
39	2002	4222	677	529	3200 - 4800	650 - 950	375 - 575
Zone Total		**4222**	**677**	**529**	**3200 - 4800**	**650 - 950**	**375 - 575**
Bulls per 100 Cows			**16**	**13**		**18 - 24**	**10 - 14**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
39	2000	4600	799	1696	7098	2002	4222	908	2106	7254
Comparable Surveys Total		**4600**	**799**	**1696**	**7098**		**4222**	**908**	**2106**	**7254**
Per 100 Cows			**17**	**37**				**17**	**50**	

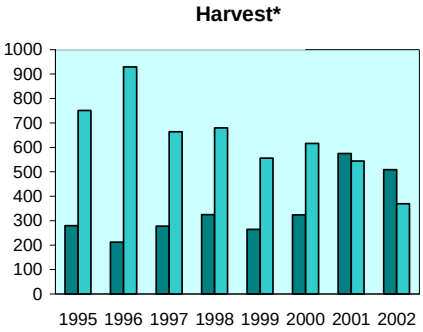
Note: ND = no survey data available.



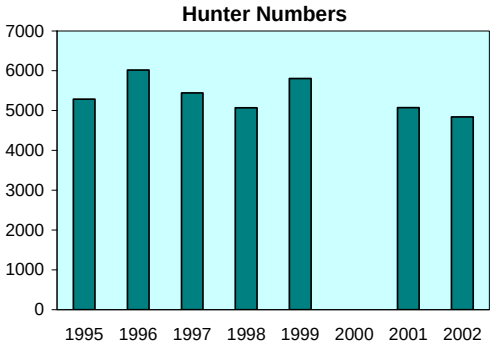
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	279	212	278	325	265	323	575	509
'A' Tag					0	9	53	47
'B' Tag					13	2	6	1
CH Tag					252	312	516	461
Antlered Harvest	751	929	664	679	556	616	544	369
'A' Tag					46	15	11	3
'B' Tag					510	590	513	345
CH Tag					0	11	20	21
Hunter Numbers	5284	6016	5446	5069	5806	ND	5076	4842
'A' Tag					799	ND	507	550
'B' Tag					4441	ND	3450	2769
CH Tag					566	ND	1119	1523
% 6+ Points	32	19	16	22	19	22	27	18

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



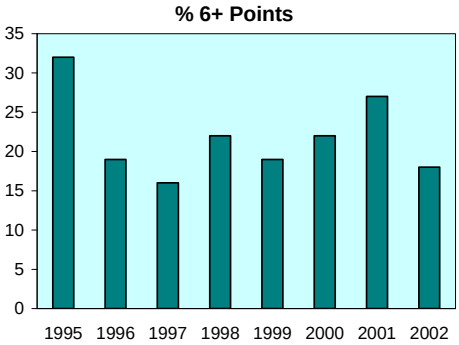


Figure 9. Boise River Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	3, McCall	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

SOUTHWEST REGION, MCCALL

MCCALL ZONE (UNITS 19A, 23, 24, 25)

Management Objectives

The objective for this zone is to maintain a population of 3,075+ cow and 665+ bull elk, including 375+ adult bulls. This zone will be managed to produce the 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 the concerns about depredation damage, the desire for a reasonably large elk population, and concern about habitat-carrying capacity. Overall bull numbers and bull:cow ratios can be expected to decrease, but remain above the statewide minimums. The decrease in bulls will be due to increased hunter numbers and harvest as the zone absorbs some of the hunters displaced from other zones. Increases in road density will also affect elk vulnerability in the near future. Harvest mortality is not expected to increase in this zone initially; however, as management changes in other zones displace hunters, harvest rates may need to be adjusted.

Historical Perspective

Elk were abundant in the 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 the 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 the McCall Zone. This increase has continued to the present day peaks in elk populations.

Habitat Issues

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

Timber harvest and livestock grazing affect habitat change on the public lands on the west side of the 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. The federal land management agencies (USFS and BLM) have active prescribed burning programs that should maintain good winter range habitat for elk in the McCall Zone. Noxious weed invasion, specifically from spotted knapweed (*Centaurea maculosa*) and yellow starthistle (*Centaurea solstitialis*), is a threat to winter ranges in the Little Salmon River and Salmon River drainages of Unit 23. Elk/human conflicts occur during the summer and fall months when elk enter agricultural fields in the valley bottoms to forage.

Road building and its subsequent negative effect on elk vulnerability is a habitat concern facing this elk population. Road densities are estimated at less than 0.25 miles per square mile in Units 19A and 25. Road densities in Units 23 and 24 are estimated at greater than 2.5 miles per square mile. Active timber harvest programs are anticipated to dramatically increase these road densities in the near future.

Biological Issues

The McCall Zone elk population performed well from the mid-1980s to early 1990s. Since then, calf production has declined from 30+ calves:100 cows to poor (24 calves:100 cows) in Unit 19A, and Unit 23 calf production has remained stable in the 30+ calves:100 cows range. Bull:cow ratios have remained high in this zone due to the relatively low hunting pressure and low road densities.

Interspecific 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 occurs 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

Black bear and mountain lions are prevalent in the McCall Zone. Bears are at a moderate but stable level and mountain lions are thought to be at the highest number in recent history. There is no evidence as to the extent these species prey on elk in this zone. Wolves, introduced in Idaho's backcountry in 1995, make periodic predatory appearances in the eastern half of the

zone. Predation by wolves is considered insignificant at this time; however, as packs continue to establish, frequency of wolf predation in the eastern half of the zone will likely increase.

Winter Feeding Issues

The remote location of most of the winter range in this zone precludes large-scale winter feeding. In severe winters, some feeding has occurred in Unit 24. The Goldfork bait site was established in 1985 to bait elk out of winter livestock feeding operations. Approximately 75 tons of hay is supplied by the Department annually to feed 80-120 elk.

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 three potential predators on elk production is largely unknown. Information is lacking on the migration routes and patterns of elk in this zone.

Elk
McCall Zone (Units 19A, 23, 24, 25)

Winter Status & Objectives

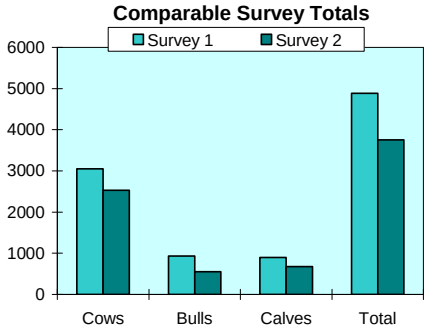
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
19A	2001	469	158	131	750 - 1150	150 - 250	100 - 150
23	2001	1381	220	119	1050 - 1550	225 - 325	125 - 175
24		(50)	(10)	(5)	0	0	0
25	2001	678	174	154	700 - 1000	150 - 225	75 - 125
Zone Total		**(2578)**	**(562)**	**(409)**	**2450 - 3700**	**525 - 800**	**300 - 450**
Bulls per 100 Cows			**(22)**	**(16)**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
19A	1998	939	242	214	1392	2001	469	158	146	773
23	1997	1280	352	489	2121	2001	1381	220	402	2003
24	ND					ND				
25	1998	832	340	196	1369	2001	678	174	124	976
Comparable Surveys Total		**3051**	**934**	**899**	**4882**		**2528**	**552**	**672**	**3752**
Per 100 Cows			**31**	**29**				**22**	**27**	

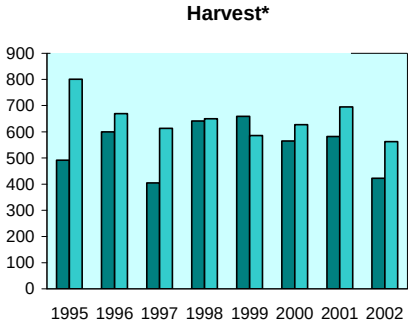
Note: ND = no survey data available.



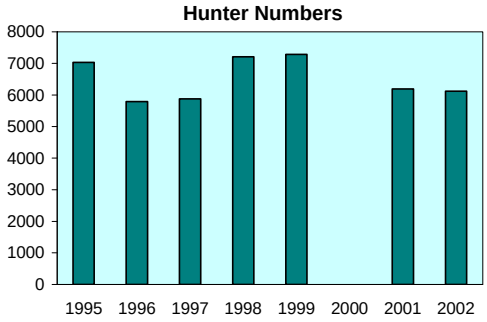
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	491	600	405	641	659	565	582	423
'A' Tag				138	172	71	101	67
'B' Tag				7	0	2	4	1
CH Tag				496	487	492	477	355
Antlered Harvest	801	669	613	650	586	627	695	562
'A' Tag				197	120	167	230	190
'B' Tag				445	464	436	423	363
CH Tag				8	2	24	42	9
Hunter Numbers	7032	5788	5872	7208	7284	ND	6188	6120
'A' Tag				2039	1965	ND	1652	1680
'B' Tag				3735	3894	ND	3165	3094
CH Tag				1434	1425	ND	1371	1346
% 6+ Points	33	44	25	37	24	31	31	27

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



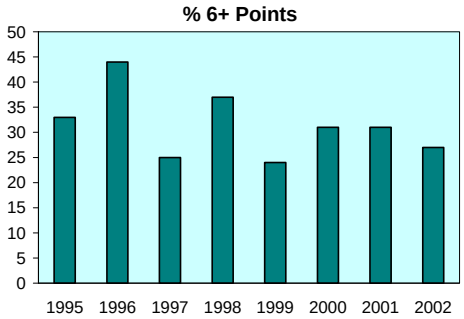


Figure 10. McCall Zone Status and Objectives

WEISER RIVER ZONE (UNITS 22, 32, 32A)

Management Objectives

The goal for this zone is to reduce cow elk population levels to 2,700+ elk. Most antlerless elk reduction will occur in Units 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 the short term, the reduction of antlerless elk will result in an increase in controlled antlerless elk permits. As herds are reduced and population levels are stabilized, permit levels will decrease. This zone will be managed to produce the statewide minimums for bull:cow ratio (18-24 bulls:100 cows) and adult bull:cow ratio (10-14 adult bulls:100 cows). A large decrease in harvest mortality will be necessary to increase the bull numbers in this zone. A postseason bull population of 550+ including 315+ adult bulls is the objective for this zone. A harvest of 400+ bulls can be sustained each year.

Historical Perspective

Elk were present in the Weiser River Zone prior to European settlement in the mid-1800s. Native American tribes hunted elk for food in the Weiser River drainage. As in other areas in Idaho, the 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 the McCall Zone on the periphery of the 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 the Weiser River Zone. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the 1970s. Unit 22 became a controlled either-sex hunt in 1971. This unit reopened to general bulls-only hunting in 1977. The implementation of bulls-only hunting spurred an increase in elk populations in the Weiser River Zone.

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

Habitat Issues

About 60% of Units 22 and 32A and 20% of Unit 32 is in public ownership and management. Private land predominates the western portion of Unit 32 and the Weiser River valley of Units 22 and 32A. Agricultural products are primarily dryland grazing, grain production, and hay fields.

Timber harvest, livestock grazing, and prescribed fires are the preponderant methods 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 Unit 22, but mostly on private ground in Units 32 and 32A. Noxious weed invasion, such as yellow starthistle (*Centaurea solstitialis*) and whitetop (*Cardaria draba*), is a threat to winter range habitat. The Andrus Wildlife Management

Area in the southwest portion of Unit 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 the 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 the near future.

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

Biological Issues

The Weiser River Zone contains a highly productive elk population. Calf production averages well over 40 calves:100 cows. Bull:cow ratios are low (15 bulls:100 cows) due to the high vulnerability of the open-canopied, heavily-roaded habitat. Even with the good calf production, harvest of bulls is at or exceeds production.

Interspecific Issues

Elk compete zone-wide with mule deer for habitat. Intensive domestic sheep and cattle grazing occurs 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 the Weiser River Zone. There is no indication that predation is having an impact on elk calf recruitment or survival of elk in this zone. 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 the Weiser River Zone. Most elk feeding operations have been to bait elk away from livestock feeding operations.

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 the 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 interspecific competition is needed.

Elk
Weiser River Zone (Units 22, 32, 32A)

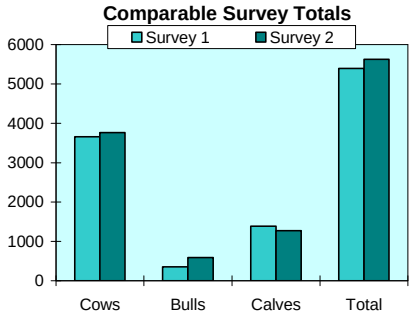
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
22	2000	1480	224	91	1100 - 1700	250 - 350	125 - 200
32	2000	1141	263	128	325 - 475	50 - 100	40 - 60
32A	2000	1147	102	19	700 - 1100	150 - 200	75 - 125
Zone Total		**3768**	**589**	**238**	**2125 - 3275**	**450 - 650**	**240 - 385**
Bulls per 100 Cows			**16**	**6**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

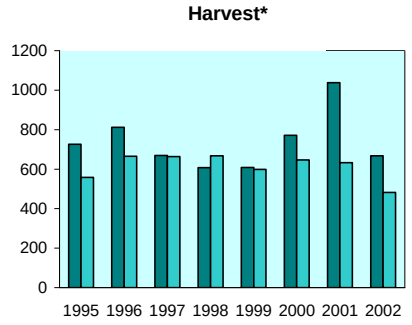
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
22	1997	1875	174	861	2911	2000	1480	224	515	2219
32	1991	875	91	192	1157	2000	1141	263	495	1899
32A	1994	909	88	331	1329	2000	1147	102	259	1508
Comparable Surveys Total		**3659**	**353**	**1384**	**5397**		**3768**	**589**	**1269**	**5626**
Per 100 Cows			**10**	**38**				**16**	**34**	



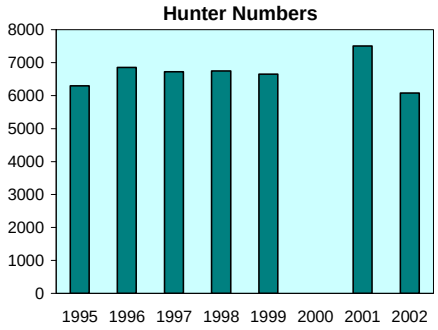
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	726	812	670	608	609	772	1038	668
'A' Tag				58	48	80	472	136
'B' Tag				0	6	1	5	6
CH Tag				550	555	691	561	526
Antlered Harvest	558	666	664	668	598	647	633	482
'A' Tag				159	153	91	97	90
'B' Tag				509	445	522	496	362
CH Tag				0	0	34	40	30
Hunter Numbers	6296	6858	6725	6746	6649	ND	7503	6079
'A' Tag				1244	1123	ND	2235	1398
'B' Tag				3599	3571	ND	2586	2757
CH Tag				1903	1955	ND	2682	1924
% 6+ Points	13	15	15	24	18	19	16	16

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



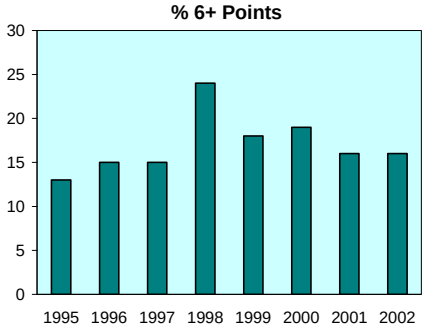


Figure 11. Weiser River Zone Status and Objectives

BROWNLEE ZONE (UNIT 31)

Management Objectives

The objective for this zone is to maintain a population of 700+ cow and 140+ bull elk, including 75+ adult bulls. This zone will be managed to produce the 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 the need to sustain a reasonably large elk population. The current harvest of 30-50 bulls per year by permit is expected to be maintained. Intense controlled antlerless hunting and animal displacement have this population below current objectives. Controlled hunt harvest opportunity will remain similar to current levels until this population increases again. General hunting opportunity was increased with the implementation of a spike-only A-tag season in 1998. General antlerless or any-bull hunting opportunity is unlikely, due to the inherent vulnerability of elk in this habitat.

Historical Perspective

Elk were present in the Brownlee Zone prior to European settlement in the mid-1800s. Native American tribes hunted elk for food in the Weiser River drainage. As in other areas in Idaho, the 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 the 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 the Brownlee Zone. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the late 1960s. Unit 31 was closed to elk hunting in 1968. The unit reopened to controlled hunting in 1976. Protected by conservative bull-only permits, 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 the Brownlee Zone is in public ownership and management. Private land predominates the southern and eastern portions of the unit. Agricultural products are primarily dryland grazing and hay fields. Higher elevations are timbered, lower elevations are primarily shrub-steppe or desert.

Timber harvest, livestock grazing, and prescribed fires are the preponderant methods affecting habitat change in this zone. Most forested habitat is in the early to mid-successional stage. Winter ranges occur primarily on public ground. Noxious weed invasion, such as yellow starthistle (*Centaurea solstitialis*) and whitetop (*Cardaria draba*), is a threat to winter range habitat. The Andrus Wildlife Management Area 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 the summer and fall months when elk enter agricultural fields in the valley bottoms to forage.

Extensive road building from past timber harvest and mining activities contribute to the 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 the near future.

Biological Issues

Since the mid-1980s, elk populations in this zone have performed well. Calf production is good, at greater than 35:100 cows on average. Elk have not reached their habitat potential in this zone, but have reached a threshold of tolerance among user groups concerned.

Interspecific Issues

Elk compete zone-wide with mule deer for habitat. Intensive domestic sheep and cattle grazing occurs 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 low to moderate numbers in the Brownlee Zone. There is no evidence these species have an effect on the elk population in this zone. Coyotes are common, but are not known to have much effect on elk populations.

Winter Feeding Issues

Winter feeding in the Brownlee Zone is an extremely rare event. 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 maintain optimum productivity and harvest. Information is lacking on the migration routes and patterns of elk in this zone and interaction with elk in the adjacent Weiser River Zone. A population survey concurrent with the adjacent Weiser River Zone is needed. Knowledge of interspecific competition is needed.

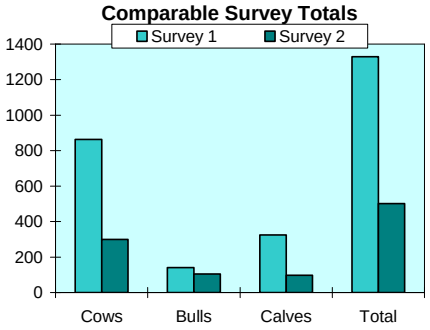
Elk
Brownlee Zone (Unit 31)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
31	2000	299	104	72	550 - 850	125 - 175	50 - 100
Zone Total		**299**	**104**	**72**	**550 - 850**	**125 - 175**	**50 - 100**
Bulls per 100 Cows			**35**	**24**		**18 - 24**	**10 - 14**

Population Surveys

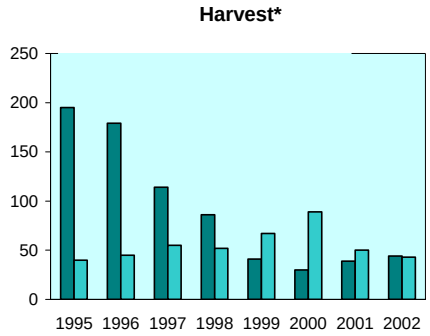
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
31	1993	863	141	325	1329	2000	299	104	98	501
Comparable Surveys Total		**863**	**141**	**325**	**1329**		**299**	**104**	**98**	**501**
Per 100 Cows			**16**	**38**				**35**	**33**	



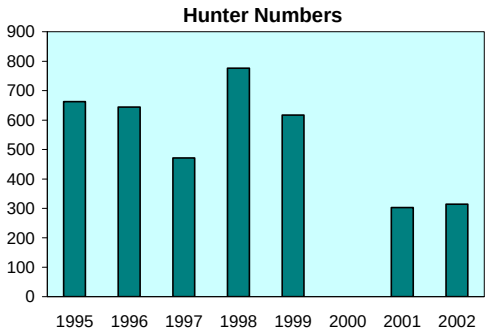
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	195	179	114	86	41	30	39	44
'A' Tag				7	0	0	4	0
'B' Tag				0	0	0	0	0
CH Tag				80	41	30	35	44
Antlered Harvest	40	45	55	52	67	89	50	43
'A' Tag				20	31	39	14	10
'B' Tag				0	0	7	1	0
CH Tag				32	36	43	35	33
Hunter Numbers	663	644	471	776	617	ND	303	314
'A' Tag				316	251	ND	120	106
'B' Tag				0	0	ND	16	10
CH Tag				460	366	ND	167	198
% 6+ Points	43	61	35	45	32	35	43	32

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



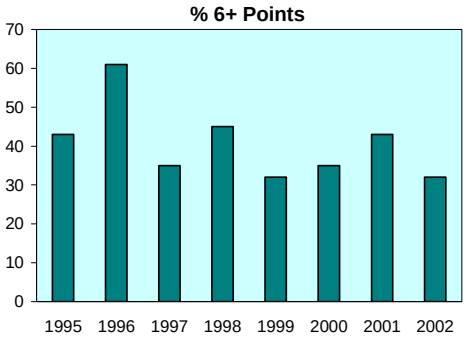


Figure 12. Brownlee Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	4	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

MAGIC VALLEY REGION

PIONEER ZONE (UNITS 36A, 49, 50)

Management Objectives

The objective for this zone is to stabilize elk herds at slightly reduced levels (about 4,200 cows and 1,350 bulls) to maintain herd productivity and to minimize potential impacts on mule deer. This zone will continue to be managed to produce very high bull:cow ratios (30-35 bulls: 100 cows postseason) and many mature bulls (18-22 bulls ≥3 years old:100 cows).

Historical Perspective

Elk abundance was low in the Pioneer Zone through much of the 20th century. These units 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 9,000 elk, an increase of about 40% (3,700 elk) since the early 1990s.

Around 4,000 people hunt in the Pioneer Zone each year since adoption of the dual-tag zone system in 1998. Conservative bull harvest management has produced exceptional bull:cow ratios and a reputation for large mature bulls. The controlled bull hunts in this zone have become very desirable; rifle permits are in high demand and difficult to draw. The area's reputation for many mature bulls has also made this zone a very attractive archery hunt.

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. Elk depredations on agricultural crops are common and are especially pronounced in dry years.

In some areas, elk winter in mature stands of mountain mahogany, which appears relatively stagnant and unproductive. 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 Unit 49 have severely reduced winter elk habitat. Continued development on the remaining winter ranges will reduce elk carrying capacity in the unit. Changes in land ownership in Unit 50 are making it difficult to manage depredation problems.

Biological Issues

Elk populations have been increasing steadily since the mid-1970s. Liberal antlerless permits have been offered to stabilize population growth rates but some depredation problems continue to exist.

Recruitment measured through sightability surveys indicate most populations are reproducing at moderate levels (30-40 calves:100 cows). Bull:cow ratios remain at very high levels (≥35 bulls:100 cows).

Interspecific Issues

Current high elk densities may be having some impact on deer populations.

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 the Pioneer Zone. Mountain lion densities are low to moderate and appear to have increased in recent years, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations. Wolves reintroduced by the U.S. Fish and Wildlife Service (USFWS) in central Idaho in 1995 are established in the Pioneer Zone. They may become a significant factor in elk distribution and population demographics and may displace other predators through competitive interactions.

Winter Feeding Issues

No Department-sponsored feeding facilities exist in this zone; however, artificial feeding of elk by private citizens in Unit 49 is an annual occurrence. 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.

Information Requirements

Impacts of elk on mule deer winter range are occurring and may be a limiting factor for mule deer populations. 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. Additionally, if wolves become a significant factor in elk ecology, better information regarding impacts to hunting opportunity would be beneficial.

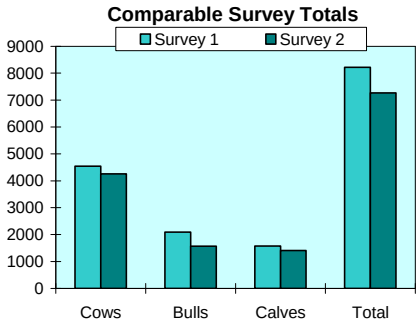
Elk
Pioneer Zone (Units 36A, 49, 50)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
36A	2000	2126	595	353	1050 - 1550	300 - 500	200 - 300
49	2001	1108	544	357	1350 - 2050	500 - 700	300 - 400
50	2000	1026	431	297	950 - 1450	300 - 500	200 - 300
Zone Total		**4260**	**1570**	**1007**	**3350 - 5050**	**1100 - 1700**	**700 - 1000**
Bulls per 100 Cows			**37**	**24**		**30 - 35**	**18 - 22**

Population Surveys

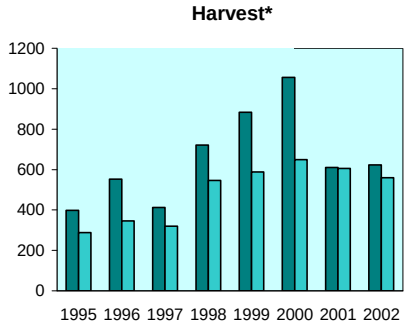
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
36A	1994	1474	757	393	2624	2000	2126	595	602	3322
49	1998	2043	888	815	3746	2001	1108	544	341	1993
50	1999	1027	450	372	1849	2000	1026	431	464	1949
Comparable Surveys Total		**4544**	**2095**	**1580**	**8219**		**4260**	**1570**	**1407**	**7264**
Per 100 Cows			**46**	**35**				**37**	**33**	



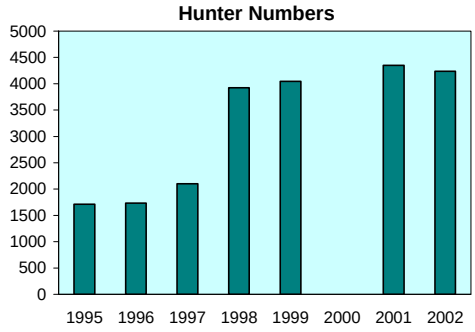
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	398	553	412	721	884	1056	610	623
'A' Tag				44	511	109	67	72
'B' Tag				0	0	0	1	0
CH Tag				677	373	947	542	551
Antlered Harvest	288	346	320	546	589	649	605	560
'A' Tag				230	262	268	247	196
'B' Tag				0	0	1	2	0
CH Tag				316	327	380	356	364
Hunter Numbers	1714	1732	2101	3922	4043	ND	4351	4239
'A' Tag				1660	2346	ND	1607	1483
'B' Tag				0	0	ND	29	14
CH Tag				2262	1697	ND	2715	2742
% 6+ Points	47	63	39	37	32	49	41	43

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



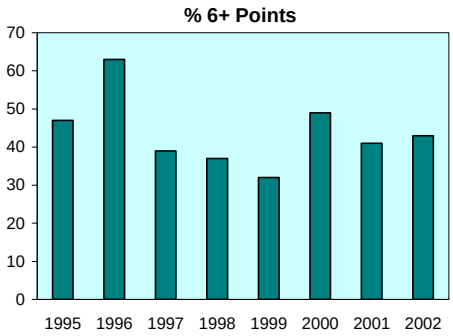


Figure 13. Pioneer Zone Status and Objectives

OWYHEE-SOUTH HILLS ZONE (UNITS 38, 40, 41, 42, 46, 47, 54, 55, 57)

Management Objectives

The objective in this zone is to provide additional hunting opportunity commensurate with the increased elk population. Harvest management will emphasize the opportunity to harvest a mature bull.

The nine management units 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, up or down, to address issues that may arise. In Unit 54, surveys will be initiated to provide data on which to assess population status.

Historical Perspective

During the late 1800s, elk in the Owyhee-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 20th century but began to increase in the 1990s. Recently, ingress from the rapidly growing northern Nevada elk population and natural reproduction have both contributed to herd growth. Presently (2002), there are an estimated 850 elk in the zone.

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. Transplants 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 current population (2002) is estimated to be 2,260 head with a management cap of 4,480 elk.

Units 38, 40, 41, and 42 - During the 1970s, a few hundred elk inhabited Units 40 and 42. By the mid-1990s, this elk herd had increased to about 600 head and is presently (2002) estimated at approximately 450 head. Elk in Units 40, 41, and 42 use seasonal habitats in Nevada and Oregon. In Units 40 and 42, most elk move to winter ranges in Oregon and long distance interstate movements have been documented. One elk calf tagged in Baker, Oregon was harvested as an adult near Murphy, Idaho, over 175 miles away. In Unit 41, elk that winter east of Highway 51 move south to summer ranges in Nevada, although an increasing number are staying in Unit 41 year-long. Most of these elk originated from a reintroduction program conducted by NDOW and the Rocky Mountain Elk Foundation (RMEF) in the Bruneau River drainage in Nevada. One of the released elk was harvested in Unit 46 southwest of Castleford, Idaho, over 50 miles from the Nevada release site.

Units 46, 47, 54, 55, and 57 - Elk numbers in these units 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 Unit 54. Following the release, elk numbers increased only slightly. In 1950, there were approximately 60 elk wintering in Unit 54. Hunting seasons were authorized from 1963-1966 (5-15 permits) but were discontinued because of low success. In 1990, the Magic Valley RMEF

chapter proposed releasing elk into Unit 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 transplants. Although reliable estimates of elk numbers are currently unavailable, the population in Units 46, 47, 54, 55, and 57 in 2002 was estimated between 250 and 350 head, exceeding the 1998 objective. Elk hunting was authorized in Units 46, 47, and 54 in 2002 with 15 either-sex archery permits, 15 any-weapon antlered permits, and 15 any-weapon antlerless permits. Similar hunting seasons were authorized for 2003 except that the antlerless hunt was increased from 15 to 40 permits.

Because these management units have not traditionally been managed to maintain a resident elk population, the Department scoped three 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 overwhelming 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. Specifically, ranchers were concerned about elk use on private meadows in August and September and possible future reductions in AUMs on federal lands because of elk.

Habitat Issues

The Owyhee-South Hills Zone is comprised of nine management units, which have varying degrees of potential for supporting elk populations. Habitat quality varies considerably between units, as does the potential for depredation problems.

The Bureau of Land Management (BLM) manages the majority of elk habitat in Owyhee County. However, small parcels of private property include habitats that receive substantial elk use. The number of Landowner Appreciation Permits has been increased in Units 40 and 42 to provide landowners the opportunity to harvest some of the elk that utilize their property.

In Units 46, 47, 54, 55, and 57, the U.S. Forest Service (USFS) and BLM manage the majority of elk habitat. Habitat conditions are currently suitable for supporting substantially higher numbers of elk. A large amount of the 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 the 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. 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 units currently exceed the population objectives established in 1998, no major biological issues have been identified.

Interspecific Issues

The Owyhee-South Hills Zone has traditionally had a large population of mule deer, although deer numbers have declined during the past decade from changes in habitat and the effects of drought and severe winters. The current, small elk population has had no impact on mule deer numbers.

Conflicts between elk and livestock have had a major influence on elk management in portions of Owyhee County. The concentration of elk on the private land holdings in western Owyhee County has created significant depredation problems. The landowners' major concerns are damage to fences and loss of private rangeland forage. Currently, there are no elk depredation problems in this zone east of the Bruneau River but the potential exists. Depredations that occur will be dealt with aggressively 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 the 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 lions are the primary predator on elk. Lion numbers have declined during the past 10 years concurrent with deer population declines. 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 will be reduced to resolve the problem.

Information Requirements

To effectively manage elk in this zone, population surveys will be conducted to identify seasonal habitat use areas and provide data on elk status and trend - especially in those units where population increases are expected (Units 46, 47, and 54). Current estimates are based on reports from ranchers, biologists, and hunters but better data will be necessary for management of anticipated higher numbers.

Elk

Owyhee - South Hills Zone (Units 38, 40, 41, 42, 46, 47, 54, 55, 57)

Winter Status & Objectives

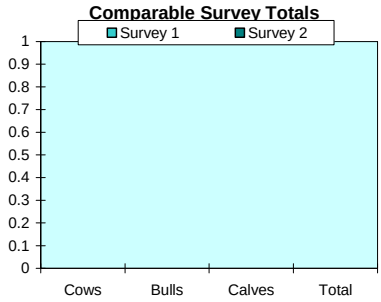
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
38		(0)	(0)	(0)	0	0	0
40		(150)	(40)	(25)	125 - 175	20 - 40	15 - 25
41		(155)	(45)	(20)	25 - 75	5 - 15	5 - 10
42		(175)	(70)	(40)	150 - 200	25 - 50	15 - 25
46		(10)	(5)	(3)	5 - 15	1 - 10	1 - 5
47		(20)	(10)	(5)	15 - 25	1 - 10	1 - 5
54		(150)	(50)	(30)	20 - 30	1 - 10	1 - 5
55		(20)	(10)	(5)	15 - 25	1 - 10	1 - 5
57		(20)	(10)	(5)	15 - 25	1 - 10	1 - 5
Zone Total		**(700)**	**(240)**	**(133)**	**370 - 570**	**55 - 145**	**40 - 85**
Bulls per 100 Cows			**(33)**	**(18)**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
1	ND					ND				
2	ND					ND				
3	ND					ND				
4	ND					ND				
4A	ND					ND				
5	ND					ND				
6	ND					ND				
7	ND					ND				
9	ND					ND				
Comparable Surveys Total		**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**
Per 100 Cows										

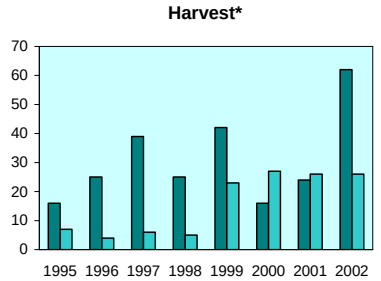
Note: ND = no survey data available.



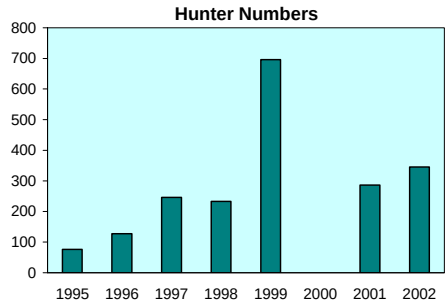
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	16	25	39	25	42	16	24	62
'A' Tag					13	1	2	44
'B' Tag						2	0	0
CH Tag				25	29	13	22	18
Antlered Harvest	7	4	6	5	23	27	26	26
'A' Tag					20	7	2	0
'B' Tag						2	3	0
CH Tag				5	3	18	21	26
Hunter Numbers	76	127	246	233	696	ND	286	345
'A' Tag					457	ND	25	19
'B' Tag						ND	21	21
CH Tag				233	239	ND	240	305
% 6+ Points	25	67	60	50	0	56	58	72

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



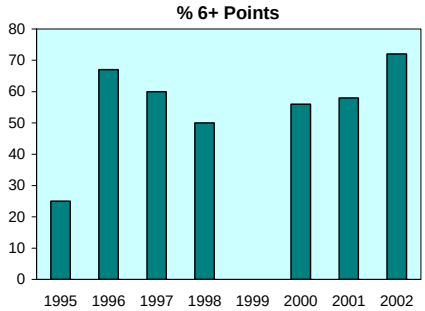


Figure 14. Owyhee-South Hills Zone Status and Objectives

SMOKY MOUNTAINS ZONE (UNITS 43, 44, 48)

Management Objectives

The objective in this zone is to establish a population of 2,300+ cows and 700+ bulls, including 475+ adult bulls, at ratios of 30-35 bulls:100 cows and 18-22 adult bulls:100 cows. The management objective balances depredation concerns in Unit 44 and feed site capacity in Units 43 and 48 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 adequate adult bulls to sustain quality elk populations. Currently, objectives for bull:cow ratios and adult bull:cow ratios are within established goals while population levels are below goals.

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 had been all but eliminated and deer observations were rare in the Boise River Basin and Big Wood River drainage.

In 1915, the Department began a reintroduction effort 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. Elk populations increased steadily during the 1950s and 1960s and controlled hunts were used to manage the harvest. Supplemental winter feeding of elk by the Department and private interests has occurred in this zone since the initial releases.

Habitat Issues

Primary spring, summer, and fall habitats throughout the zone are managed by the USFS, and winter ranges are a mixture of USFS, BLM, and private lands. Suitable winter ranges in Units 43 and 44 are very limited. Because of this, nearly annual supplemental feeding must take place to sustain these populations. In Unit 43, the South Fork Boise River corridor is critical for elk that winter away from established feed sites. In Unit 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 Unit 48.

Habitat productivity has probably improved on federal lands in recent years because of reductions in domestic sheep grazing and regrowth of shrubs in areas with timber harvest. However, suppression of fire throughout much of this century has probably 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.

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.

In Unit 43, high road densities from past timber harvest activities have increased elk vulnerability during the hunting seasons. Seasonal road closures have been instituted by the USFS to increase elk escapement and mitigate for the high road densities. However, oversnow recreational pursuits (snowmobiling, backcountry skiing, summer home access) potentially pose a serious threat to wintering elk and could hamper the Department's ability to achieve population goals.

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 this period has begun to stabilize population growth.

Production, measured through sightability surveys and herd composition surveys at feed sites, indicate most populations are reproducing at sustainable levels (40 calves:100 cows). However, at some feed sites in the South Fork Boise River (Unit 43), observed reproductive performance is lower (32 calves:100 cows). No determination has been made as to the cause of this lower production.

Interspecific Issues

The zone supports a substantial population of mule deer; a few 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. Elk remain within the zone during winter whereas most deer migrate to winter ranges in Units 45 and 52, minimizing potential competition during the critical winter months.

Cattle and domestic sheep have imposed the major 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 the historic use and competitive concerns remain but tend to be more localized.

Predation Issues

Black bear populations have remained relatively static over time whereas mountain lion numbers probably increased in the late 1980s and early 1990s following increases in mule deer and elk populations. Recently, wolves have been documented in the Big Wood River (Unit 48) and South Fork of the Boise River drainages. Once established, they will become a potential predator on elk and may displace other predators through competitive interactions. Predation is

currently not considered to be an important factor in the sustainability of elk populations in this zone.

Winter Feeding Issues

Winter feeding is the most contentious issue related to elk in this zone. The Department has five Commission-approved feed sites located in Units 43 and 48. These are the only elk feed sites in Idaho formally sanctioned by the Commission. Unsanctioned private feeding also occurs at as many as nine locations in Unit 48 and two locations in Unit 44 during many winters.

Elk feeding has become a "tradition" in Unit 43 with near annual feeding operations being conducted. Without supplemental winter feeding, elk numbers in Unit 43 would probably be less than half of current numbers. Currently, the elk population in Unit 43 is managed at a level that is compatible with the capacity of the four feed facilities (approximately 1,100 head). Recent discoveries of Brucellosis at "emergency" feed sites in the Upper Snake Region may influence future management of this elk population.

Unit 48 has one Department-sanctioned feed site in the Warm Springs Creek drainage. It is not necessary to sustain the population, but was set up to short-stop 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 whether it is warranted or not.

Information Requirements

More detailed information is needed on 1) the effects of concentrating elk for feeding purposes (i.e., are diseases present in fed elk and what is the relationship between feeding and low observed calf ratios); 2) the movement patterns of fed elk to improve harvest management; and 3) more frequent sightability surveys to monitor population trends and age and sex ratios. 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 Mountains Zone (Units 43, 44, 48)

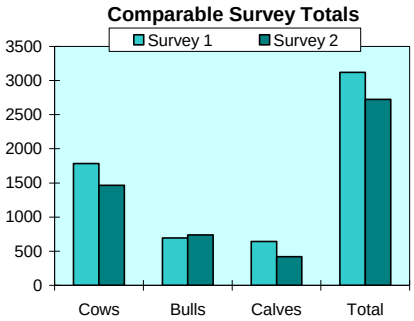
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
43	2002	867	420	253	1350 - 2000	425 - 650	275 - 400
44	2002	250	138	103	150 - 250	50 - 75	30 - 50
48	2002	350	179	140	375 - 550	125 - 175	75 - 125
Zone Total		**1467**	**737**	**496**	**1875 - 2800**	**600 - 900**	**380 - 575**
Bulls per 100 Cows			**50**	**34**		**30 - 35**	**18 - 22**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
43	2000	1040	292	340	1672	2002	867	420	241	1629
44	2000	250	157	80	487	2002	250	138	94	481
48	1999	493	245	224	962	2002	350	179	86	615
Comparable Surveys Total		**1783**	**694**	**644**	**3121**		**1467**	**737**	**421**	**2725**
Per 100 Cows			**39**	**36**				**50**	**29**	

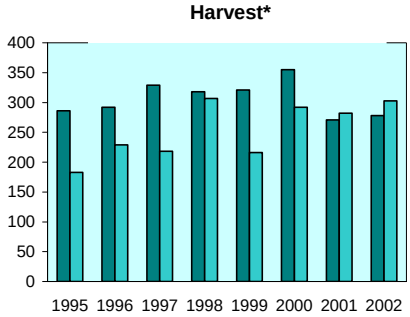
Note: ND = no survey data available.



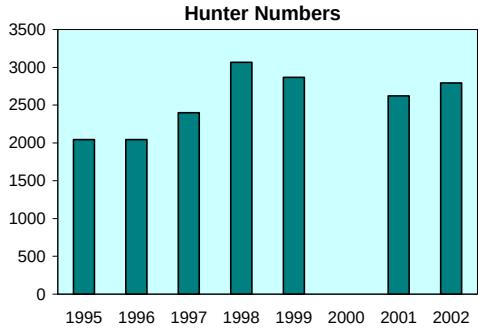
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	286	292	329	318	321	355	271	278
'A' Tag				6	26	9	10	5
'B' Tag						0	1	0
CH Tag	286	292	329	312	295	346	260	273
Antlered Harvest	183	229	218	307	216	292	282	303
'A' Tag				102	46	82	81	72
'B' Tag						1	3	0
CH Tag	183	229	218	205	170	209	198	231
Hunter Numbers	2045	2045	2400	3065	2866	ND	2622	2791
'A' Tag				861	739	ND	740	773
'B' Tag						ND	27	20
CH Tag	2045	2045	2400	2204	2127	ND	1855	1998
% 6+ Points	42	46	38	47	37	35	47	36

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



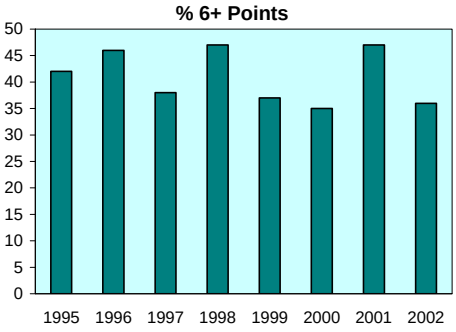


Figure 15. Smoky Mountains Zone Status and Objectives

BENNETT HILLS ZONE (UNITS 45, 52)

Management Objectives

The objective is to maintain a population of 350+ cows and 155+ bulls, including 55+ adult bulls, at ratios of 18-24 bulls:100 cows and 10-14 adult bulls:100 cows. One sightability survey (1999) has been conducted in the zone since population objectives were established with results indicating modifications in zone objective may be necessary. Current population levels are 375 cows, 200 bulls, 165 adult bulls, at ratios of 58 bulls:100 cows and 50 adult bulls:100 cows.

Historical Perspective

Elk were extirpated from the Bennett Hills Zone by the early 1900s as a result of unregulated hunting and habitat depletion from excessive livestock use. The recolonization of the Bennett Hills Zone by elk was slow, following the reintroduction of elk into south-central Idaho (Arrowrock Reservoir in 1915, Warm Springs Creek west of Ketchum in 1935 and 1936). During the late 1940s, elk numbered less than 50 head in Unit 45 and less than 15 head in Unit 52. Although population surveys have not been conducted, the zone is currently believed to have about 450 elk.

In Unit 45, general five-day either-sex elk hunts were held in the western portion of the unit from 1943 through 1953. There were no elk seasons in Unit 45 from 1954 to 1963 and 1971 to 1978. Unit 52 was closed to all elk hunting from 1943 to 1978 and 1971 to 1978.

In 1965, 36 elk (nine bulls, 19 cows, and nine calves), trapped in Unit 48, were released in Unit 52 about one mile south of Magic Reservoir. By the late 1970s, the population had increased to an estimated 235 head and depredation problems occurred on wheat and alfalfa fields from the approximately 120 elk that summered in the Johnson Hill area. Early controlled firearms hunts and archery seasons were implemented in 1979 to reduce the 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 Units 45 and 52 combined. Because depredation problems were minimal and the elk population relatively small, aerial surveys were not conducted in the Bennett Hills Zone until 1999 to monitor the elk population.

Habitat Issues

The Bennett Hills Zone encompasses roughly 3,700 square miles, 8% of which is managed by the USFS, 67% is managed by the BLM, 5% is administered by the Idaho Department of Lands (IDL), and 27% is private land. Most of Unit 52 and the southern portion of Unit 45 are primarily arid semi-desert dominated by sagebrush-grass. The Mount Bennett Hills in the northern portion of Unit 45 is a low range of mountains or high plateau consisting of sagebrush-grass and mixed mountain shrub communities with small pockets of aspen and Douglas fir on northern exposures and more mesic sites. The Camas Prairie on the north side of the zone is primarily private land used for pasturing livestock and growing grass and alfalfa hay.

Livestock grazing is the primary land use in the zone. There are competitive concerns during drought years when forage utilization by cattle is higher.

Private interests own or control access to important summer and fall habitats. This has been a subject of much concern by hunters unable to gain access to areas they wish to hunt. Several elk ranching operations have recently been established in Unit 45 bringing concerns of potential loss of the genetic integrity of wild elk and possible transmission of diseases to wild populations.

Biological Issues

Elk populations in this zone have increased over the last 30 years as a result of reintroduction, conservative harvest management, and improved livestock grazing practices. The 1999 sightability survey indicated populations are reproducing at sustainable levels (47 calves:100 cows). Population size is within sustainable margins, however bull ratios are considerably higher than required to maintain the population (58 bulls:100 cows).

Interspecific Issues

This zone winters nearly all of the mule deer from management units 43, 44, 45, 48 and 52, and for this reason, mule deer will be given management priority over elk whenever conflicts are identified. Currently, competitive concerns are minimal; the elk population is relatively small and static and there is little or no known overlap in winter use areas between deer and elk. A small population of pronghorn also occurs in the zone but there is little overlap of habitat.

Livestock grazing, primarily cattle, occurs throughout the federal and state-administered lands and on most of the private land that is not farmed. Specific conflicts between livestock grazing and elk have not been identified.

Predation Issues

Two or three mountain lions and <10 black bears are taken by hunters in this zone annually, all in Unit 45. There has been no noticeable change in bear or mountain lion numbers in recent years.

Winter Feeding Issues

Winter feeding has not been conducted in this zone recently and is not an issue.

Information Requirements

With only one aerial survey being conducted since the development of the current plan, additional aerial surveys for elk are needed to validate the current objectives and population status. Also additional information is needed to document winter use areas.

Elk
Bennett Hills Zone (Units 45, 52)

Winter Status & Objectives

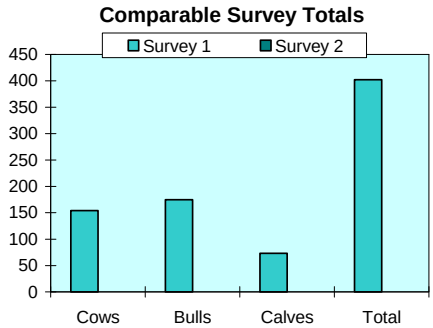
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
45	1999	154	175	150	225 - 325	50 - 75	35 - 50
52		(75)	(25)	(15)	50 - 100	10 - 20	5 - 10
Zone Total		**(229)**	**(200)**	**(165)**	**275 - 425**	**60 - 95**	**40 - 60**
Bulls per 100 Cows			**(87)**	**(72)**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
45	1999	154	175	73	402	ND				
52	ND					ND				
Comparable Surveys Total		**154**	**175**	**73**	**402**		**0**	**0**	**0**	**0**
Per 100 Cows			**114**	**47**						

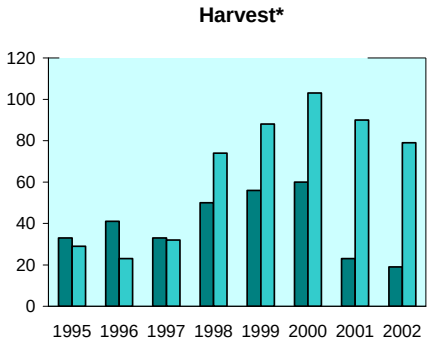
Note: ND = no survey data available.



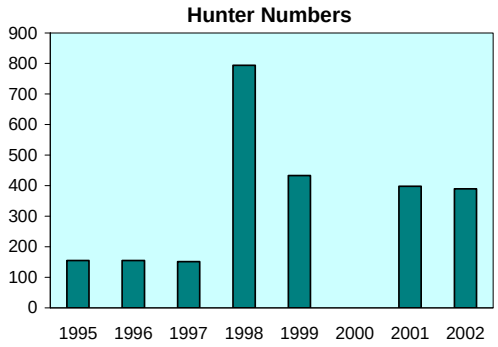
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	33	41	33	50	56	60	23	19
'A' Tag						3	1	1
'B' Tag						0	0	0
CH Tag	33	41	33	50	56	57	22	18
Antlered Harvest	29	23	32	74	88	103	90	79
'A' Tag				26	38	42	27	26
'B' Tag						1	0	0
CH Tag	29	23	32	48	50	60	63	53
Hunter Numbers	155	155	151	794	433	ND	398	390
'A' Tag				573	213	ND	234	225
'B' Tag						ND	3	5
CH Tag	155	155	151	221	220	ND	161	160
% 6+ Points	61	43	44	54	50	43	39	29

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



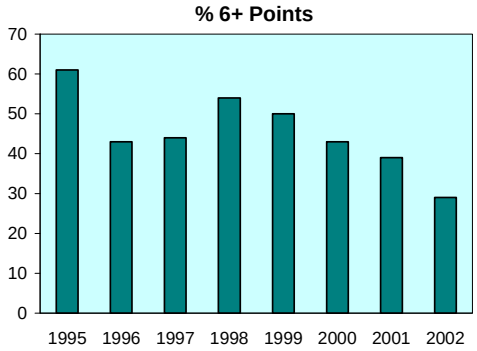


Figure 16. Bennett Hills Zone Status and Objectives

BIG DESERT ZONE (UNITS 52A, 68)

Management Objectives

The objective for the Big Desert Zone is to maintain a wintering elk population of 120-200 cows and 25-45 bulls, including 15-25 adult bulls. Although no population survey estimate exists for this zone, field reports indicate that current total numbers may exceed objectives.

Historical Perspective

The elk population in the 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 the Big Desert Zone began in 1983 with 30 either-sex permits for Unit 63. Since that time, elk numbers and permit numbers have increased substantially. In 2001, the Big Desert zone was reduced from six Game Management Units (52A, 53, 63, 63A, 68, 68A) to two units (52A, 68). Unlimited sales of tags also ceased in 2001 and subsequently all elk tags have been issued on a controlled hunt basis.

Habitat Issues

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

The BLM administers the majority of the public ground (67% of total area) in the 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 the 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 the 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 Environmental and Engineering Laboratory (INEEL) aerial surveys, generally covering the northeast corner of the zone, population surveys have not been conducted in the Big Desert Zone. Therefore, estimates for recruitment and total numbers are based on other data.

Interspecific Issues

Livestock, mule deer, and pronghorn are the primary ungulates sharing the range with elk in the 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.

Information Requirements

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

Elk
Big Desert Zone (Units 52A, 68)

Winter Status & Objectives

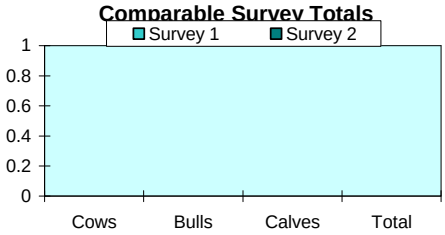
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
52A		(60)	(20)	(15)	45 - 75	10 - 20	5 - 10
68		(100)	(20)	(20)	75 - 125	15 - 25	10 - 15
Zone Total		**(160)**	**(40)**	**(35)**	**120 - 200**	**25 - 45**	**15 - 25**
Bulls per 100 Cows			**(43)**	**(24)**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	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										

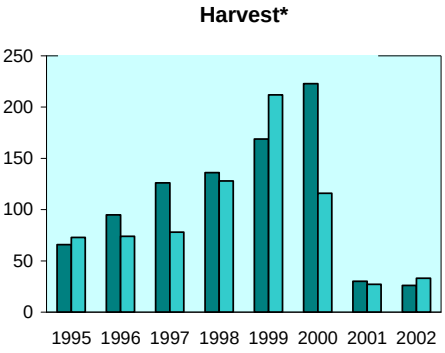
Note: ND = no survey data available.



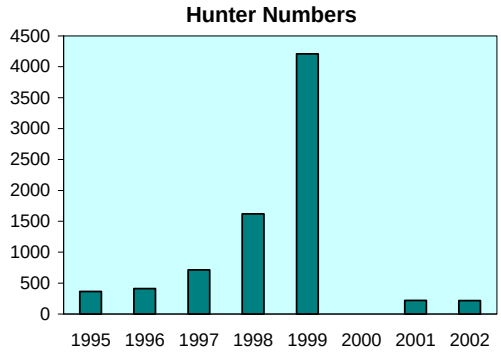
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	66	95	126	136	169	223	30	26
'A' Tag				342	0	4	0	0
'B' Tag				0	0	0	0	0
CH Tag	32	34	42	136	17	29	30	26
Antlered Harvest	73	74	78	128	212	116	27	33
'A' Tag				59	205	69	1	0
'B' Tag				0	0	1	0	0
CH Tag				69	7	46	26	33
Hunter Numbers	365	411	714	1619	4211	ND	221	217
'A' Tag				1073	3961	ND	19	8
'B' Tag				0	0	ND	3	2
CH Tag				546	250	ND	199	207
% 6+ Points	53	61	48	59	25	47	61	42

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



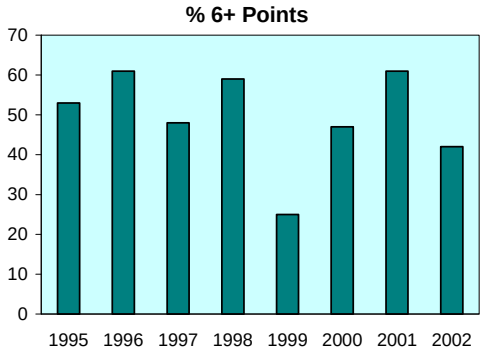


Figure 17. Big Desert Zone Status and Objectives

SNAKE RIVER ZONE (UNITS 53, 63, 63A, 68A)

Management Objectives

The objective for the Snake River Zone is to maintain a wintering elk population of 30± cows and 8± bulls, including 3± adult bulls. Although no population survey estimate exists for this zone, field reports combined with INEEL surveys indicate that current numbers exceed objectives. The low population objective is necessary to alleviate significant depredation concerns in Units 53 and 63. Aggressive harvest rates will be necessary to achieve population objectives.

Historical Perspective

The elk population in the 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. Undoubtedly, the unregulated harvest of the late 1800s and early 1900s maintained at or reduced populations to relatively low levels.

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

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

Habitat Issues

The 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, the Snake River Zone provides limited summer range for elk.

The BLM administers the majority of the public ground in the Snake River Zone. Other primary ownership includes private and INEEL ground. The INEEL, which is primarily unhunted, 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 the INEEL.

A number of water guzzlers have been developed primarily for nongame, upland game, and pronghorn within the 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 play a big role with habitat throughout the 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 INEEL aerial surveys, population surveys have not been conducted in the 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. To achieve population objectives for the Snake River Zone, with what are probably high recruitment rates, will require high harvest rates.

Interspecific Issues

Livestock, mule deer, and pronghorn are the primary ungulates sharing the range with elk in the 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 predominate 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 relative inaccessible nature of this zone in winter and generally limited snowfall preclude many concerns for winter feeding.

Information Requirements

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

Elk
Snake River Zone (Units 53, 63, 63A, 68A)

Winter Status & Objectives

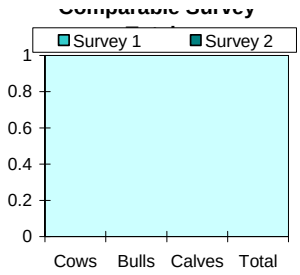
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
53		(60)	(20)	(15)	0	0	0
63		(200)	(100)	(50)	25 - 35	5 - 10	1 - 5
63A		(0)	(0)	(0)	0	0	0
68A		(0)	(0)	(0)	0	0	0
Zone Total		**(260)**	**(120)**	**(65)**	**25 - 35**	**5 - 10**	**1 - 5**
Bulls per 100 Cows			**(46)**	**(25)**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
52A	ND					ND				
53	ND					ND				
63	ND					ND				
63A	ND					ND				
68	ND					ND				
68A	ND					ND				
Comparable Surveys Total		**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**
Per 100 Cows										

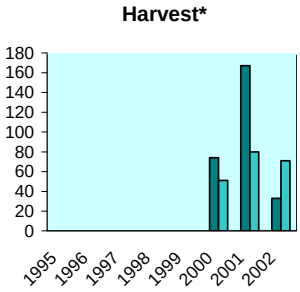
Note: ND = no survey data available.



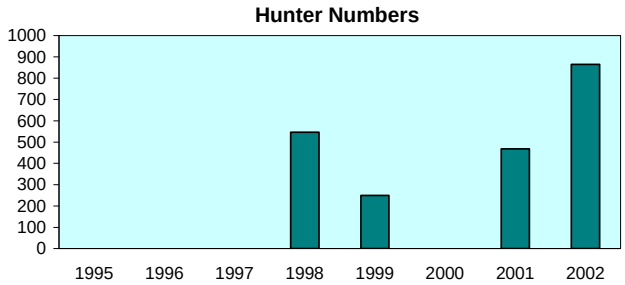
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	0	0	0	0	0	74	167	33
'A' Tag				0	0	74	167	33
'B' Tag				0	0	0	0	0
CH Tag	0	0	0	0	0	0	0	0
Antlered Harvest	0	0	0	0	0	51	80	71
'A' Tag				0	0	49	79	71
'B' Tag				0	0	0	1	0
CH Tag	0	0	0	0	0	2	0	0
Hunter Numbers	0	0	0	546	250	ND	468	865
'A' Tag						ND	458	859
'B' Tag						ND	10	6
CH Tag				546	250	ND	0	0
% 6+ Points	0	0	0	0	0	47	61	20

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapon season data.



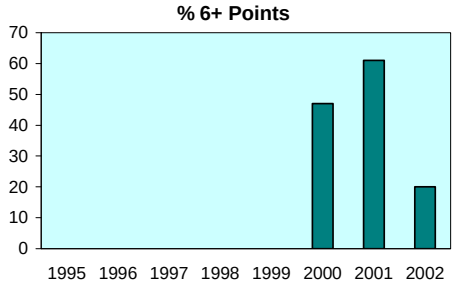


Figure 18. Snake River Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	5	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

SOUTHEAST REGION

BANNOCK ZONE (UNITS 56, 70, 71, 72, 73, 73A, 74)

Management Objectives

The objective for the Bannock Zone is to maintain a wintering elk population of 625+ cows and 145+ bulls, including 85+ adult bulls. Although no population estimate exists for this zone, field reports, combined with incidental observations from deer surveys, indicate that current numbers exceed objectives. The reduction in cows is necessary to alleviate significant depredation concerns and reduce the occupancy of elk in important mule deer winter ranges. The reduction in bulls and adult bulls is to provide for hunter demand of antlered elk and balance bull numbers with cow numbers. Aggressive harvest rates will be necessary to achieve population objectives.

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 (Unit 73), Blackrock (Unit 71), and Crystal and Midnight Creeks (Unit 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 "overhunting by whites and Indians," and seasons were closed. Permit hunts were offered in some units between 1962 and 1968. Populations remained at very low levels into the late 1980s. Since that time, elk have expanded dramatically in all but Unit 73A. By the mid-1990s, all units except 73A offered some elk hunting opportunity.

Habitat Issues

The topography of the Bannock Zone (3,125,000 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 small grains, pasture, and hay. Grazing, logging, and urbanization are additional factors affecting habitats in the zone.

Land ownership is 55% private, 30% federal, 5% state, and 10% Indian reservation. Access is widespread with few areas more than one mile from some type of road.

Winter range consists of windswept ridges, CRP acreage, and other agricultural fields. Depredation damage complaints from private landowners have increased dramatically in several areas in recent years.

Biological Issues

Calf recruitment rates have not been measured in this zone. However, the rapidly increasing numbers observed and changes in distribution suggest a highly-productive herd. Additionally, 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.

Interspecific 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 relatively high 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.

Winter Feeding Issues

Emergency supplemental feeding of elk has not been conducted in the zone. A rancher on the west side of Unit 72 has fed a small number of elk several winters for the purpose of keeping them out of his cattle feedlot.

Information Requirements

Elk permits have increased significantly from conservative to relatively higher levels over the past decade. 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.

Better understanding of mule deer/elk interactions, particularly on winter ranges, would help to determine future management direction for both species. A future question for wildlife managers and the public may be, "Do we want to favor deer or elk?"

Elk
Bannock Zone (Units 56, 70, 71, 72, 73, 73A, 74)

Winter Status & Objectives

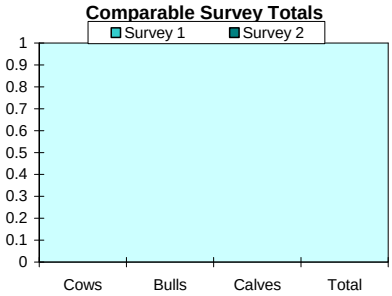
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
56		(125)	(75)	(50)	100 - 150	30 - 50	20 - 30
70		(100)	(40)	(25)	50 - 75	5 - 15	5 - 10
71		(50)	(20)	(20)	50 - 75	5 - 15	5 - 10
72		(300)	(100)	(60)	50 - 75	5 - 15	5 - 10
73		(150)	(50)	(30)	100 - 150	20 - 30	10 - 20
73A		(10)	(5)	(5)	10 - 20	1 - 5	1 - 5
74		(300)	(100)	(60)	150 - 200	25 - 35	15 - 25
Zone Total		**(1035)**	**(390)**	**(250)**	**510 - 745**	**125 - 165**	**61 - 110**
Bulls per 100 Cows			**(38)**	**(24)**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
56	ND					ND				
70	ND					ND				
71	ND					ND				
72	ND					ND				
73	ND					ND				
73A	ND					ND				
74	ND					ND				
Comparable Surveys Total		**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**
Per 100 Cows										

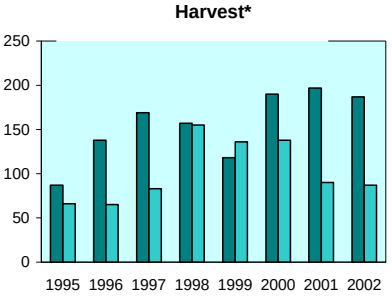
Note: ND = no survey data available.



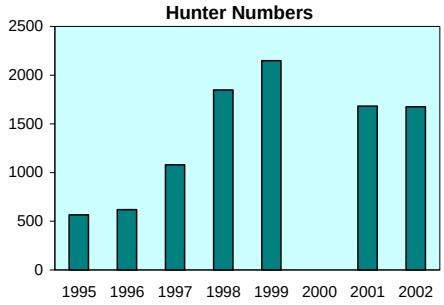
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	87	138	169	157	118	190	197	187
'A' Tag				0	85	182	168	187
'B' Tag				0	18	2	1	0
CH Tag				157	15	6	28	0
Antlered Harvest	66	65	83	155	136	138	90	87
'A' Tag				55	55	101	36	23
'B' Tag				13	24	4	8	0
CH Tag				87	57	33	46	64
Hunter Numbers	564	619	1079	1847	2149	ND	1682	1675
'A' Tag				622	1528	ND	1413	1432
'B' Tag				197	301	ND	20	5
CH Tag				1028	320	ND	249	238
% 6+ Points	57	39	37	55	47	33	47	39

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



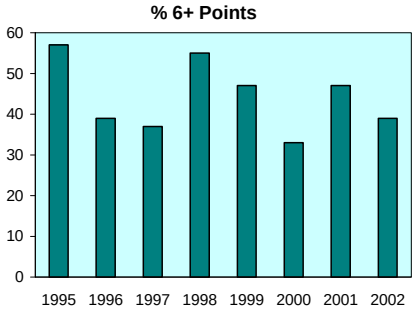


Figure 19. Bannock Zone Status and Objectives

DIAMOND CREEK ZONE (UNITS 66A, 76)

Management Objectives

The objective for the Diamond Creek Zone is to maintain a wintering elk population of 1,600+ cows and 500+ bulls, including 310+ adult bulls. Limited amounts of suitable winter range in Unit 66A preclude significant increases in the wintering population for that unit. Although Unit 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 (1995) indicates that the population is within objectives for cows, bulls, and adult bulls.

Historical Perspective

The elk population in the 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 permits for either-sex elk in Units 66, 66A, and 69. An aerial survey of Unit 76 during February 1952 resulted in 193 elk observed with a total population estimate of 230. Elk in Unit 66A are primarily migrational and winter with elk in Units 66 and 69. The first hunt in Unit 76 began in 1964 with 75 either-sex permits.

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

The most recent population survey (1995) estimated a total of 3,213 elk in Unit 76. This total represents a 1,300 percent increase over the first estimate in 1952. Historically, elk in Unit 76 summered and wintered within the unit; however, as populations have increased, there has been use of wintering areas outside the unit.

Habitat Issues

The Diamond Creek Zone represents some of the most productive habitat found in southeastern Idaho. Three main vegetational 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 has 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 the 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 the Diamond Creek Zone.

Biological Issues

Calf:cow ratios, 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.

Interspecific Issues

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

During the mid-1900s, Unit 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 vegetationally suitable for deer winter range but 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 the 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.

Winter Feeding Issues

Emergency supplemental feeding of elk has been provided during four winters since 1981 in the Diamond Creek Zone. Numbers of animals fed have ranged from 200-880. Recurrent emergency feeding areas include near Freedom, Thomas Fork Valley, Crow Creek, Stump Creek, 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.

Information Requirements

Recently, observed changes in winter distribution of elk in the Diamond Creek Zone 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 has been a highly popular area for archery hunting. It is believed that a significant amount of archery harvest occurs in this zone; however, past data collection efforts have been inadequate to precisely monitor archery harvest. Better archery harvest information would enhance management efforts.

Elk
Diamond Creek Zone (Units 66A, 76)

Winter Status & Objectives

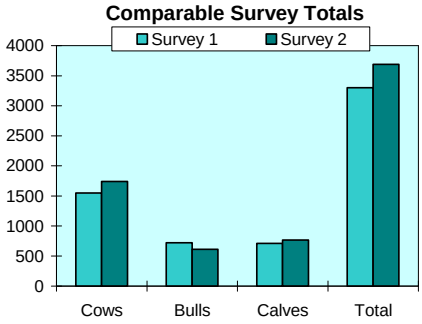
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
66A		(50)	(25)	(20)	40 - 60	15 - 25	5 - 15
76	2002	1741	612	329	1260 - 1900	385 - 575	250 - 350
Zone Total		**(1791)**	**(637)**	**(349)**	**1300 - 1960**	**400 - 600**	**255 - 365**
Bulls per 100 Cows			**(36)**	**(19)**		**30 - 35**	**18 - 24**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
66A	ND					ND				
76	1999	1551	719	711	3301	2002	1741	612	763	3690
Comparable Surveys Total		**1551**	**719**	**711**	**3301**		**1741**	**612**	**763**	**3690**
Per 100 Cows			**46**	**46**				**35**	**44**	

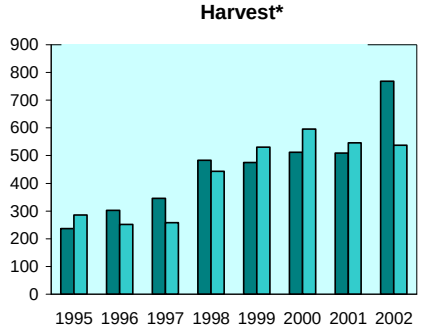
Note: ND = no survey data available.



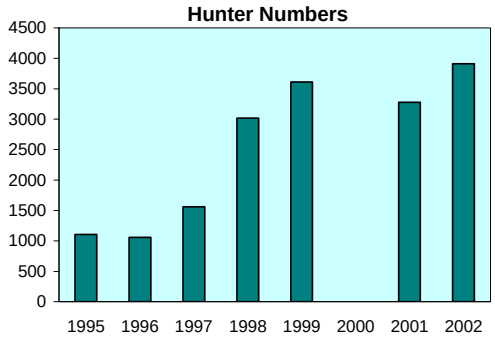
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	237	303	346	483	475	512	509	768
'A' Tag				59	60	56	78	88
'B' Tag				0	0	0	0	0
CH Tag				424	415	456	431	680
Antlered Harvest	286	252	258	443	531	596	546	537
'A' Tag				251	285	314	242	224
'B' Tag				0	0	3	4	0
CH Tag				192	246	279	300	313
Hunter Numbers	1104	1058	1562	3016	3611	ND	3278	3911
'A' Tag				1478	1811	ND	1587	1869
'B' Tag				0	0	ND	35	42
CH Tag				1538	1800	ND	1656	2000
% 6+ Points	41	28	25	41	32	32	37	34

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



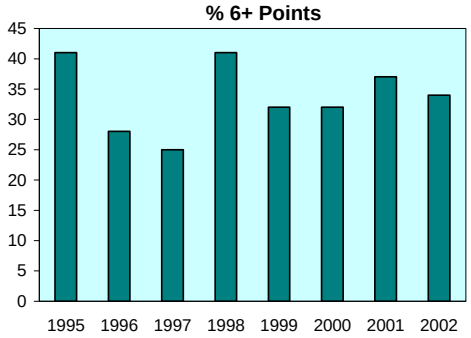


Figure 20. Diamond Creek Zone Status and Objectives

BEAR RIVER ZONE (UNITS 75, 77, 78)

Management Objectives

The objective for the Bear River Zone is to maintain a wintering elk population of 500+ cows and 100+ bulls, including 60+ 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 (1996) indicates that the population is within objectives for cows, bulls, and adult bulls. No significant changes in harvest rates are necessary.

Historical Perspective

The elk population in the 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. Unit 75 was closed on and off through the 1960s. From 1968 through 1975 all units were open to general either-sex hunting. Starting in 1976 through the present, all units have been open for general antlered-only opportunity. In 1984 and 1985, a few either-sex permits were offered along with the antlered-only hunt. Since 1986, antlerless-only permits have generally increased.

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

The Bear River Zone represents some of the highest productive habitat found in southeastern Idaho. Three main vegetational 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 has 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 the 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 have 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 the Bear River Zone.

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

Biological Issues

Calf:cow ratios, as measured during aerial surveys, indicate a healthy, productive herd in the Bear River 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.

Interspecific 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.

The Bear River Zone is also a highly productive mule deer area. Recent habitat changes appear to be favoring elk. Although these units 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 the Bear River 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.

Winter Feeding Issues

Emergency winter feeding of elk only occurs periodically in this zone. The last effort occurred during the winter of 1983-1984 with two sites in each of Units 75 and 77. An unknown but substantial number of elk are believed to migrate and winter in Utah, with some known to use the feeding operation at the Hardware Ranch.

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.

Historically, harvest estimates from this zone have suffered from small sample size. The need exists for better precision of these parameters.

A more thorough understanding of mule deer/elk interactions, particularly on winter ranges, would help to determine future management direction for both species. A future question for wildlife managers, land managers, and the public may be, "Do we want to favor deer or elk?"

Elk
Bear River Zone (Units 75, 77, 78)

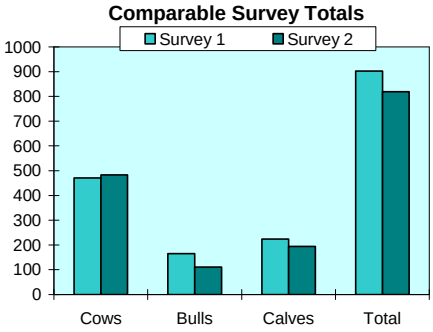
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
75	1996	216	21	22	200 - 300	40 - 60	25 - 35
77	1996	104	34	14	100 - 150	20 - 30	10 - 20
78	1996	163	56	21	100 - 150	20 - 30	10 - 20
Zone Total		**483**	**111**	**57**	**400 - 600**	**80 - 120**	**45 - 75**
Bulls per 100 Cows			**23**	**12**		**18 - 24**	**10 - 14**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
75	1991	235	105	132	471	1996	216	21	75	311
77	1992	55	12	16	84	1996	104	34	39	209
78	1992	180	48	76	347	1996	163	56	80	299
Comparable Surveys Total		**470**	**165**	**224**	**902**		**483**	**111**	**194**	**819**
Per 100 Cows			**35**	**48**				**23**	**38**	

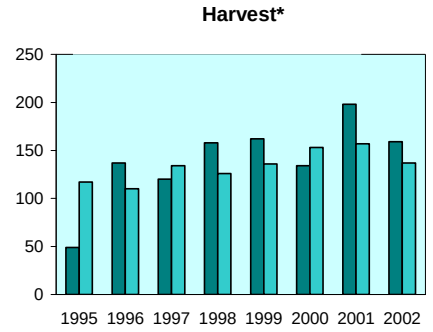
Note: ND = no survey data available.



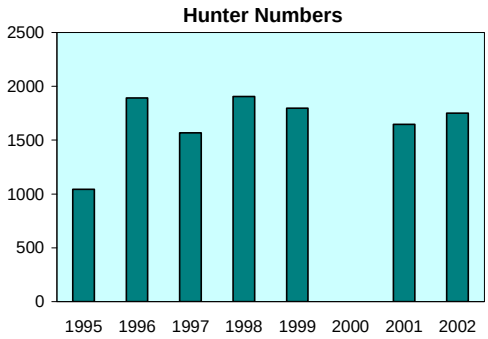
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	49	137	120	158	162	134	198	159
'A' Tag				45	40	132	195	159
'B' Tag				0	0	0	3	0
CH Tag				113	122	2	0	0
Antlered Harvest	117	110	134	126	136	153	157	137
'A' Tag				32	26	61	45	26
'B' Tag				84	90	70	103	97
CH Tag				10	20	22	9	14
Hunter Numbers	1042	1892	1568	1906	1798	ND	1646	1750
'A' Tag				550	519	ND	947	1104
'B' Tag				920	804	ND	676	622
CH Tag				436	475	ND	23	24
% 6+ Points	17	29	10	25	19	19	28	32

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



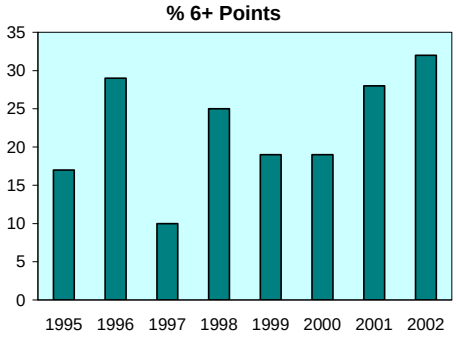


Figure 21. Bear River Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	6	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

UPPER SNAKE REGION

ISLAND PARK ZONE (UNITS 60, 60A, 61, 62A)

Management Objectives

The management objective for the Island Park Zone is to maintain a wintering elk population of approximately 1,500 cows and 475 bulls, including 300 adult bulls. Currently, elk wintering on the Sand Creek winter range in Unit 60A are above objective. Obtaining adequate harvest on this population is difficult due to its migratory nature and the fact that significant portions of the herd spend the fall in Yellowstone National Park and Harriman State Park where they are immune to harvest. Bringing this population down to below 3,000 animals postseason is a primary objective. 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. 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

Elk have been present in varying numbers in at least 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. During much of the early 20th century, these hunts were based upon elk populations summering in Yellowstone National Park.

In the late 1940s, elk were first observed wintering on the high desert habitats of Unit 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. In the winter of 1999-2000, a total of 4,134 elk was estimated on the Sand Creek winter range.

General bull hunting was restricted to spikes-only in 1991 in response to an accelerated timber harvest program on the 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, permits have been offered for any-bull hunting opportunity throughout the Island Park Zone.

Habitat Issues

Most of the 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 sloping sites. Timber management practices 1970-1990 severely altered habitat 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 is an extensive network of roads and clearcuts, which reduced elk habitat effectiveness and greatly increased elk vulnerability. Recent implementation of road and area closures in some areas and increasing security cover from forest regeneration should help offset some of these effects in 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. Agricultural encroachment continues to threaten winter range in the Island Park Zone.

Biological Issues

Winter elk populations have been increasing steadily in the 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 has climbed steadily to the 4,134 elk counted in 2000.

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 the summer and fall in Harriman State Park and Yellowstone National Park. These animals are largely unharvested, being subjected to hunting pressure only while migrating to winter range, followed with a conservative winter range controlled hunt.

Interspecific 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 but are relatively uncommon. Heavy grazing/browsing by deer, elk, and moose may alter Columbian sharp-tailed grouse habitats.

Domestic sheep and cattle grazing occurs 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 low and stable in the Island Park Zone. Mountain lions are extremely rare. Coyotes are common, especially in the winter range portion of the Island Park Zone, but are not known to have much impact on elk populations. Wolves recently introduced by the USFWS in Yellowstone National Park may become established in this zone, which could affect other predators and elk.

Winter Feeding Issues

No Department-sponsored feeding activities occur in the Island Park Zone except under emergency situations. Agricultural encroachment on the Sand Creek winter range increases the 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 in recent years. Educational efforts need to continue to give non-sanctioned feeders a better understanding of the problems associated with artificially-fed elk.

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 progress toward achieving population objectives. In addition, the information is valuable to assess the results of the recently implemented travel management policy on the Targhee National Forest.

Additionally, better knowledge of the summer/fall spatial distribution of this elk herd could improve achieving harvest objectives.

Some local concern over displacement of elk onto winter range and/or private agricultural ground exists for the September archery season in Unit 60. This unit historically did not have an archery hunt prior to implementation of the dual-tag framework in 1998. Better information regarding this concern is needed. However, there is little evidence that this issue has significant biological ramifications; rather it may be more of a social concern.

Elk
Island Park Zone (Units 60, 60A, 61, 62A)

Winter Status & Objectives

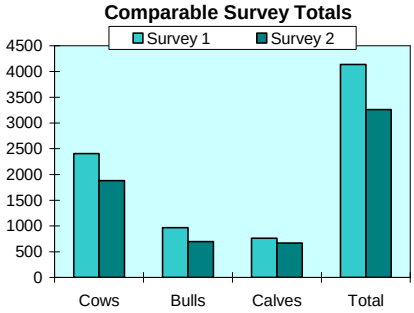
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
60		(0)	(0)	(0)	0	0	0
60A	2002	1878	699	442	1200 - 1800	400 - 575	250 - 375
61		(0)	(0)	(0)	0	0	0
62A		(0)	(0)	(0)	0	0	0
Zone Total		**1878**	**699**	**442**	**1200 - 1800**	**400 - 575**	**250 - 375**
Bulls per 100 Cows			**37**	**24**		**30 - 35**	**18 - 22**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
60	ND					ND				
60A	2000	2404	967	763	4134	2002	1878	699	669	3261
61	ND					ND				
62A	ND					ND				
Comparable Surveys Total		**2404**	**967**	**763**	**4134**		**1878**	**699**	**669**	**3261**
Per 100 Cows			**40**	**32**				**37**	**36**	

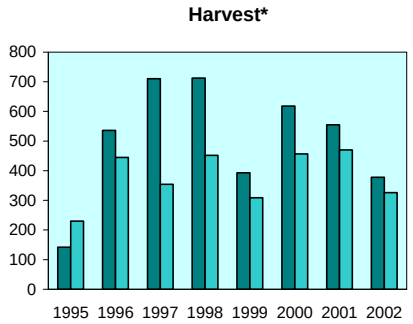
Note: ND = no survey data available.



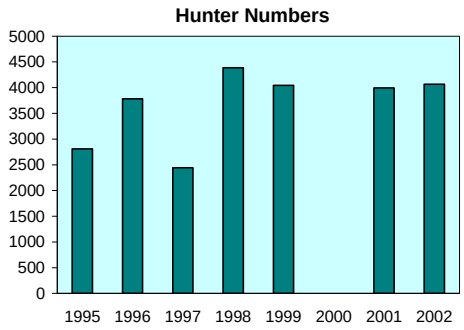
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	142	536	711	713	393	618	555	378
'A' Tag				232	113	82	134	93
'B' Tag				0	0	0	0	0
CH Tag				481	280	536	421	285
Antlered Harvest	230	445	354	452	309	457	470	326
'A' Tag				238	185	230	232	158
'B' Tag				0	0	2	1	0
CH Tag				214	124	225	237	168
Hunter Numbers	2810	3783	2441	4385	4044	ND	3994	4068
'A' Tag				2752	2441	ND	2170	2244
'B' Tag				0	0	ND	10	4
CH Tag				1633	1603	ND	1814	1820
% 6+ Points	42	55	57	36	22	32	26	26

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



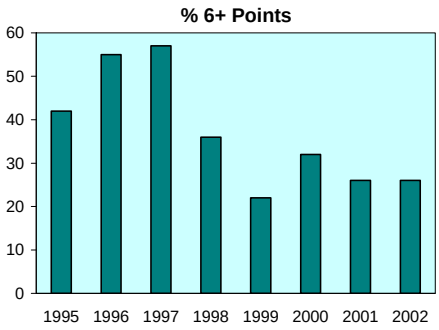


Figure 22. Island Park Zone Status and Objectives

TETON ZONE (UNITS 62, 65)

Management Objectives

The population management objective for the Teton Zone is to maintain approximately 200 cows and 45 bulls, of which 25 should be adult bulls. This represents approximately a 17% reduction from 1996 levels and is designed to eliminate artificial feeding operations existing at Victor, Conant Creek, and Felt, as directed by the Wildlife Brucellosis Task Force Report and Recommendations to the Governor (September 1998). Following the elimination of feeding, the population will be allowed to recover to the extent it can be supported on natural forage. Population manipulation will be accomplished primarily through public hunting; however, trapping and transplanting may be used if hunting is unsuccessful in achieving objectives.

Limited radio-collar information suggests that well over half of the elk in this zone spend the spring, summer, and fall in Wyoming or Yellowstone National Park. They often do not enter Idaho until after the standard hunting seasons are over. This presents a difficult challenge for management. These migratory elk provide little opportunity for Idaho hunters, particularly in the eastern portion of Unit 65 where they cause depredation problems during the winter.

Historical Perspective

Reports of elk in the 1800s and early 1900s are sketchy 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, overharvest became a concern and the format was changed to allow five days of general hunting for bulls only. Hunting for antlerless elk was restricted to permits. Winter range in the zone has always been limited by elevation and associated deep snows, and by agricultural development. The elk population was relatively stable through the 1980s with 50-60 animals wintering in the Game Creek/Moose Creek area, 30-40 animals wintering along the 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 the Teton River and its tributaries north of State Highway 33. Elk populations increased dramatically in the 1990s. The most recent survey conducted during the 2000-2001 winter estimated 340 total elk. However, mild winter conditions may have affected elk distribution.

Habitat Issues

Although extensive logging and roading on national public lands over the last three decades has reduced elk habitat effectiveness and elk security, ample summer range remains. True winter range has always been limited in the zone due to high elevations and associated deep snows and severe temperatures. A large area of winter range in the western portion of Unit 62 has been converted to farming. Some of this land is now enrolled in the Conservation Reserve Program (CRP). Elk winter range was lost to the construction and subsequent failure of Teton Dam, although the greatest losses associated to that event were to deer habitat. Recently, urban sprawl, particularly in the east portion of Unit 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. Efforts are underway to

inventory occupied and potential winter range in the zone as part of a strategy to end annual winter feeding of elk.

Biological Issues

The most pressing biological issues in this zone relate to the overall size of the wintering population in Units 62 and 65. The Teton Basin population (Unit 65) has increased over the past 10 years and consists of two groups. One herd winters east and south of Victor and numbers about 200. It is estimated the winter range in the area could support 50-60 animals. Addressing this overpopulation through harvest is difficult because many of the animals are in Wyoming until late winter. The other group winters along the Teton River in Teton Basin. They have increased to over 100 animals and they pose a major depredation threat in normal winters. There is an opportunity to control them with hunting.

Two groups of elk being fed in Unit 62 need to be moved or redistributed by hunting or other strategies. These animals are fed in the winter on private ranches at Teepee Creek and Conant Creek. Both as a Brucellosis control method and to comply with Commission policy, these annual feeding operations should be eliminated. It is believed that the feeding has short-stopped elk which previously migrated further to the west in winter. These elk summer in Wyoming and in the Bechler Meadows area of Yellowstone National Park.

Interspecific Issues

This zone contains a moderate mule deer population, a significant and relatively new white-tailed deer population in Teton Basin, and a strong moose population. It is grazed extensively by domestic livestock. Interspecific relationships among these species and elk are not monitored and are poorly understood. Examination of livestock impacts on elk winter range will be conducted as part of the effort to end annual winter feeding of elk in this zone.

Predation Issues

There are no known unique or unusual predator issues affecting the elk population in this zone. Wolves reintroduced by the USFWS in Yellowstone National Park in 1995 may become established, which could affect other predators, as well as elk demographics.

Winter Feeding Issues

Winter feeding is occurring at three locations in this zone on a regular basis. Continued annual feeding at these sites is in direct conflict with Commission policy and presents a Brucellosis risk. Observations during the 2000-2001 aerial survey indicate that most elk in this zone are associated with private feeding operations. A description of the history of each site follows.

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 had 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.

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 has successfully enlisted the support of politicians and sportsmen in continuing the feeding. Thirteen elk were fed at this site during the 2000-2001 winter.

Teepee Creek (Felt) - A landowner on Teepee Creek began feeding elk in the early 1990s. There currently are approximately 150 habituated to this operation. The Department has provided panels to the landowner to protect haystacks but has not provided any feed. It is believed this operation and the one at Conant Creek have short-stopped elk from migrating to winter ranges further west.

Information Requirements

A comprehensive inventory of winter range in this zone is needed to accomplish the objective of ending annual winter feeding. The condition of some winter ranges may provide an opportunity for 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 is key if the fed populations in this zone are to become self-sufficient. Additionally, information on snowmobile use of these lands is needed. If they are to be made available to elk, snowmobiles should be discouraged.

Elk
Teton Zone (Units 62, 65)

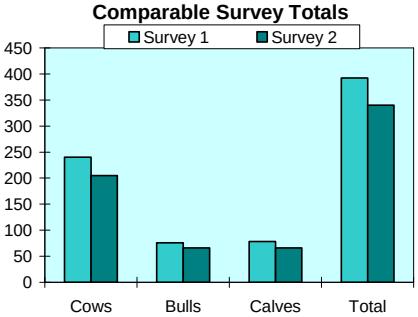
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
62	2001	108	49	41	100 - 150	20 - 30	10 - 20
65	2001	97	17	14	50 - 100	15 - 25	5 - 15
Zone Total		**205**	**66**	**55**	**150 - 250**	**35 - 55**	**15 - 35**
Bulls per 100 Cows			**32**	**27**		**18 - 24**	**10 - 14**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
62	1992	65	25	26	115	2001	108	49	40	200
65	1996	175	51	52	277	2001	97	17	26	140
Comparable Surveys Total		**240**	**76**	**78**	**392**		**205**	**66**	**66**	**340**
Per 100 Cows			**77**	**23**				**32**	**32**	

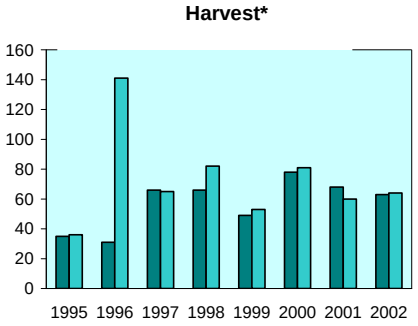
Note: ND = no survey data available.



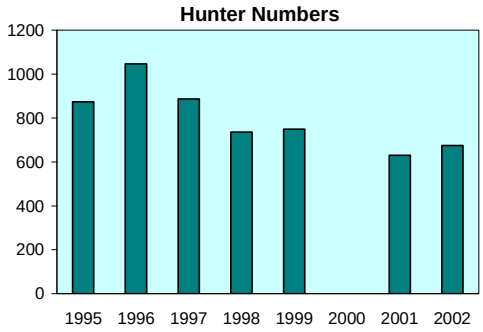
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	35	31	66	66	49	78	68	63
'A' Tag				0	26	35	23	30
'B' Tag				0	0	0	0	0
CH Tag				66	23	43	45	33
Antlered Harvest	36	141	65	82	53	81	60	64
'A' Tag				5	0	6	11	4
'B' Tag				19	17	30	23	16
CH Tag				58	36	45	26	44
Hunter Numbers	874	1046	887	736	749	ND	631	675
'A' Tag				114	396	ND	246	280
'B' Tag				340	86	ND	134	136
CH Tag				282	267	ND	251	259
% 6+ Points	44	62	16	30	18	48	34	37

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



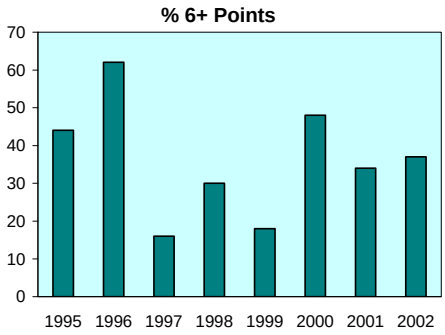


Figure 23. Teton Zone Status and Objectives

PALISADES ZONE (UNITS 64, 67)

Management Objectives

The population management objective for the Palisades Zone is to maintain approximately 500 cows and 160 bulls, of which 100 should be mature bulls. An aerial survey during 2000-2001 indicates that the population is near or at objective. Current and future management efforts will be consistent with eliminating the artificial feeding operation existing at Rainey Creek, as directed by the Wildlife Brucellosis Task Force Report and Recommendations to the Governor (September 1998). Following the 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, trapping and transplanting will also be employed. This zone offers most of what little backcountry hunting opportunity remains in southeast Idaho.

Historical Perspective

Reports of elk in the 1800s and early 1900s are sketchy 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, overharvest became a concern and the format was changed to allow five days of general hunting for bulls only. Hunting for antlerless elk was restricted to permits. Elk damage to haystacks in Swan Valley dates back to the mid-1950s, corresponding with a loss of winter range to inundation by Palisades Reservoir on the South Fork of the Snake River. In the mid-1970s, the Department began feeding elk in Rainey Creek to bait them away from livestock feeding operations. This activity has continued to the present and involves approximately 150 animals. The elk population wintering in this zone has increased gradually over the last three 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. Winter range has been lost to agriculture and inundation by a large artificial reservoir, and is currently threatened by proposed housing developments. Efforts are underway to inventory both occupied and potential elk winter range in the zone as part of a strategy to end winter feeding. Opportunities to preserve or enhance winter range will be pursued. Potentially important winter ranges in the northern portion of the zone (Grandview Point) are now nearly vacant, in all probability due to displacement of elk by snowmobile activity. Winter range shrub communities on slopes in the vicinity of the mouth of Rainey Creek appears 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.

Biological Issues

The most pressing biological issues in this zone relate to the fed elk herd at Rainey Creek. This group of about 150 animals has a documented exposure rate to Brucellosis exceeding 25% based

on testing of >100 individuals. Late hunts have limited success in reducing this population. Plans have been implemented to trap and remove all positive testing female animals and transplant negative testing animals to winter ranges northwest of Dry Canyon. This process is expected to take three or more years to complete. The elk are being transplanted in an experimental effort to determine if they will return to their birthing summer ranges and then migrate back near their transplant site the following winter. Radio tracking will monitor this test.

Interspecific Issues

In addition to elk, the Palisades Zone is home to an important mule deer population and a strong moose population, and is grazed extensively by domestic livestock. Interspecific relationships among these species and elk are not well monitored and are poorly understood. Competition between elk and mule deer probably is occurring in the immediate vicinity of Rainey Creek where both species have been fed most winters since the mid-1970s.

Predation Issues

There are no known unique or unusual predator issues affecting elk populations in this 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 cultivation. 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 where they have been fed ever since. 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.

Information Requirements

A comprehensive inventory of winter range in this zone is needed to accomplish the objective of ending annual winter feeding. The condition of some winter ranges may provide opportunities for 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 determined.

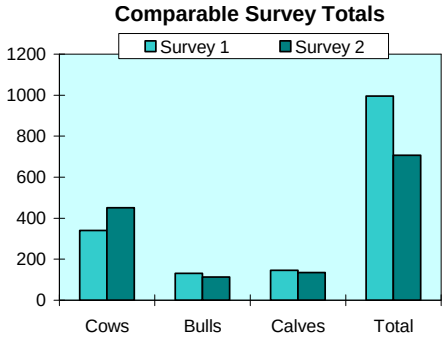
Elk
Palisades Zone (Units 64, 67)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
64/67	2001	451	113	69	400 - 600	125 - 200	75 - 125
Zone Total		**451**	**113**	**69**	**400 - 600**	**125 - 200**	**75 - 125**
Bulls per 100 Cows			**25**	**15**		**30 - 35**	**18 - 22**

Population Surveys

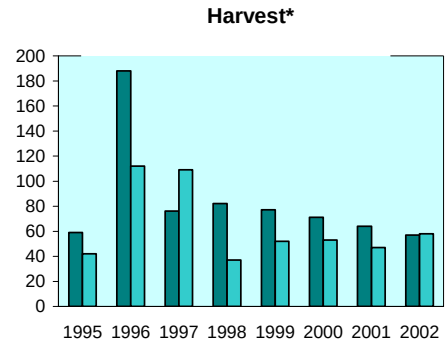
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
64/67	1998	340	131	146	995	2001	451	113	135	707
Comparable Surveys Total		**340**	**131**	**146**	**995**		**451**	**113**	**135**	**707**
Per 100 Cows			**39**	**43**				**25**	**43**	



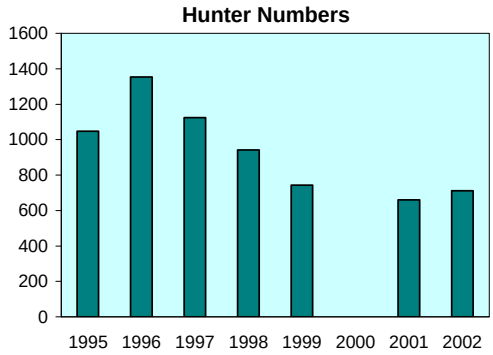
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	59	188	76	82	77	71	64	57
'A' Tag				0	19	19	22	16
'B' Tag				0	0	0	1	0
CH Tag				82	58	52	41	41
Antlered Harvest	42	112	109	37	52	53	47	58
'A' Tag				6	6	14	13	16
'B' Tag				25	38	37	34	40
CH Tag				6	8	2	0	2
Hunter Numbers	1048	1353	1124	942	743	ND	660	711
'A' Tag				181	247	ND	305	300
'B' Tag				285	228	ND	212	259
CH Tag				476	268	ND	143	152
% 6+ Points	20	0	1	27	75	42	47	44

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



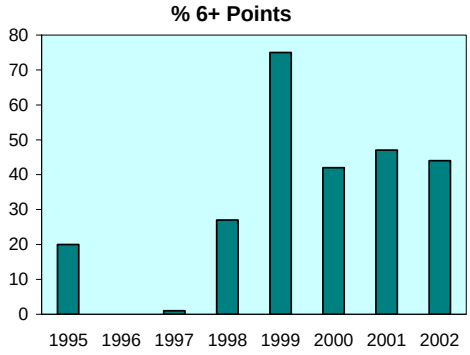


Figure 24. Palisades Zone Status and Objectives

TEX CREEK ZONE (UNITS 66, 69)

Management Objectives

The population management objective for the Tex Creek Zone is to winter approximately 2,500 cows and 525 bulls, of which 300 should be adult bulls. The most recent aerial survey information, 1999-2000, indicates that cows are at objective and bulls over objective. However, due to the fact that a number of elk from Unit 66A winter in this zone and that objectives differ between the Tex Creek and Diamond Creek zones, it is unknown what extra harvest opportunity may be available. Population manipulation will be accomplished primarily through regulated public hunting. Management will be coordinated with management of Unit 66A of the Diamond Creek Zone, where a major portion of the wintering Tex Creek elk resides in summer and fall. Claims resulting from crop damage will be eliminated and 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 (1848). During the early 20th century, elk were rarely seen according to residents of the area. 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 its growth through the following decades to the current count of 4,300. Controlling the growth of the zone's elk population has driven harvest strategies during this period. Recently, historical overharvest of bulls and underharvest of cows has been addressed with implementation of the dual tag zone system and increased antlerless permits on late hunts.

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 of the area is dry farmed with cereal grains. Nearly half of the zone is private land with the balance of public lands administered by the 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. The Tex Creek Wildlife Management Area, 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 Ririe, Palisades, and Teton Dams.

Biological Issues

A projected overharvest of bull elk in this zone was occurring under the prior management scheme of five days of any-bull hunting. This condition was not evident on winter surveys because the elk from Unit 66A in the Diamond Creek Zone winter in this zone. These elk should be managed as one population in the same zone from a biological perspective. Implementation of zone management has resulted in a dramatic drop in the number of any-bull hunters and could improve the bull age structure of the population. The Tex Creek elk are productive and their future management will be heavily influenced by the need to control this population. Placing all of the seasonal ranges of these elk in the same zone would be appropriate to accomplish this objective.

Interspecific Issues

The Tex Creek Zone supports an important deer population. This population during the 1992-1993 winter sustained significant mortality and is gradually recovering. The area also supports a strong moose population and is grazed extensively by domestic livestock. Mule deer and elk appear to be spatially separated on winter range and there are no known conflicts between elk and moose; however, relationships among these species are not monitored or well understood.

Predation Issues

There are no known unique or unusual predator issues affecting the elk population in this zone.

Winter Feeding Issues

Elk are not fed in this zone except on an emergency basis, which has occurred twice recently during the winters of 1988-1989 and 1992-1993. 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 should 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.

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 Units 66 and 66A with some going to Units 69 and 76. This work was duplicated in 1998-1999 with results showing the same trends in distribution and movement. Of concern, however, is the low proportion of marked animals remaining in the zone during the summer and fall. Information from this work may result in new harvest strategies designed to favor the zone's resident animals.

LITERATURE CITED

Russell, O. 1848. Journal of a Trapper. Syms-York, Boise, Idaho.

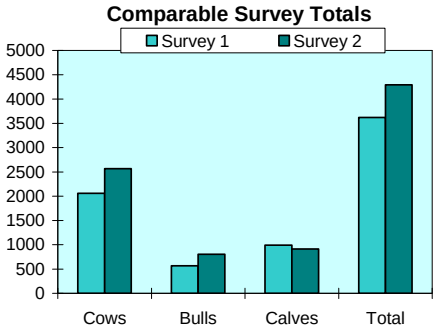
Elk
Tex Creek Zone (Units 66, 69)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
66/69	2000	2569	808	460	2000 - 3000	425 - 625	250 - 350
Zone Total		**2569**	**808**	**460**	**2000 - 3000**	**425 - 625**	**250 - 350**
Bulls per 100 Cows			**32**	**18**		**18 - 24**	**10 - 14**

Population Surveys

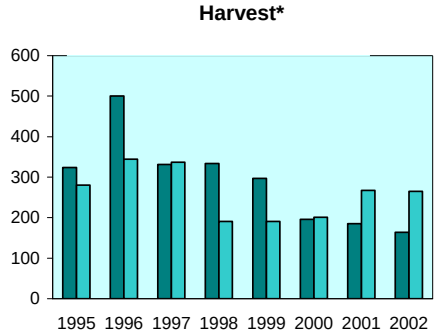
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
66/69	1997	2059	570	995	3623	2000	2569	808	916	4293
Comparable Surveys Total		**2059**	**570**	**995**	**3623**		**2569**	**808**	**916**	**4293**
Per 100 Cows			**28**	**48**				**32**	**36**	



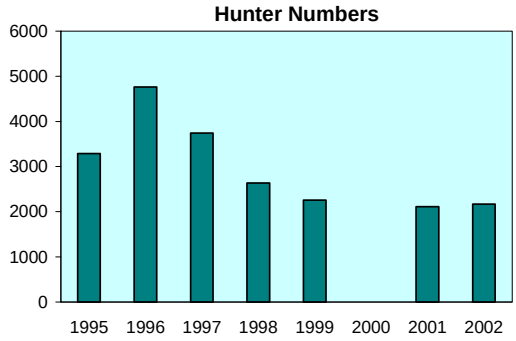
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	324	500	331	334	297	196	185	164
'A' Tag				7	138	171	159	143
'B' Tag				0	0	0	2	2
CH Tag				327	159	125	24	19
Antlered Harvest	280	344	337	191	191	201	267	265
'A' Tag				73	73	38	44	49
'B' Tag				118	118	159	223	216
CH Tag				0	4	4	0	0
Hunter Numbers	3289	4763	3743	2638	2257	ND	2114	2168
'A' Tag				413	1168	ND	1205	1149
'B' Tag				827	516	ND	830	977
CH Tag				1398	573	ND	79	42
% 6+ Points	13	32	11	7	14	31	32	21

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



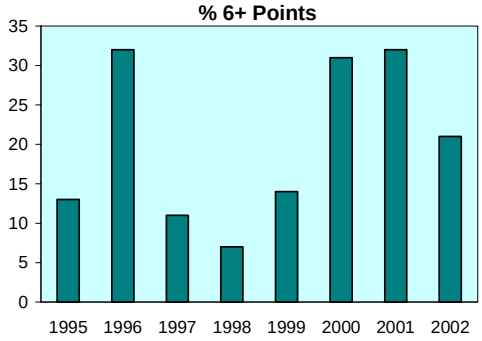


Figure 25. Tex Creek Zone Status and Objectives

PROGRESS REPORT
SURVEYS AND INVENTORIES

STATE:	Idaho	**JOB TITLE:**	Elk Surveys and Inventories
PROJECT:	W-170-R-27		
SUBPROJECT:	7	**STUDY NAME:**	Big Game Population Status, Trends, Use, and Associated Habitat Studies
STUDY:	I		
JOB:	1		

PERIOD COVERED: July 1, 2002 to June 30, 2003

SALMON REGION

MIDDLE FORK ZONE (UNITS 20A, 26, 27)

Management Objectives

The objectives for this zone are to maintain Units 20A and 26 at current herd levels of approximately 2,100 cows and increase bull numbers from the current 270 to approximately 650. If future elk surveys do not reveal a change in productivity and bull:cow ratios, a reassessment of management objectives may be necessary. The objective in Unit 27 is to reduce cow numbers to approximately 2,400 cows and increase bulls to approximately 650. Herds will be managed to maintain 25-29 bulls:100 cows postseason, which translates to 14-18 mature bulls:100 cows.

Historical Perspective

Elk were in low abundance in the Middle Fork Zone through the early part of the 20th century. As has occurred over much of the west, elk herds expanded dramatically since the mid-1970s. Today, the Middle Fork Zone winters approximately 7,500 elk. Approximately 4,000 people were hunting elk in the Middle Fork Zone through 1997. Caps on hunter numbers have reduced participation to <3,000 hunters since 1998. Seasons have traditionally 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. In recent years, more emphasis has been placed on antlerless opportunity. However, even with liberal antlerless elk hunting opportunities and seasons, harvest has consistently been <3% of the antlerless segment of the herd.

Habitat Issues

Habitat ultimately determines elk densities and productivity. Over past decades, fire suppression contributed to conifer encroachment on forage-producing areas, particularly winter ranges. 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. Already established in some areas, spread of noxious weeds

such as knapweed and rush skeletonweed could ultimately have significant impacts on winter range productivity.

Biological Issues

Elk populations in Units 20A and 26 have performed poorly in the past decade. Calf production has gone from poor (23:100 cows) through a low 13:100 cows and rebounding somewhat to almost 19:100 cows. At least partly as a consequence of low calf recruitment, bull:cow ratios have also been less than desirable (17 declining to 13 bulls:100 cows). In contrast, Unit 27 grew dramatically, increasing from 3,000 elk in 1989 to 6,300 in 1995. However, the herd showed signs of decline through the January 2002 survey, dropping to 4,750. Calf production and bull ratios in Unit 27 fell through the same period (from 31-36 calves:100 cows to 18, and 25-28 bulls:100 cows to 17). Large fires in Unit 27 in 1979 and 1988 enhanced elk habitat and probably significantly contributed to the rapid expansion of that wintering elk herd. Similar large fires in Units 20A and 26 in the past decade (including large-scale fires in 2000) may help reverse the trend of declining productivity noted in the last several years.

Interspecific Issues

Current high elk densities may be having some impact on habitat capacity for deer and on deer productivity. Elk could also have an impact in some of the less rugged grassland areas used by bighorn sheep, whose diets are similar to elk. 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, and appear to have increased in recent years, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations. Wolves reintroduced by the U.S. Fish and Wildlife Service (USFWS) have become well established in these units. The addition of wolves will likely have an impact on bear, mountain lion, and coyote populations. At some level, predation could benefit elk herds to the extent that it keeps elk herds below habitat carrying capacity, where they can be more productive. This is particularly true for this zone, where antlerless elk harvest by hunters has been insignificant. However, excessive levels of predation can also suppress prey populations to undesirably low levels. At this point, it is unclear what the net impact of predation will be with the new mix of large predators.

Winter Feeding Issues

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

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.

Elk
Middle Fork Zone (Units 20A, 26, 27)

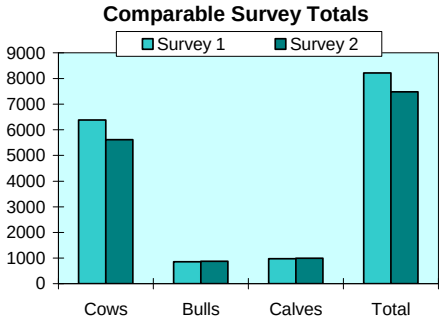
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
20A	2002	1241	192	123	1050 - 1550	250 - 400	150 - 250
26	2002	830	79	42	900 - 1300	200 - 350	150 - 200
27	2002	3542	604	309	1900 - 2900	500 - 800	300 - 450
Zone Total		**5613**	**875**	**474**	**3850 - 5750**	**950 - 1550**	**600 - 900**
Bulls per 100 Cows			**16**	**8**		**25 - 29**	**14 - 18**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
20A	1999	1317	182	169	1668	2002	1241	192	246	1679
26	1999a	1100	140	80	1320	2002	830	79	141	1050
27	1999	3966	533	723	5224	2002	3542	604	606	4752
Comparable Surveys Total		**6383**	**855**	**972**	**8212**		**5613**	**875**	**993**	**7481**
Per 100 Cows			**13**	**15**				**16**	**18**	

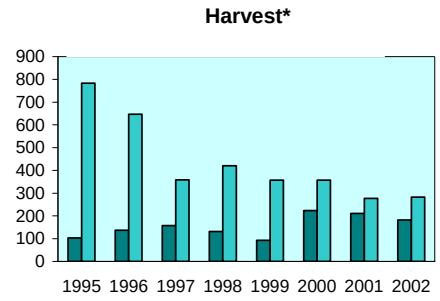
a: Incomplete survey, projected sightability estimates.



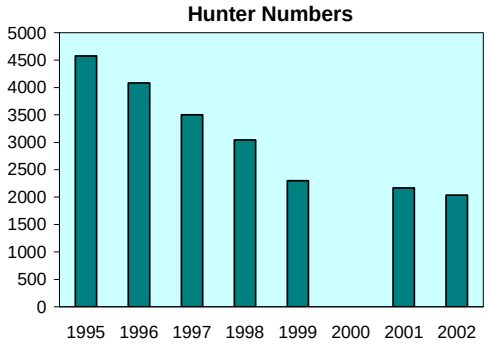
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	103	137	157	131	93	223	211	182
'A' Tag				131	93	70	92	72
'B' Tag				0	0	153	118	110
CH Tag	103	137	157	0	0	0	1	0
Antlered Harvest	784	647	358	421	357	357	277	283
'A' Tag				104	86	82	78	64
'B' Tag	784	647	358	317	149	275	199	219
CH Tag				0	122	0	0	0
Hunter Numbers	4576	4085	3499	3044	2300	ND	2168	2038
'A' Tag				1479	1106	ND	631	667
'B' Tag	4132	3211	2404	1565	666	ND	1165	1371
CH Tag	444	874	1095	0	528	ND	372	0
% 6+ Points	24	32	16	43	25	28	35	34

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



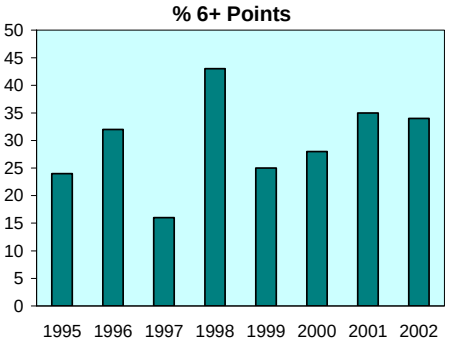


Figure 26. Middle Fork Zone Status and Objectives

SALMON ZONE (UNITS 21, 21A, 28, 36B)

Management Objectives

The objectives for this zone are to increase elk in Units 21 and 21A from current herd levels of 2,700 adults to approximately 3,600 and to reduce cow elk numbers in Units 28 and 36B from 4,000 to approximately 3,000 while increasing bulls from 450 to approximately 600. 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 Unit 21. Antlerless elk hunts in Units 28 and 36B continue to achieve modest herd reduction and stabilization. Antlerless harvest in Unit 28 recently has been reduced in response to low calf recruitment. The Salmon Zone will continue to be managed to produce general hunting opportunity and 10-14 mature bulls:100 cows postseason.

Historical Perspective

Although present from the time of the first white explorers and trappers, elk were in low abundance in the Salmon Zone through much of the 20th century. From 1917 until the 1940s, parts of Units 28 and 36B were designated as no hunting "game preserves." Sixty-two elk from Yellowstone Park were released in Panther Creek drainage (Unit 28) in 1937. As has occurred over much of the west, elk herds have expanded dramatically since the mid-1970s. Today, the Salmon Zone winters approximately 8,700 elk. Aggressive antlerless harvest since 1992 stabilized and reduced rapidly growing herds in Units 21 and 21A, and may have reduced growth rates in the other two units. Declining calf recruitment and bull:cow ratios in recent years suggest that elk herds may have reached undesirable densities that contributed to declining populations.

About 4,000 people have participated in rifle hunts and 300 in archery hunts in the Salmon Zone in recent years, harvesting approximately 400-500 cows and 500-1,200 bulls annually.

Habitat Issues

Cattle ranching, livestock grazing, mining, timber harvest, and recreation are the dominant human uses of the landscape in the Salmon Zone. Elk depredations on agricultural crops are localized, but are especially pronounced in dry years.

In some areas of the Salmon Zone, elk winter in mature stands of mountain mahogany that appear relatively stagnant and unproductive. 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.

A large-scale forest fire occurred in the western portion of Unit 28 in 2000. Fires removed forest canopy in large tracts, creating conditions for increased elk forage production.

Biological Issues

Aerial surveys in 1992 and 1994 found exceptionally high winter elk densities in Unit 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 Unit 21; total winter elk numbers dropped to 1,550 during the surveys in 2001. Antlerless elk harvest was discontinued in Units 21 and 21A in 2000. In contrast, Units 28 and 36B experienced major population increases (57% and 30%) since the early 1990s, despite modest increases in antlerless harvest. As a group, these units are only moderately productive, averaging 30-35 calves:100 cows. The decline in productivity in Unit 28 as elk numbers increased is worrisome. Partly as a result of this modest productivity, and partly because they are relatively accessible general hunt units, Units 28 and 36B have weak bull:cow ratios (13-18 bulls per 100 cows).

Interspecific Issues

This zone contains the majority of the most productive deer units in the Salmon Region; parts of Units 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

Black bear densities appear to be moderate in the Salmon Zone. Mountain lion densities are at least moderate, perhaps high in some areas, and appear to have increased in recent years, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations. Two packs of wolves reintroduced by the USFWS have become established in Unit 28. Other packs apparently are resident in Units 21 and 36B and transient in Unit 21A. The addition of wolves will likely have an impact on black bear, mountain lion, and coyote populations. At some level, predation could 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 can also suppress prey populations to undesirably low levels. At this point, it is unclear what the net impact of predation will be with the new mix of large predators.

Winter Feeding Issues

Aside from an occasional small private feeding activity and a few elk fed incidental to the rare deer feeding operations, elk have not been deliberately fed recently in the Salmon Zone.

Information Requirements

Budget constraints have not allowed elk census surveys to be conducted at regular intervals. 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. Potential impact of the new mix of large predators is unknown.

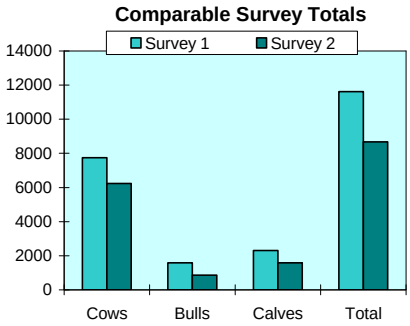
Elk
Salmon Zone (Units 21, 21A, 28, 36B)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
21	2001	1125	172	112	1200 - 1800	250 - 350	150 - 225
21A	2000	1149	240	154	1200 - 1800	250 - 350	150 - 225
28	2001	2560	286	164	1500 - 2300	325 - 475	175 - 275
36B	2000	1393	161	68	700 - 1100	150 - 250	75 - 125
Zone Total		**6227**	**859**	**498**	**4600 - 7000**	**975 - 1425**	**550 - 850**
Bulls per 100 Cows			**14**	**8**		**18 - 24**	**10 - 14**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
21	1993	1972	475	665	3112	2001	1125	172	250	1552
21A	1998	1219	377	376	1972	2000	1149	240	403	1792
28	1996	2939	530	696	4165	2001	2560	286	490	3336
36B	1997	1617	204	562	2363	2000	1393	161	442	1996
Comparable Surveys Total		**7747**	**1586**	**2299**	**11612**		**6227**	**859**	**1585**	**8676**
Per 100 Cows			**20**	**30**				**16**	**27**	

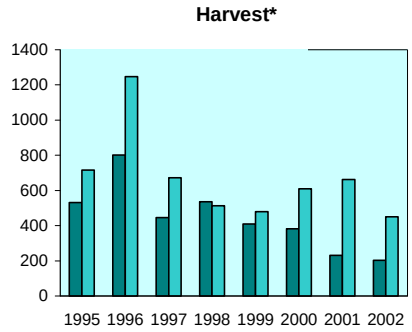


Zone Harvest Statistics

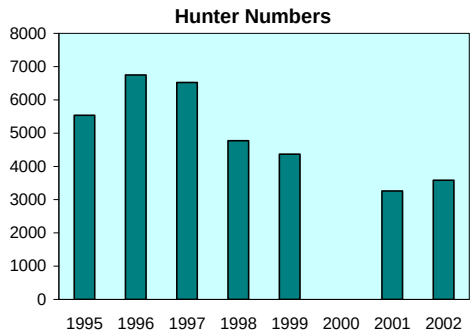
	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	531	802	446	536	409	382	231	203
'A' Tag				7	20	8	43	41
'B' Tag				0	7	0	1	3
CH Tag	531	802	446	529	382	374	187	159
Antlered Harvest	716	1247	673	513	480	610	662	450
'A' Tag				59	25	26	29	21
'B' Tag	716	1247	673	454	455	581	627	415
CH Tag				0	0	3	6	14
Hunter Numbers	5533	6749	6523	4766	4365	ND	3261	3580
'A' Tag				327	305	ND	258	315
'B' Tag	4145	5292	4265	3407	2931	ND	2498	2832
CH Tag	1388	1457	1724	1032	1129	ND	505	433
% 6+ Points	18	27	18	26	16	19	23	24

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.

Note: ND = no survey data available.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



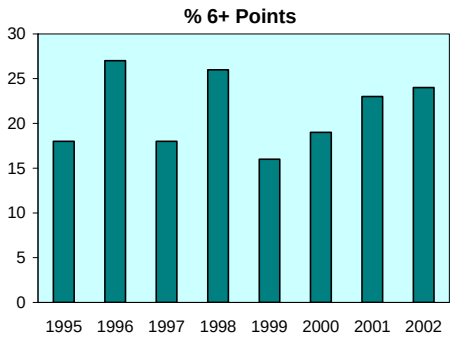


Figure 27. Salmon Zone Status and Objectives

LEMHI ZONE (UNITS 29, 37, 37A, 51)

Management Objectives

The objectives for this zone are to reduce the elk population to approximately 2,000 cows and 650 bulls. To stimulate and 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 40-50% of current numbers, is recommended in the zone. Herds will be managed to maintain 10-14 mature bulls:100 cows in Unit 37, 14-18 mature bulls:100 cows in Unit 51, and 18-22 mature bulls:100 cows in Units 29 and 37A.

Historical Perspective

Elk abundance was low in the Lemhi Zone through much of the 20th century. Most of the zone has been managed for decades under very conservative controlled hunt strategies. In 1993, Unit 51 changed from general any-bull harvest to general hunting for spike bulls with controlled any-bull permits. As has occurred over much of the west, elk herds have expanded dramatically since the mid-1970s. Today, the Lemhi Zone winters approximately 6,600 elk, which represents an increase of almost 2,600 elk just since the mid 1990s.

About 1,400 people each year participated in rifle hunts in the Lemhi Zone through the late 1990s. However, with increases in controlled and general antlerless elk opportunities, hunter numbers have increased to approximately 3,000 per year. Conservative bull harvest management has produced exceptional bull:cow ratios and a reputation for large mature bulls. The controlled bull hunts in this zone have become very desirable; rifle permits are much in demand and difficult to draw. The area's reputation for many mature bulls has also made this zone a very attractive archery hunt; up to approximately 1,300 people have participated in recent years, 50-70% of them in Unit 29 alone.

Habitat Issues

Cattle ranching, livestock grazing, and recreation are dominant human uses of the landscape in the Lemhi 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. Expanded irrigated agriculture, passage of legislation authorizing depredation payments, and legislation authorizing depredation hunts combined with increasing elk populations have led to more depredation complaints in Unit 51.

In some areas of the Lemhi Zone, elk winter in mature stands of mountain mahogany which appear relatively stagnant and unproductive. In other areas, elk winter on open sagebrush-grassland ridgetops. 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.

Biological Issues

In 1992, Units 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 be related to higher-than-desirable elk densities. Through intensive antlerless harvest, the herd in Unit 37 was reduced significantly. Although herd size is still over objective levels, harvest was reduced beginning in 2003 as the herd neared desired levels.

Interspecific Issues

Although historically the Lemhi Zone supported high deer densities, the zone currently has relatively modest deer populations. Current high elk densities may be having some impact on deer productivity.

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 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 the Lemhi Zone. Mountain lion densities are low to moderate and appear to have increased in recent years in Units 29, 37, and 37A, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations.

Winter Feeding Issues

Because this is an arid area with relatively little snowfall, winter feeding has not occurred recently in the 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. Better information on elk migration patterns is also needed.

Elk
Lemhi Zone (Units 29, 37, 37A, 51)

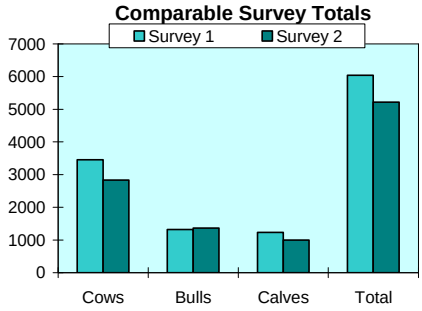
Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
29/37A	2003	1703	805	321	1000 - 1600	300 - 500	200 - 300
37	2003	395	83	54	150 - 250	30 - 50	20 - 30
51	2003	737	479	109	500 - 700	125 - 200	75 - 125
Zone Total		**2835**	**1367**	**484**	**1650 - 2550**	**455 - 750**	**295 - 455**
Bulls per 100 Cows			**48**	**17**		**30 - 35**	**14 - 18**

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
29/37A	1998	1467	527	449	2443	2003	1703	805	618	3141
37	2000	909	217	316	1442	2003	395	83	100	578
51	1999	1078	580	470	2155	2003	737	479	281	1497
Comparable Surveys Total		**3454**	**1324**	**1235**	**6040**		**2835**	**1367**	**999**	**5216**
Per 100 Cows			**38**	**36**				**48**	**35**	

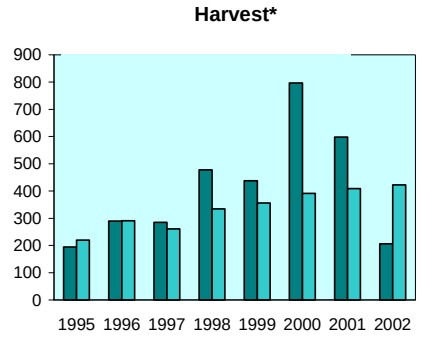
Note: ND = no survey data available.



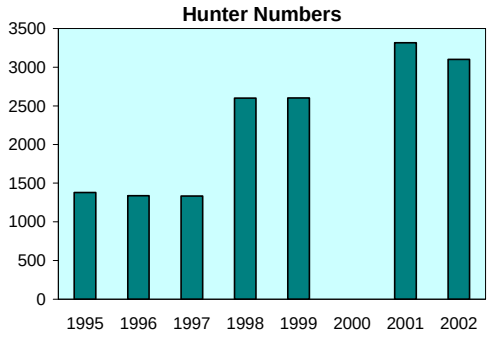
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	194	289	285	478	437	796	598	206
'A' Tag				105	245	267	200	206
'B' Tag						0	3	0
CH Tag	194	289	285	373	192	529	395	
Antlered Harvest	220	291	261	334	356	391	409	422
'A' Tag	45	83	69	112	132	167	155	133
'B' Tag						0	10	0
CH Tag	175	208	196	222	224	224	244	289
Hunter Numbers	1381	1338	1332	2600	2603	ND	3316	3099
'A' Tag	388	399	454	1429	1651	ND	1355	1380
'B' Tag						ND	38	23
CH Tag	993	939	1107	1171	952	ND	1923	1696
% 6+ Points	35	30	42	44	47	58	42	47

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



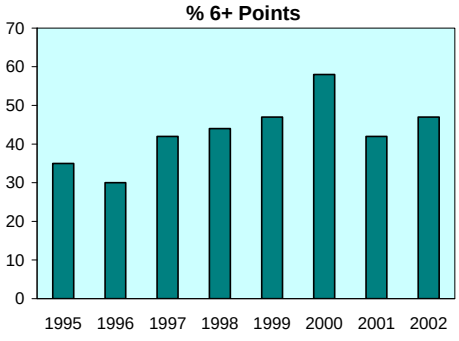


Figure 28. Lemhi Zone Status and Objectives

BEAVERHEAD ZONE (UNITS 30, 30A, 58, 59, 59A)

Management Objectives

Objectives for the Beaverhead Zone are to maintain Units 58, 59, and 59A at current herd levels (about 1,300 cows and 350 bulls) and to maintain elk densities in Units 30 and 30A at approximately 1,250 cows and 325 bulls. Herds will be managed to maintain 14-18 mature bulls:100 cows in Units 58, 59, and 59A, and 18-24 mature bulls: 100 cows in Units 30 and 30A. 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 Units 30 and 30A during the late 1990s. Surveys in 2001 indicated populations may be reaching objective levels (however, there were strong indications that some elk stayed in Montana due to mild winter conditions). Continued cow harvest is consistent with goals of maintaining relatively high productivity and stabilization of herd size.

Historical Perspective

Elk abundance was low in the Beaverhead Zone through much of the 20th century. In fact, elk numbers were apparently low enough that a few elk from Horse Prairie and Yellowstone National Park were translocated to Units 30 and 30A about 1918. Units 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, Units 30 and 30A have been managed under very conservative controlled hunt strategies. Controlled antlerless hunts were initiated in Units 59 and 59A in 1979 and in Unit 58 in 1988. In 1991, Units 58, 59, and 59A changed from general any-bull management to general hunting for spike bulls with controlled any-bull permits. As has occurred over much of the west, elk herds have expanded dramatically since the mid-1970s. Today, the Beaverhead Zone winters approximately 4,400 elk and supports about 2,500 hunters annually.

Many elk in this zone, particularly in Units 30 and 30A, spend the winter in Idaho and migrate to summer ranges in Montana. Traditionally, elk in Units 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.

Habitat Issues

Cattle ranching, livestock grazing, and recreation are dominant human uses of the landscape in the 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 in Units 30, 30A, and along Medicine Lodge Creek.

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. Elk wintering on windswept ridgetops in Units 59 and 59A are periodically subject to *Oxytropis* poisoning.

Biological Issues

The elk population in Unit 30 experienced very high growth rates through the mid 1990s, despite attempts to increase antlerless harvest and considerable depredation hunt activity. Units 30A, 58, 59, and 59A show relatively stable populations. Calf production and bull:cow ratios have remained strong in this zone.

Interspecific Issues

Although historically the 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, and elk tend to use different habitats and different forage species than livestock. During some winters, elk move into Unit 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 the Beaverhead Zone. Mountain lion densities are low to moderate and appear to have increased in recent years in Units 30 and 30A, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations.

Winter Feeding Issues

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

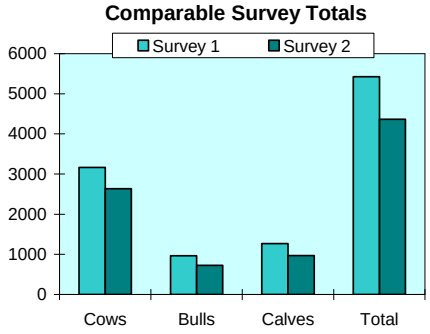
Elk
Beaverhead Zone (Units 30, 30A, 58, 59, 59A)

Winter Status & Objectives

	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
30	2001	1103	304	154	800 - 1200	250 - 350	150 - 250
30A	2001	188	33	22	200 - 300	40 - 60	25 - 35
58	2000	769	185	128	400 - 600	100 - 175	50 - 100
59/59A	2000	577	205	118	650 - 950	150 - 250	100 - 150
Zone Total		**2637**	**727**	**422**	**2050 - 3050**	**540 - 835**	**325 - 535**
Bulls per 100 Cows			**28**	**16**		**25 - 29**	**14 - 18**

Population Surveys

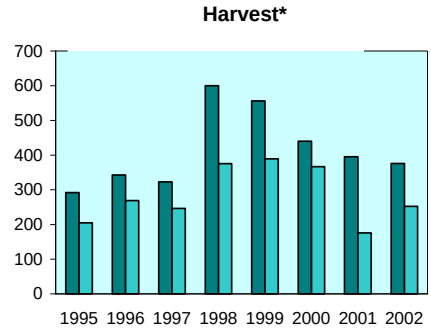
	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
30	1997	1556	538	673	2786	2001	1103	304	338	1745
30A	1997	307	206	144	656	2001	188	33	65	286
58	1995	409	130	187	725	2000	769	185	316	1282
59/59A	1994	893	89	264	1258	2000	577	205	254	1053
Comparable Surveys Total		**3165**	**963**	**1268**	**5425**		**2637**	**727**	**973**	**4366**
Per 100 Cows			**30**	**40**				**28**	**37**	



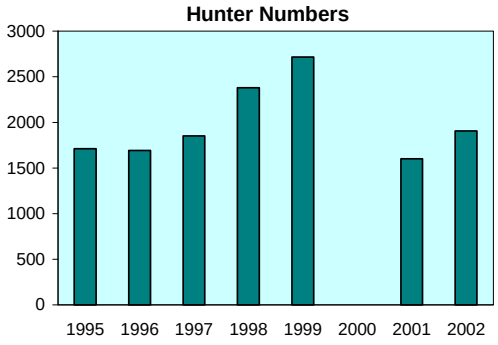
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	292	343	323	600	556	440	395	376
'A' Tag				71	396	73	95	79
'B' Tag				0	0	0	0	0
CH Tag				529	160	367	300	297
Antlered Harvest	205	269	246	375	389	367	176	252
'A' Tag				216	218	181	52	102
'B' Tag				0	0	1	5	0
CH Tag				159	171	185	119	150
Hunter Numbers	1712	1691	1851	2378	2716	ND	1601	1906
'A' Tag				1274	2055	ND	646	893
'B' Tag				0	0	ND	18	13
CH Tag				1104	661	ND	937	1000
% 6+ Points	36	32	45	29	28	28	40	35

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



* Note: Harvest prior to 1998 does not include general primitive weapons season data.



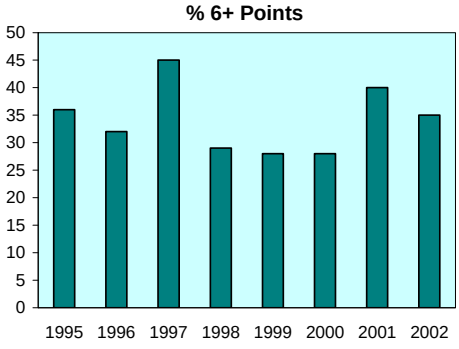


Figure 29. Beaverhead Zone Status and Objectives

SAWTOOTH ZONE (UNITS 33, 34, 35, 36)

Management Objectives

The objective is to maintain a population of ≥3,800 cows and ≥790 bulls, including ≥465 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 Unit 36 were reduced to near objectives during the late 1990s. A harvest of ≥750 bulls each year is desired. However, at current recruitment rates, harvest of ≤500 bulls is sustainable. These objectives reflect a balance between the need for a relatively large, huntable elk population and the concern about feeding elk during winter. Unless calf production and survival increases dramatically, harvest rates will have to be reduced to achieve these goals.

Historical Perspective

Both mule deer and elk herds were overharvested for hides and meat for mining camps in the mid- to late-1800s. The lack of big game in the area resulted in the Idaho Legislature establishing the South Fork Game Preserve (now Unit 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. Deer populations increased rapidly. The elk herd increased to >1,000 by 1940 and approximately 2,000 by the early 1950s. The rapid increase to the current population of approximately 5,200 elk started in the late 1970s.

The Sawtooth Zone is a popular destination for elk hunters from the Boise and Magic Valley areas. More than 7,000 sportsmen have hunted this area in the last few years.

Habitat Issues

Over 90% of this zone is managed by the U.S. Forest Service (USFS). The access ranges from heavily roaded in the Garden Valley area to the unroaded 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.

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 of them have shown significant success.

Elk have caused damage to several ranches (primarily cattle and small horse feeding operations) in the Garden Valley area over the last 10 years. Establishing bait sites nearby reduces this damage. In spring, elk concentrate on new forage growth on private rangeland. In the Stanley area, very limited winter ranges have been impacted by the small part of the herd that does not migrate in the fall. Portions of local summer range are noticeably impacted by elk.

Biological Issues

Following the trend south of the Salmon River, this elk population has increased dramatically in the last 20 years. Calf recruitment in the past has been high; however, indications of declines are present. Harvest data indicate that more bulls are being killed than are produced annually.

Interspecific 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 to 12,000. The elk population consisted of <2,000 animals. Since 1964, mule deer numbers have not exceeded 2,000 and there are approximately 5,500 elk wintering in the area. Livestock grazing has been significantly reduced over the last 60 years. Unit 34, Bear Valley, still has significant levels of cattle grazing.

Predation Issues

Black bear and mountain lion populations are well established and apparently stable in the Sawtooth Zone. Recent sightability surveys indicated a declining calf:cow ratio, but there is no evidence to indicate predation is, or is not, the cause of this decline. As a result of a recent USFWS wolf reintroduction, ≥3 packs are established in the Sawtooth Zone. Impacts of wolf reintroduction on elk population dynamics remain unclear.

Winter Feeding Issues

The 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. In a few years, elk were consuming more feed than mule deer. Now winter feeding takes place approximately two out of every five years.

There has been no evidence of Brucellosis 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. Native range has the capability to support the current elk herd in nearly all situations. There is considerable public demand for feeding elk. This 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 the severe winters. This herd of 500-1,000 animals has severely impacted the small amount of natural winter range that is available.

Information Requirements

Migratory patterns of elk are largely unknown. 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 unknown.

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

Winter Status & Objectives

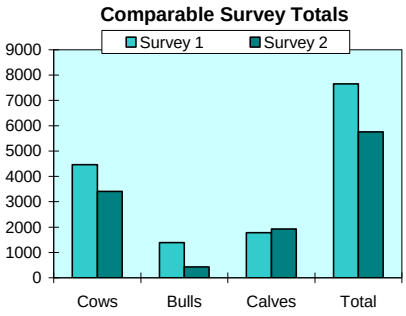
	Current Status				Objective		
Unit	Survey Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
33	2001	2114	282	116	3544	500 - 800	300 - 450
34	ND				0	0	0
35	2001	1011	93	57	1761	50 - 100	25 - 75
36	2003	284	52	40	250 - 350	50 - 75	30 - 50
Zone Total		**3374**	**409**	**195**	**3050 - 4550**	**600 - 975**	**355 - 575**
Bulls per 100 Cows			**12**	**6**		**18 - 24**	**10 - 14**

Note : Estimates within parentheses are based on information other than sightability surveys.

Population Surveys

	Survey 1					Survey 2				
Unit	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
33	1989	3135	1138	1153	5454	2001	2114	282	1148	3544
34	ND					ND				0
35	1992	1078	213	557	1848	2001	1011	93	657	1761
36	2000	249	34	66	350	2003	284	52	118	454
Comparable Surveys Total		**4462**	**1385**	**1776**	**7652**		**3409**	**427**	**1923**	**5759**
Per 100 Cows			**31**	**41**				**17**	**28**	

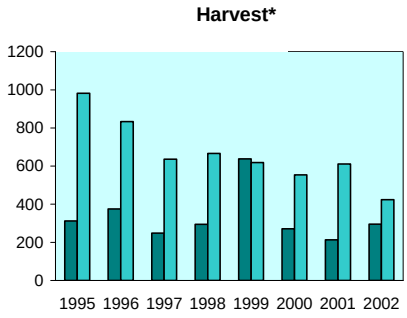
Note: ND = no survey data available.



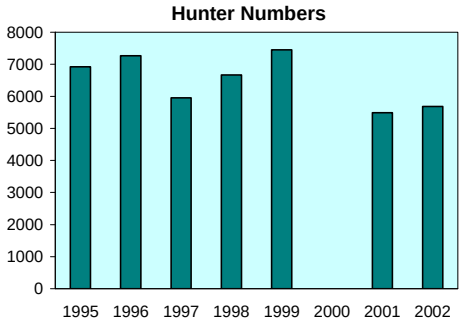
Zone Harvest Statistics

	1995	1996	1997	1998	1999	2000	2001	2002
Antlerless Harvest	312	375	249	294	638	271	213	295
'A' Tag					174	160	122	203
'B' Tag					176	15	4	2
CH Tag					288	96	87	90
Antlered Harvest	982	833	636	666	619	554	611	424
'A' Tag					91	87	139	90
'B' Tag					525	452	463	330
CH Tag					3	15	9	4
Hunter Numbers	6920	7267	5955	6670	7451	ND	5490	5680
'A' Tag					1725	ND	1868	2123
'B' Tag					4603	ND	3319	3253
CH Tag					1123	ND	303	304
% 6+ Points	14	24	31	23	23	23	24	17

Note: Telephone survey harvest data prior to 1998 does not include general primitive weapons season data. %6+ pts does not include spike-only harvest.



Harvest prior to 1998 does not include general primitive weapons season data.



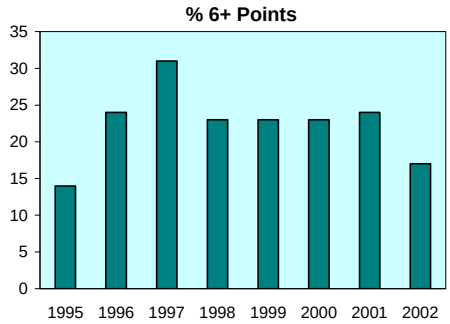


Figure 30. Sawtooth Zone Status and Objectives

Submitted by:

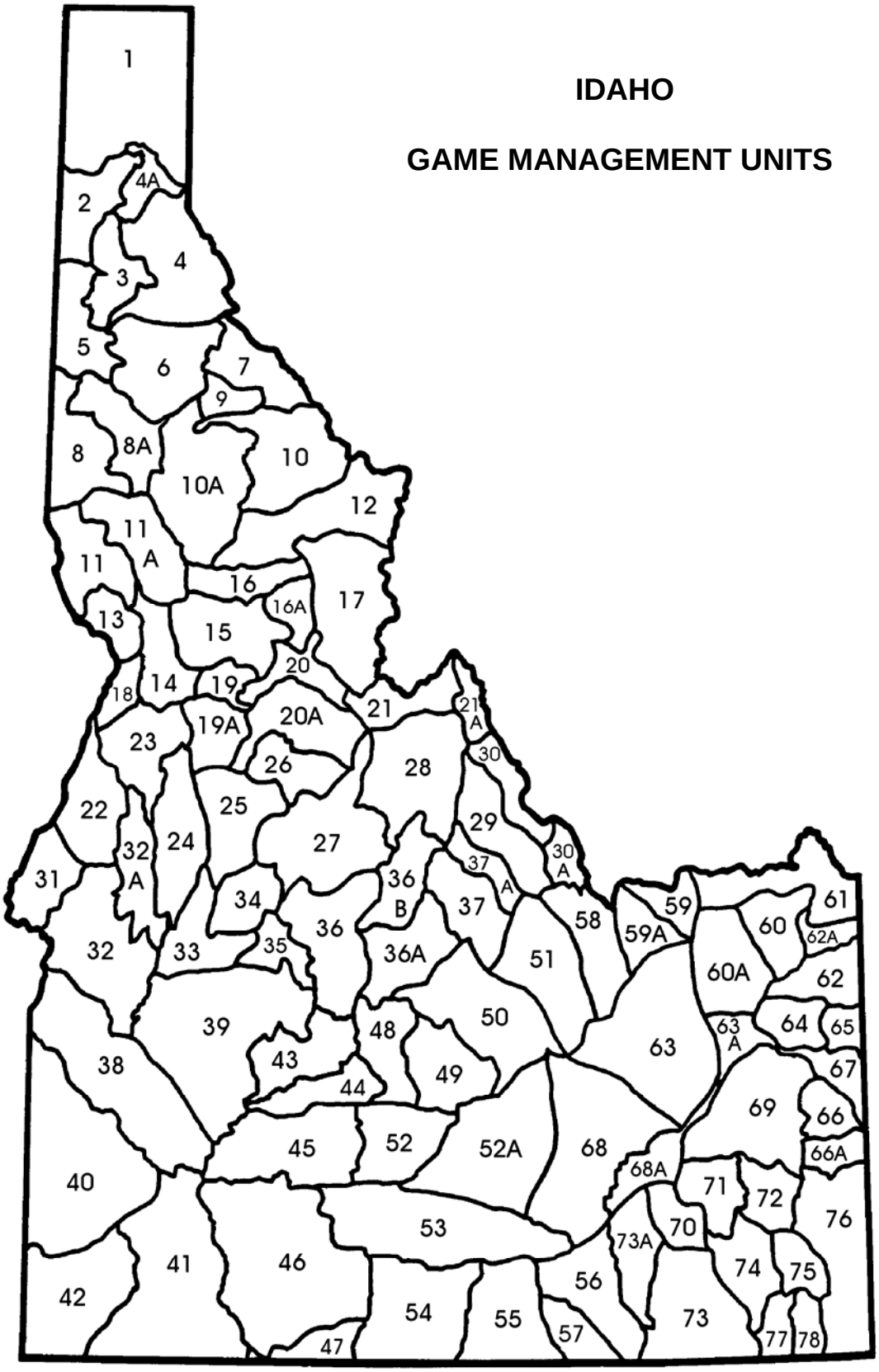
Jim Hayden	*Jay Crenshaw*	*Jon Rachael*
Regional Wildlife Manager	Regional Wildlife Manager	Regional Wildlife Manager
Jeff Rohlman	*Randy Smith*	*Carl Anderson*
Regional Wildlife Manager	Regional Wildlife Manager	Regional Wildlife Manager
Daryl Meints	*Tom Keegan*	
Regional Wildlife Manager	Regional Wildlife Manager	

Approved by: IDAHO DEPARTMENT OF FISH AND GAME

Dale E. Toweill Wildlife Program Coordinator Federal Aid Coordinator	James W. Unsworth, Chief Bureau of Wildlife

IDAHO

GAME MANAGEMENT UNITS



FEDERAL AID IN WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sale of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. The Idaho Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be responsible, ethical hunters. Seventy-five percent of the funds for this project are from Federal Aid. The other 25% comes from license-generated funds.