

IDAHO DEPARTMENT OF FISH AND GAME

Rod Sando, Director

Project W-170-R-24

Job Progress Report



PRONGHORN ANTELOPE

Study I, Job 7

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July 1, 1999 to June 30, 2000

October 2000
Boise, Idaho



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**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Antelope Surveys and</u>
PROJECT:	<u>W-170-R-24</u>		<u>Inventories</u>
SUBPROJECT:	<u>3-7</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>I</u>		<u>Trends, Utilization, and</u>
JOB:	<u>7</u>		<u>Associated Habitat Studies</u>
PERIOD COVERED: <u>July 1, 1999 to June 30, 2000</u>			

PRONGHORN ANTELOPE - STATEWIDE

Abstract

A total of 13,092 hunters applied for 1,800 controlled pronghorn antelope permits offered in 1999. There were 310 fewer permits offered in 1999 versus 1998. Thirty-seven different hunts were offered in the Southwest, Magic Valley, Southeast, Upper Snake, and Salmon regions. In addition, a general archery pronghorn antelope season was offered from 15 August through 15 September in 28 units. In 1999, the either-sex controlled hunts opened on 25 September and ran through 24 October. Two doe/fawn hunts opened 5 October and ran through 24 October, and 1 either-sex muzzleloader hunt opened 1 August and ran through 24 October. Thirty permits were offered in 1999 for youth hunters (under age 16) to take pronghorn antelope.

An estimated 1,631 of the 1,800 (91%) controlled hunt permittees actually hunted pronghorn antelope. Hunters harvested 1,149 pronghorn antelope in 5,285 days of hunting. General season archery tags for pronghorn antelope were purchased by 1,734 hunters. No harvest survey was conducted to estimate pronghorn antelope harvest during the general archery season.

State Introduction

Most pronghorn antelope populations in Idaho have densities that vary from low to moderate. In general, Idaho's pronghorn antelope habitats do not support the levels which are characteristic of high-quality habitat in Wyoming and Montana. Low annual precipitation, poor range conditions, and conflicts with private landowners are probably important reasons for the differences. The Birch Creek, Medicine Lodge, Little Wood, Big Lost, and Little Lost valleys support herds at relatively high densities.

Hunter success in most years exceeds 70% in many controlled hunts. The proportion of bucks harvested in Idaho by permittees in either-sex pronghorn antelope controlled hunts averaged 76% in 1999. A history of pronghorn antelope harvest is presented in Table 1. The 1999 pronghorn antelope season structure is presented in Appendix A.

When Idaho implemented the 1991-1995 Antelope Species Management Plan, the pronghorn antelope management units were divided into 5 groups of units with similar attributes and hunting opportunities (Figure 1). Knowledge of the opportunities present in these units will allow hunters to select the type of area and hunting experience they prefer. The Department's objective is to provide a variety of opportunities allowing hunters to match the setting and experience they desire. Variables used to classify units were hunting pressure, pronghorn antelope density and herd composition, road density and condition, natural condition of the environment, and distance from major human population centers.

In units of Group 1, hunting pressure is light or dispersed and generally occurs in areas of high aesthetic appeal away from major human population centers. Roads often traverse rough terrain, are of poor quality, and are limited in number. Pronghorn antelope numbers may be high or low but the opportunity to harvest a mature buck is high. Management objectives for Group 1 hunts include: 1) maintain an average horn length of 12.0 inches in the firearm buck harvest, and 2) maintain a preseason buck:doe ratio of greater than 50:100.

Group 2 units can provide a full range of opportunity to hunters. Pronghorn antelope numbers are high, supporting high hunter densities, high harvest, and high success rates in many units. Doe/fawn pronghorn antelope hunts are often offered in these units for population control. Within many of these units, opportunities exist to participate in Group 1 or Group 3 type hunts if desired. Management objectives for Group 2 hunts include: 1) maintain an average horn length of 12.0 inches in the firearm buck harvest, and 2) maintain a preseason buck:doe ratio of greater than 40:100.

In general, Group 3 units are characterized by variable hunter and pronghorn antelope densities, high road densities, and motorized vehicle use. Availability of pronghorn antelope bucks is limited. Private ownership of, and restricted access to, pronghorn antelope habitat is high in most units and have resulted in depredation problems that often dictate hunting season structure and harvest levels. Management objectives for Group 2 hunts include maintaining a preseason buck:doe ratio of greater than 40:100.

No hunts are offered in Group 4 and Group 5 units. Although pronghorn antelope are present in units of Group 4, low population numbers and/or low production levels prohibit harvest at this time. Portions of Group 5 units were historic pronghorn antelope habitat, but currently support few or no pronghorn.

Table 1. Pronghorn antelope estimated harvest history in Idaho, 1935-present.

Season	Year	Hunters	Harvest	Success (%)	Days hunted	
General	1935		144			
	1936		124			
	1937					
	1938					
	1939					
	1940			400		
	1941					
	1942			700		
	1943					
	1944			1,470		
	1945			650		
	1946					
	1947			461		
	1948			419		
	1949			383		
	1950			539		
	1951			1,349		
	1952			1,520		
	1953			1,254		
	1954			970		
	1955			822		
	1956			919		
	1957			1,001		
	1958			821		
	1959			679		
	1960			701		
	1961			579		
	1962			549		
	1963			774		
	1964			839		
	1965			977		
	1966			1,219		
	1967			1,286		
	1968			1,294		
	1969			1,472		
	1970			1,551		
	1971			1,465		
	1972			1,486		
	1973			1,237		
	1974			1,301		
1975			1,314			
1976			1,380			
1977			1,250			

Table 1. Continued.

Season	Year	Hunters	Harvest	Success (%)	Days hunted
Archery	1978		1,345		
	1979		1,430		
	1980		1,498		
	1981		1,837		
	1982	760	130	17	4,900
	1983	400	100	33	2,600
	1984	230	20	8	1,200
	1985	300	40	14	1,600
	1986	100	40	40	400
	1987	600	200	33	3,300
	1988	800	200	27	4,800
	1989	340	60	18	2,400
	1990	200	80	36	1,300
	1991	170	80	28	900
	1992	600	150	25	2,900
	1993	550	80	15	3,000
	1994	860	235	27	4,800
1995	790	135	17	4,100	
1996	920	155	17	5,200	
Controlled	1997-1999 ^a				
	1982	2,400	2,000	85	4,500
	1983	2,900	2,300	76	6,400
	1984	2,740	2,050	70	5,600
	1985	2,900	2,150	73	5,900
	1986	3,000	2,500	83	6,200
	1987	2,900	2,400	77	6,300
	1988	3,100	2,600	80	6,800
	1989	2,900	2,240	72	6,900
	1990	2,500	2,000	72	6,600
	1991	3,600	2,870	75	9,600
	1992	3,980	3,000	72	11,100
	1993	3,740	2,390	60	11,500
	1994	3,110	1,600	72	10,900
	1995	2,170	1,360	63	6,500
	1996	1,920	1,260	66	6,000
	1997	2,128	1,305	61	7,200
1998	1,917	1,153	55	6,600	
1999	1,631	1,149	63	5,285	
Extra doe/fawn	1989	1,400	1,200	81	3,200
	1990	1,300	1,100	80	3,400
Total	1982	3,160	2,130	67	9,400
	1983	3,300	2,400	73	9,000
	1984	2,970	2,070	70	6,800

Table 1. Continued.

Season	Year	Hunters	Harvest	Success (%)	Days hunted
	1985	3,200	2,190	68	7,500
	1986	3,100	2,540	82	6,600
	1987	3,500	2,600	74	9,600
	1988	3,900	2,800	72	11,600
	1989	4,640	3,500	75	12,500
	1990	4,000	3,180	80	11,300
	1991	3,770	2,950	78	10,500
	1992	4,580	3,150	69	14,000
	1993	4,290	2,470	58	14,500
	1994	3,970	1,835	46	15,700
	1995	2,960	1,495	51	10,600
	1996	2,840	1,415	50	11,200
	1997 ^a	2,128	1,305	61	7,200
	1998 ^a	1,917	1,153	55	6,600
	1999 ^a	1,631	1,149	63	5,285

^a Due to budget limitations, no survey was conducted to estimate the number of antelope harvested by archery hunters during the general season.

ANTELOPE

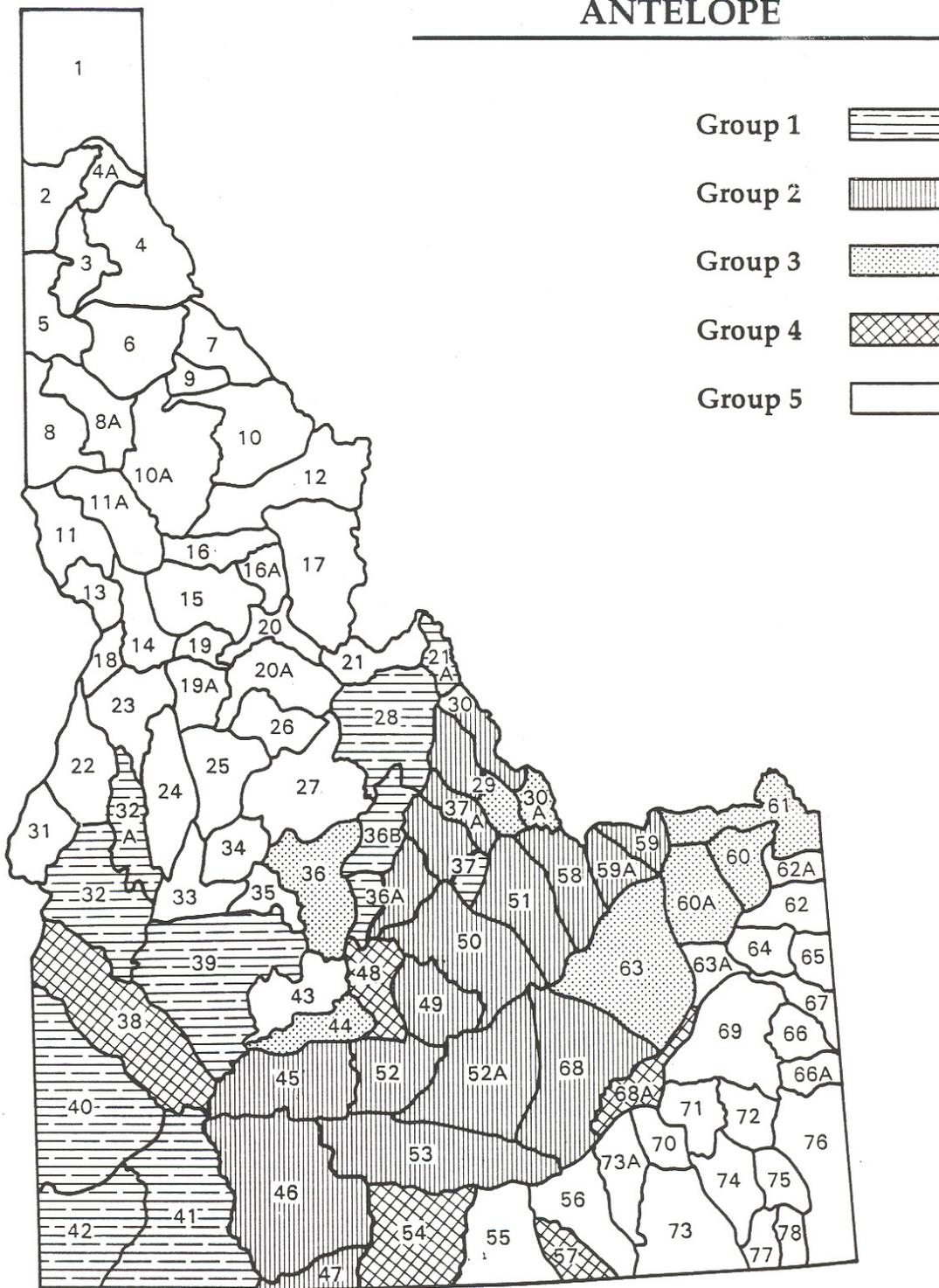


Figure 1. Pronghorn management groups in Idaho.

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PERIOD COVERED: <u>July 1, 1999 to June 30, 2000</u>			

PRONGHORN ANTELOPE - SOUTHWEST REGION

Abstract

Group 1: A total of 385 permits were issued and 241 pronghorn antelope were harvested in controlled hunts in 1999. Hunter success averaged 64% for the rifle hunts, 47% for the muzzleloader hunt, and 25% during the archery hunt. Average horn length remained above the minimum management objective of 12 inches in Units 39, 40, 41, and 42.

Group 4: No hunts or surveys took place in the this area during the reporting period.

Group 1

Management Units 39, 40, 41, 42

Management

No pronghorn antelope population surveys were conducted during this year. Pronghorn antelope observations incidental to bighorn sheep surveys and other activities seem to indicate a static population.

Harvest

Based upon the telephone survey, harvest increased slightly from 205 pronghorn antelope in 1998 to 241 in 1999 (Table 1). The muzzleloader hunt in Unit 41 had a success rate of 47% with a harvest of 12 pronghorn antelope. The success rate in the any-weapon hunts was 64% with a harvest of 229 pronghorn antelope. Horn length remained above the minimum objective of 12 inches in Units 39, 41, and 42 (Table 2).

Archery pronghorn antelope hunting is very popular in these units. No estimates of archery hunting activity are available for 1999. In previous years, the estimated number of archery hunters has been about 250, with a harvest of about 60 pronghorn antelope and success rates around 25%.

Table 1. Summary of pronghorn antelope harvest, Group 1, Southwest Region, 1970-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
39	1996	10	8	1	9	89	90
	1997	10	9	0	9	100	90
	1998	10	10	0	10	100	100
	1999	10	8	1	9	89	90
40	1970	35	9	10	19	47	54
	1971	35	15	6	21	71	60
	1972	50	9	11	20	45	40
	1973	50	17	6	23	74	46
	1974	50	16	1	17	94	34
	1975	50	14	8	22	64	44
	1976	50	13	5	18	72	36
	1977	50	17	4	21	81	42
	1978	50	16	3	19	84	38
	1979	50	23	8	31	74	62
	1980	50	22	8	30	73	60
	1981	50	27	9	36	75	72
	1982	50	31	4	35	89	70
	1983	50	28	10	38	74	76
	1984	50	28	8	36	78	72
	1985	50	27	3	30	90	60
	1986	50	32	8	40	80	80
	1987	50	38	5	43	88	86
	1988	50	35	6	41	85	82
	1989	50	37	4	41	90	82
	1990	100	70	16	86	81	86
	1991	100	77	9	86	90	86
	1992	125	76	13	89	85	71
	1993	125	74	6	80	93	64
	1994	150	82	15	97	85	65
1995	150	61	20	81	75	54	
1996	150	63	12	75	84	60	
1997	150	48	22	70	69	47	
1998	150	77	13	90	86	60	
1999	150	87	10	97	90	65	
41	1970 ^a	35	11	6	17	65	49
	1971	35	19	6	25	76	71
	1972 ^b	15	7	1	8	88	53
	1973	10	2	0	2	100	20
	1974 ^c	10	2	1	3	67	30
	1975	10	1	1	2	50	20
	1976	10	3	0	3	100	30
	1977	10	3	0	3	100	30

Table 1. Continued.

42	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
	1978	10	3	0	3	100	30
	1979	10	3	2	5	60	50
	1980	10	5	0	5	100	50
	1981	10	3	0	3	100	30
	1982	10	3	1	4	75	40
	1983	10	4	2	6	67	60
	1984	10	4	1	5	80	50
	1985	10	5	0	5	100	50
	1986	15	6	0	6	100	40
	1987	15	5	0	5	100	33
	1988	15	10	3	13	77	87
	1989	15	4	1	5	80	33
	1990	25	12	0	12	100	48
	1991	25	10	2	12	83	48
	1992	25	9	1	10	90	40
	1993	25	5	1	6	83	24
	1994	25	6	0	6	100	24
	1995	25	4	3	7	57	29
	1996	25	7	0	7	100	31
	1997	25	5	0	5	100	20
	1998	25	7	0	7	100	28
	1999	25	11	1	12	92	47
	1970	55	15	11	26	58	47
	1971	55	19	3	22	86	40
	1972	55	19	6	25	76	45
	1973	55	16	7	23	70	42
	1974	55	17	9	26	65	47
	1975	55	20	12	32	63	58
	1976	55	8	1	9	89	16
	1977	55	18	0	18	100	33
	1978	55	21	6	27	78	49
	1979	55	31	0	31	100	56
	1980	55	19	10	29	66	53
	1981	55	32	8	40	80	73
	1982	55	29	2	31	94	56
	1983	55	30	4	34	88	62
	1984	55	22	2	24	92	44
	1985	55	18	1	19	95	35
	1986	75	35	7	42	83	56
	1987	75	32	4	36	89	48
	1988	75	47	2	49	96	65
	1989	75	49	2	51	96	68

Table 1. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
	1990	100	48	15	63	76	63
	1991	100	82	4	86	95	86
	1992	125	82	15	97	85	78
	1993	125	82	6	88	93	70
	1994	200	107	23	130	82	65
	1995	200	131	0	131	100	69
	1996	200	121	16	137	88	76
	1997	200	110	15	125	88	62
	1998	200	93	5	98	95	49
	1999	200	100	23	123	81	62
42-2 ^d	1970	20	5	2	7	71	35
	1971	20	5	1	6	83	30
	1972	20	6	2	8	75	40
	1973	20	4	2	6	67	30
	1974	20	5	0	5	100	25
	1975	20	11	0	11	100	55
	1976	20	3	0	3	100	15
	1977	20	1	1	2	50	10
	1978	20	4	1	5	80	25
	1979	20	7	0	7	100	35
	1980	20	6	1	7	86	35
	1981	20	4	0	4	100	20
	1982	20	12	0	12	100	60
	1983	20	2	0	2	100	10

^a Unit included all of Units 46 and 47.

^b Unit reduced to include only the west portion of Unit 46.

^c Present boundary established.

^d Hunt 42-2 was closed from 1984-1989 and then combined with Hunt 42 in 1990.

Table 2. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters by unit, Group 1, Southwest Region, 1991-present.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
39	1996	10	7	14.9
	1997	10	6	15.2
	1998	10	7	16.4
	1999	10	6	15.2
40	1991	100	32	12.5
	1992	125	44	12.9
	1993	125	43	12.4
	1994	150	40	12.9
	1995	150	25	11.3
	1996	150	20	11.2
	1997	150	19	10.6
	1998	150	36	12.1
	1999	150	40	12.9
	41	1991	25	6
1992		25	4	10.6
1993		25	3	11.0
1994		25	5	13.6
1995		25	3	13.7
1996		25	5	13.8
1997		25	3	12.7
1998		25	5	15.4
1999		25	7	13.0
42		1991	100	47
	1992	125	47	12.9
	1993	125	46	13.3
	1994	200	45	14.1
	1995	200	42	12.5
	1996	200	31	12.5
	1997	200	38	12.4
	1998	200	38	12.9
	1999	200	39	14.1

^a Information prior to 1994 was provided by hunter report cards; subsequent data collected through telephone survey.

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SUBPROJECT:	<u>4</u>	STUDY NAME:	<u>Big Game Population Status,</u>
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JOB:	<u>7</u>		<u>Associated Habitat Studies</u>
PERIOD COVERED: <u>July 1, 1999 to June 30, 2000</u>			

PRONGHORN ANTELOPE - MAGIC VALLEY REGION

Abstract

Group 2: In recent years, pronghorn antelope populations in Group 2 units have begun to exhibit evidence of population growth after low and relatively stable populations. Observed reproductive performance in August 1999 was near the long-term average in Unit 46 (0.42 fawns:doe) and well above average in Units 49 (0.93 fawns:doe). Harvest has been substantially curtailed since 1994 to encourage population growth. Permit levels in 1999 were only 28% of 1993 levels. Telephone survey data indicate mean horn lengths of harvested bucks in 1999 were below the 12-inch minimum objective in Units 49 and 53. Observed buck ratios from 1991-1998 have averaged 0.37 and 0.34 bucks:doe in Units 46 and 49, respectively.

Group 3: Pronghorn antelope numbers in Unit 44 have increased since the decline in 1993. The population currently numbers more than 200 head. Ratios of 0.29 bucks and 1.00 fawns:doe ($n = 238$) were observed in September 1999. A doe/fawn hunt with 40 permits was added in 1999 to help slow population growth.

Group 4: Pronghorn antelope have gradually increased in Unit 54 since their reintroduction in 1989. A 10-permit hunt has been authorized since 1996. Hunter success has averaged 95% and several trophy bucks have been taken. Pronghorn antelope numbers remain low in Unit 57, but a limited hunt with 5 permits has been authorized since 1996 to allow an opportunity to harvest some of the mature bucks this population supports.

Group 2

Management Units 45, 46, 47, 49, 52, 52A

Pronghorn antelope populations in most Group 2 units declined substantially during the 1992-1993 winter. Hunts and permit levels have been adjusted accordingly to encourage population recovery. Following the 1993 decline, pronghorn antelope hunts were eliminated in Units 45, 52, and 52A, and doe/fawn hunts were eliminated in all units except Unit 46. Overall, the number of permits issued in Group 2 units in 1999 was only 28% of 1993 levels. Hunter success

in 1999 ranged from 40% in the Unit 47 muzzleloader hunt to 92% in Hunt Area 49 and averaged 72% for all any-antelope hunts combined. A new youth-only pronghorn antelope hunt was implemented in Unit 52. Eight of the 10 youth hunters harvested bucks with an average horn length of 12.3 inches (Table 1).

One of the goals in the 1991-1995 Pronghorn Antelope Plan is to maintain a minimum mean horn length of 12 inches for firearm hunts. Horn length data were collected by hunter report cards from 1991-1993 and via the telephone survey since 1994. Reported horn lengths in 1999 were above the 12-inch objective in Unit 46 and below the 12-inch objective in Units 49 and 53 (Table 2).

Pronghorn antelope populations have exhibited low to moderate increases in most units since 1994. Fawn production has been fair, winter survival good, and the frequency of observations has increased. Sex and age composition data are collected annually during August in Units 46-47 and 49. In Unit 49, the observed ratio of 0.93 fawns:doe ($n = 255$) in 1999 was the highest observed ratio since 1988 and was well above the 1976-1998 mean of 0.79 fawns:doe. In August 1993 following the substantial winter losses the previous winter, observed fawn production in Unit 49 was only 0.38 fawns:doe. Observed fawn production in Unit 46 is generally lower than in Unit 49. In Unit 46, 0.42 fawns:doe ($n = 223$) was observed in 1999, which is slightly lower than the 1982-1998 mean of 0.47 fawns:doe.

An objective in the 1991-1995 Pronghorn Antelope Plan is to maintain an August ratio of 0.40 bucks:doe. From 1991-1999, observed August buck to doe ratios have averaged 0.37 bucks:doe in Unit 46 and 0.34 bucks:doe in Unit 49.

During the past 15 years, fires have removed more than a million acres of sagebrush-dominated habitat in the Magic Valley Region. While these fires may have improved spring, summer, and fall pronghorn antelope habitat in some areas, there have been negative effects on winter range and fawning habitat. These fires will likely hinder recovery of pronghorn antelope populations in Units 49, 52A, 47, and 46 to the high levels of the late 1980s and early 1990s.

Three minor depredation complaints were received during the 1999-2000 reporting period. Seventeen complaints were received in 1992-1993 when populations were high.

Group 3

Management Unit 44

Unit 44 is the only Group 3 unit in the Magic Valley Region. During the late 1970s to mid-1980s, depredation complaints on the Camas Prairie (Units 44 and 45) were common and the management objective has been to maintain the pronghorn antelope population below 100 head. However, depredation complaints have been minimal during the past 13 years despite drought conditions during 7 of those years. No depredation complaints were received during the 1999-2000 reporting period.

Pronghorn antelope suffered high losses on the Camas Prairie during the 1992-1993 winter. Doe/fawn hunting was curtailed from 1994-1998 to encourage population growth. In recent years, high fawn production, good winter survival, and conservative hunting seasons has allowed the pronghorn antelope population to increase to more than 200 head. During September 1999, 238 pronghorn antelope were classified on the Camas Prairie and ratios of 0.29 bucks and 1.00 fawns per doe were observed. In 1998, a ratio of 0.97 fawns/doe ($n = 135$) was observed.

In 1999, any-antelope permits were maintained at 40 permits and a 40-permit doe/fawn hunt was implemented to help slow population growth. From 1987-1999, hunter success in the any-antelope hunt has averaged 92% (Table 3). The mean maximum horn length reported by hunters has been below the 12-inch Plan minimum during 6 of the past 8 years (Table 4).

Group 4

Management Units 48, 54, 57

In 1989, the Department transplanted 29 pronghorn antelope from the Mud Lake area (Unit 63) to the Shoshone Basin area of Unit 54. In addition the Nevada Division of Wildlife released pronghorn antelope east of Jackpot, Nevada, near Shoshone Basin in the late 1980s. This interstate population has increased and provides hunting opportunity in Idaho and Nevada. A 10-permit any-antelope hunt has been authorized in Unit 54 since 1996. Hunter success was 100% in 1996 and 1997 and 90% in 1998 and 1999, with several outstanding bucks taken (Tables 5 and 6).

Although the frequency of pronghorn antelope observations in Unit 57 has increased in recent years, the population remains at a low level. Between 50 and 100 pronghorn antelope are frequently observed during the winter in the Raft River Valley east of Malta; however, spring, summer, and fall sightings indicate a smaller resident population. At the request of local sportsmen, a hunt with 5 permits has been authorized since 1996 to allow some opportunity to harvest the mature bucks this small population supports. Since the hunt began in 1996, 20 hunters have taken 16 bucks. A buck taken in 1998 scored number 2 in the Idaho Big Game Records (Tables 5 and 6).

Magic Valley Region Management

From 1987-1992, pronghorn antelope populations in the Magic Valley Region increased due to a series of mild winters and improved summer-fall habitat in some units. Hunting opportunity was increased substantially during this period and summer depredation problems were common. Both permit levels and harvest increased more than 500% from 1984 to 1992 (Table 7).

The combined effects of drought and the harsh conditions of the 1992-1993 winter resulted in a substantial decline in pronghorn antelope numbers region-wide. Populations south of the Snake River did not experience the magnitude of decline that occurred in units in the northern portion of the region. Pronghorn antelope numbers have increased substantially in the Camas Prairie area of Units 44, 45, and 52, while there have been small to moderate increases in other units.

Pronghorn antelope population increases are expected in Unit 49 based on the excellent fawn production observed in Unit 49. The small pronghorn antelope populations in Units 54 and 57 appeared to be relatively unaffected by the 1992-1993 winter and have remained relatively stable in recent years.

Large uncontrolled wildfires during the past decade substantially altered pronghorn antelope habitat in most management units in the Magic Valley Region. The loss of critical sagebrush winter ranges is expected to hinder the future growth of populations in Units 46, 47, 52A, and 49.

Population surveys during the 2000-2001 reporting period will be limited to ground surveys conducted during August to estimate age and sex ratios in Units 46 and 49.

Table 1. Summary of pronghorn harvest, Group 2 hunts, Magic Valley Region, 1976-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)	
			Male	Female	Total			
45	1988	30	22	2	24	92	80	
45-1	1989	20	12	2	14	86	70	
	1990	20	14	2	16	88	80	
	1991	20	14	1	15	93	75	
	1992	20	13	1	14	93	70	
	1993	20	6	0	6	100	30	
45-2	1989	30	1	11	12	8	40	
	1990	30	9	13	22	41	73	
	1991	30	4	17	21	19	70	
	1992	30	0	8	8	0	27	
	1993	30	0	13	13	0	43	
46	1976	35	10	5	15	67	43	
	1977	35	21	5	26	81	74	
	1978	20	14	3	17	82	85	
	1979	20	7	2	9	78	45	
	1980	20	13	4	17	76	85	
	1981	10	8	2	10	80	100	
	1982	10	9	0	9	100	90	
	1983	25	19	4	23	83	92	
	46-1	1984	20	15	0	15	100	75
		1985	20	17	0	17	100	85
46-2	1984	10	0	3	3	0	30	
	1985	20	1	12	13	8	65	
46	1986	40	27	6	33	82	83	
	1987	50	38	7	45	84	90	
	1988	50	40	4	44	91	88	
	1989	75	60	5	65	92	87	
46-1	1990	50	32	6	38	84	76	
	1991	50	35	5	40	88	80	
	1992	60	53	0	53	100	88	
	1993	60	48	5	53	91	88	
	1994	60	48	2	50	96	83	
	1995	60	45	6	51	88	86	
	1996	60	34	4	38	89	65	
	1997	60	45	3	48	94	81	
	1998	60	47	3	50	94	88	
	1999	60	53	3	56	95	92	
46-2	1990	25	1	14	15	7	60	
	1991	50	0	38	38	0	76	
	1992	100	0	69	69	0	69	
	1993	100	0	53	53	0	53	
	1994	50	0	36	36	0	72	

Table 1. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
47	1995	50	0	25	25	0	58
	1996	100	50	0	50	100	53
	1997	100	2	42	44	5	46
	1998	100	0	52	52	0	63
	1999	50	0	34	34	0	68
	1988	20	3	2	5	60	25
	1989	20	4	1	5	80	25
	1990	40	8	1	9	89	23
	1991	40	12	5	17	71	43
	1992	40	11	1	12	92	30
	1993	40	14	3	17	82	43
	1994	40	9	2	11	82	28
	1995	40	9	4	13	69	36
	1996	40	10	0	10	100	29
	49	1997	40	9	1	10	90
1998		40	10	1	11	91	31
1999		40	12	4	16	75	40
1976		10	3	3	6	50	60
1977		10	7	0	7	100	70
1978		30	19	10	29	66	97
1979		40	18	6	34	53	85
1980		50	31	11	42	74	84
1981		90	71	10	81	88	90
1982		90	71	13	84	85	93
1983		90	73	7	80	91	89
1984		90	66	2	68	97	76
1985		90	55	24	79	70	88
1986		90	58	13	71	82	79
49-1		1987	90	53	18	71	75
	1988	110	83	13	96	86	87
	1989	110	70	13	83	84	75
	1990	100	63	22	85	74	85
	1991	100	67	19	86	78	86
	1992	100	59	11	70	84	70
	1993	100	50	20	70	71	70
	1994	50	25	10	35	71	70
	1995	50	32	10	42	76	84
	1996	30	17	3	20	85	74
49-2	1990	50	21	8	29	72	58
	1991	50	19	14	33	58	66
	1992	50	31	5	36	86	72
	1993	50	11	15	26	42	52

Table 1. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
49-3	1994	25	3	13	16	19	64
	1995	25	7	4	11	64	49
	1996	10	10	0	10	100	100
	1992	25	18	2	20	90	80
	1993	25	11	10	21	52	84
	1994	25	13	3	16	81	64
49	1995	25	10	3	13	77	62
	1996	10	3	0	3	100	38
	1997	50	39	7	46	85	92
	1998	50	36	6	42	86	89
	1999	50	27	14	41	66	82
52	1986	20	11	1	12	92	60
	1987	30	15	5	20	75	67
	1988	30	22	4	26	85	87
	1989	30	16	3	19	84	63
	1990	30	20	3	23	87	77
	1991	30	22	3	25	88	83
	1992	15	14	1	15	93	100
52-1	1993	15	7	2	9	78	60
	1992	15	1	7	8	13	53
52-2	1993	15	0	6	6	0	40
	1994	15	12	0	12	100	80
52	1995	15	9	1	10	90	71
	1996-1998	Closed					
52A	1999	10	8	0	8	100	80
	1976	65	36	8	44	82	68
	1977	65	32	3	35	91	54
	1978	30	17	3	20	85	67
	1979	30	25	4	29	86	97
	1980	30	17	4	21	81	70
	1981	30	28	2	30	93	100
	1985	20	18	1	19	95	95
	1986	30	22	1	23	96	77
	1987	30	22	7	29	76	97
	1988	30	19	6	25	76	83
	1989	60	39	8	47	83	78
	1990	60	40	8	48	83	80
	1991	60	44	4	48	92	80
	52A-1	1992	75	58	7	65	89
1993		75	17	8	25	68	33
52A-2	1992	75	0	56	56	0	75
	1993	75	0	5	5	0	7

Table 1. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
52A	1994	25	8	2	10	80	40
	1995	25	6	1	7	86	29
53	1976	10	6	3	9	67	90
	1977	10	9	0	9	100	90
	1978	20	2	15	17	12	85
	1979	20	4	13	17	24	85
	1980	20	4	16	20	20	100
	1981	30	4	22	26	15	87
	1982	20	4	14	18	22	90
	1985	10	0	6	6	0	60
	1986	10	0	7	7	0	70
	1987	20	18	2	20	90	100
	1988	30	27	3	30	90	100
	1989	50	35	5	40	88	80
	1990	50	38	9	47	81	94
53-1	1991	50	26	7	33	79	66
	1992	30	26	3	29	90	97
	1993	30	12	1	13	92	43
53-2	1991	30	1	16	17	6	57
	1992	30	3	12	15	20	50
	1993	30	0	8	8	0	27
53-3	1992	30	1	17	18	6	60
	1993	30	2	9	11	18	37
53	1994	30	11	3	14	79	47
	1995	30	15	1	16	94	53
	1996	30	10	4	14	71	50
	1997	30	8	4	12	67	44
	1998	30	8	4	12	67	40
	1999	30	14	6	20	70	68

Table 2. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters, Group 2 hunts, Magic Valley Region, 1991-present.

Hunt area	Year	Number permits	Number reports	Mean maximum horn length
45-1	1991	20	4	12.9
	1992	20	8	12.7
	1993	20	6	12.9
46-1	1991	50	30	12.2
	1992	60	24	12.2
	1993	60	20	12.0
	1994	60	38	12.2
	1995	60	41	11.4
	1996	60	18	11.4
	1997	60	31	13.1
	1998	60	29	13.5
	1999	60	53	12.3
	47	1991	40	9
1992		40	3	12.2
1993		40	6	12.6
1994		40	8	11.4
1995		40	8	12.6
1996		40	6	6.5
1997		40	6	11.5
1998		40	8	12.3
1999		40	12	10.9
49-1		1991	100	29
	1992	100	25	12.2
	1993	100	19	10.4
	1994	50	22	11.9
	1995	50	29	9.3
	1996	30	12	9.2
49-2	1991	50	14	12.9
	1992	50	15	11.8
	1993	50	6	12.9
	1994	25	2	13.5
	1995	25	6	9.2
	1996	10	6	9.7
49-3	1992	25	7	11.8
	1993	25	4	10.5
	1994	25	11	12.1
	1995	25	8	11.6
	1996	10	3	10.7
49	1997	50	30	10.8
	1998	50	27	11.0
	1999	50	27	11.4

Table 2. Continued.

Hunt area	Year	Number permits	Number reports	Mean maximum horn length
52-1	1991	30	11	12.7
	1992	15	5	10.4
	1993	15	2	13.0
52	1994	15	9	12.0
	1995	15	7	12.0
52A-1	1991	60	20	13.2
	1992	75	26	11.6
	1993	75	8	10.9
52A	1994	25	6	13.8
	1995	25	5	10.6
53-1	1991	50	13	11.7
	1992	30	13	11.5
	1993	30	5	12.5
53	1994	30	8	14.0
	1995	30	14	11.1
	1996	30	7	10.6
	1997	30	6	10.6
	1998	30	7	10.7
	1999	30	14	11.4

^a Information prior to 1994 was provided by hunter report cards; subsequent data collected through telephone survey.

Table 3. Summary of pronghorn harvest, Group 3 hunts, Magic Valley Region, 1987-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
44	1987	20	20	0	20	100	100
	1988	20	15	2	17	88	85
44-1	1989	10	7	3	10	70	100
	1990	10	8	0	8	100	80
	1991	10	10	0	10	100	100
	1992	20	18	2	20	90	100
	1993	20	16	1	17	94	85
44-2	1989	20	4	13	17	24	85
	1990	20	0	15	15	0	75
	1991	20	3	13	16	19	80
	1992	30	0	22	22	0	73
	1993	30	0	16	16	0	53
44	1994	20	15	1	16	94	80
	1995	20	14	1	15	93	79
	1996	20	17	1	18	94	92
	1997	20	17	3	20	85	100
	1998	40	34	2	36	94	97
44-1	1999	40	32	3	35	91	87
44-2	1999	40	0	29	29	0	72

Table 4. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters, Group 3 hunts, Magic Valley Region, 1991-present.

Hunt area	Year	Number permits	Number reports	Mean maximum horn length
44-1	1991	10	5	13.2
	1992	20	6	11.0
	1993	20	6	13.1
44	1994	20	12	10.3
	1995	20	12	11.5
	1996	20	11	10.1
	1997	20	12	10.5
	1998	40	22	12.2
44-1	1999	40	31	10.7

Table 5. Summary of pronghorn harvest, Group 4 hunts, Magic Valley Region, 1996-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
54	1996	10	9	0	9	100	100
	1997	10	10	0	10	100	100
	1998	10	9	0	9	100	90
	1999	10	9	0	9	100	90
57	1996	5	4	0	4	100	100
	1997	5	5	0	5	100	100
	1998	5	3	0	3	100	60
	1999	5	4	0	4	100	80

Table 6. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters, Group 4 hunts, Magic Valley Region, 1996-present.

Hunt area	Year	Number permits	Number reports	Mean maximum horn length
54	1996	10	9	13.9
	1997	10	5	14.7
	1998	10	6	14.7
	1999	10	9	13.6
57	1996	5	3	16.0
	1997	5	5	12.2
	1998	5	2	14.5
	1999	5	4	14.7

Table 7. Summary of pronghorn antelope harvest, Magic Valley Region, 1976-present.

Year	# Permits	Harvest			Male (%)	Success (%)
		Male	Female	Total		
1976	120	55	19	74	74	62
1977	120	69	8	77	90	64
1978	100	52	31	93	56	93
1979	110	54	25	79	68	72
1980	120	65	35	100	65	83
1981	160	111	69	147	76	92
1982	120	84	27	111	76	93
1983	115	92	11	103	89	90
1984	120	81	5	86	94	72
1985	160	91	43	134	68	84
1986	190	118	28	146	81	77
1987	240	166	39	205	81	85
1988	320	231	36	267	87	83
1989	415	251	66	317	79	76
1990	485	254	101	355	72	73
1991	540	257	142	399	64	74
1992	745	306	224	530	58	71
1993	745	194	175	369	53	50
1994	310	144	72	216	67	70
1995	340	147	56	203	72	64
1996	315	164	12	176	93	70
1997	315	133	62	195	68	66
1998	335	147	68	215	68	71
1999	335	158	93	251	63	75

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Antelope Surveys and</u>
PROJECT:	<u>W-170-R-24</u>		<u>Inventories</u>
SUBPROJECT:	<u>5</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>I</u>		<u>Trends, Utilization, and</u>
JOB:	<u>7</u>		<u>Associated Habitat Studies</u>
PERIOD COVERED: <u>July 1, 1999 to June 30, 2000</u>			

PRONGHORN ANTELOPE - SOUTHEAST REGION

Abstract

Fifty any-antelope permits were issued for Unit 68 in 1999. Forty-six percent of hunters harvested a pronghorn antelope, compared to 40% in 1998. One female and 22 male pronghorn antelope were harvested. Harvested males had an average maximum horn length of 12.8 inches. Population information is limited for the unit because of low density and wide dispersion. An aerial survey was conducted during August 1999. The intent of the survey was to collect distribution and minimum known count data.

Group 2

Management Unit 68

The Unit 68 any-antelope permit level remained the same in 1999 as in 1998 (Table 1). Hunter success (46%) in 1999 was nearly the same as in 1998 (40%). An estimated 43 hunters hunted a total of 123 days, averaging 2.9 days per hunter in 1999. This compares to 42 hunters hunting 143 days with an average of 3.4 days per hunter in 1998. Since 1994, horn length information has been gathered through the statewide telephone survey. Mean maximum horn length for the 1999 harvest was 12.8 inches (Table 2), above the 12.0-inch objective established in the 1991 1995 Pronghorn Antelope Management Plan.

No doe/fawn permits were issued in 1999 because of relatively low populations and limited depredation problems.

In the past, little quantitative data has been available on population trend of this pronghorn antelope herd. Subjective observations by Department personnel suggest the population has increased from the most recent low reached during spring 1993. Past estimates of the pronghorn antelope population on the Big Desert have been obtained through fixed-wing surveys using line-transect methodology based on Burnham et al. (1980) and modified by Johnson and Lindzey (1990). Line-transect surveys in Unit 68 were flown in autumn 1987 and in spring 1988, 1990, and 1991.

Population estimates calculated for the Big Desert have varied greatly. Confidence limits for the population estimates have been unacceptably wide due to the low density of pronghorn antelope in the area and their unpredictable distribution.

The application of line-transect surveys and use of the TRANSECT II program for pronghorn antelope in areas that have low level, dispersed populations such as the Big Desert has definite limitations (Laake et al. 1978, White 1986). The technique can still provide a systematic method to survey pronghorn antelope over large areas; however, the inability to increase sample sizes easily and cost-efficiently prevents generation of population estimates with acceptable confidence limits.

An aerial survey for pronghorn antelope was conducted during August 1999 within Unit 68. The intent of the survey was to collect distribution and minimum known count data for pronghorn antelope. There were 1,500-meter strip transects flown north-south across the unit. A total of 7.5 hours of flight time was used. Six groups of pronghorn antelope were located with a total count of 64.

Use of irrigated agricultural fields adjacent to sagebrush rangeland by pronghorn antelope was noted during summer 1999, but no depredation problems were reported, nor were any received during winter 1999-2000.

The 1999-2000 winter snow-pack in the Southeast Region was slightly below average, with snow-pack levels throughout the region 80% of the mean for the past 30-year period. Most snow-pack was late arriving and restricted to higher elevations, with lower elevations experiencing relatively minor accumulations.

An approximately 220,000-acre wildfire occurred during August 1996 within Unit 68. A seral setback of this scale will likely improve spring/early summer habitat for pronghorn antelope. However, loss of significant amounts of sagebrush may adversely affect wintering habitat.

Literature Cited

- BURNHAM, K. P., D. R. ANDERSON, AND J. L. LAAKE. 1980. Estimation of density from line-transect sampling of biological populations. Wildlife Monographs No. 72. 202 pp.
- JOHNSON, B. AND F. LINDZEY. 1990. Guidelines for estimating pronghorn numbers using line-transects. Wyoming Game and Fish Department. 30 pp.
- LAAKE, J. L., K. P. BURNHAM, AND D. R. ANDERSON. 1979. User's manual for Program TRANSECT. Utah State University Press, Logan. 26 pp.
- WHITE, G. C. 1986. Program TRANSECT II. Colorado State University, Fort Collins.

Table 1. Summary of pronghorn antelope harvest, Group 2, Southeast Region, 1981-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
68 ^a	1981	50	37	5	42	88	84
	1982	50	36	5	41	88	82
	1983	50	32	16	48	67	96
	1984	50	37	3	40	93	80
	1985	50	35	7	42	83	84
	1986	50	44	4	48	92	96
	1987	75	59	10	69	86	92
	1988	75	59	3	62	95	83
68-1 ^a	1989	100	66	17	83	80	83
	1990	75	48	10	58	83	77
	1991	100	55	17	72	76	72
	1992	100	62	8	70	89	70
68-2 ^b	1989	150	6	101	107	6	71
	1990	50	7	25	32	22	64
	1991	200	27	67	94	29	47
	1992	200	11	57	68	16	34
68-3 ^c	1989	100	0	96	96	0	96
	1990	100	3	66	69	4	69
68 ^a	1993	100	29	6	35	83	35
	1994	50	16	3	19	84	38
	1995	50	16	4	20	80	44
	1996	50	17	5	22	77	51
	1997	50	19	0	19	100	38
	1998	50	19	1	20	95	40
	1999	50	22	1	23	96	46

^a Any antelope.

^b Doe/fawn.

^c Extra doe/fawn.

Table 2. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters, Group 2, Southeast Region, 1991-present.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
68-1	1991	100	27	11.7
	1992	100	30	12.4
68	1993	100	12	11.9
	1994	50	12	13.7
	1995	50	13	12.3
	1996	50	10	10.8
	1997	50	12	12.3
	1998	50	14	12.4
	1999	50	20	12.8

^a Information prior to 1994 was provided by hunter report cards; subsequent data collected through telephone survey.

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Antelope Surveys and</u>
PROJECT:	<u>W-170-R-24</u>		<u>Inventories</u>
SUBPROJECT:	<u>6</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>I</u>		<u>Trends, Utilization, and</u>
JOB:	<u>7</u>		<u>Associated Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 1999 to June 30, 2000</u>		

PRONGHORN ANTELOPE - UPPER SNAKE REGION

Abstract

Group 2: A population survey was conducted in Unit 51 in July 1996. Population surveys in other Group 2 units have not been conducted in recent years. Some winter kill occurred during the 1992-1993 winter, but no winter mortality has been observed since then. Permit numbers remained the same for 1999 as they were in 1998 for all hunt areas. Horn length data were collected by telephone survey. The average horn length exceeded the 12-inch management plan objective for 3 hunts, but was less than 12 inches for the other 5 hunts. There were no pronghorn antelope depredation complaints in Group 2 units during 1999.

Group 3: A population survey was conducted in the southern part of Unit 63 in July 1996. Population surveys in other Group 3 units have not been conducted in recent years. Severe winter conditions resulted in some winter kill during the 1992-1993 winter, but no mortality has been noted since then. Pronghorn antelope depredation on stacked hay occurred during winter 1999-2000 near Dubois and Hamer in Hunt Area 60A.

Group 2

Management Units 50, 51, 58, 59, 59A

These mountain valley units support the most productive pronghorn antelope herds in the region. Most of the land is managed by the Bureau of Land Management or Forest Service with limited private cultivated land occurring along the major stream corridors. Pronghorn antelope occurring in these units are seasonally migratory and, during severe winters, are forced into Unit 63.

Minor depredations on hay and grain crops are common during summer, but most are tolerated by landowners when they receive assistance from the Department. Major depredation complaints are received during extremely dry years when pronghorn antelope congregate on irrigated fields. Under these conditions, the Department has been forced to authorize additional depredation hunts and pay for crop and fence damage.

Permit numbers for “either-sex antelope” hunts were decreased and doe/fawn-only pronghorn antelope hunts were closed in 1994. The number of permits have remained the same in Group 2 units since 1995 (Table 1).

One of the objectives of the 1991-1995 Pronghorn Antelope Plan for this group of units is to maintain an average horn length of 12 inches in the firearm either-sex harvest. This information has been collected by telephone survey since 1994. Three hunts met the minimum average horn length (51-1, 58, and 59), but the other hunts fell short of the objective (Table 2). Reported horn length sample size remains smaller than desired for precision estimates.

Herd composition and population trend surveys had not been attempted in these units for several years. A line-transect survey was conducted in Unit 51 in 1989, but resulted in unacceptably wide confidence intervals on population estimates (Table 3). Problems associated with this survey technique included low population density, uneven distribution, uneven topography resulting in varying band width, and unsafe flying conditions.

In July 1996, a Bell G-47 helicopter was used to survey pronghorn antelope in Unit 51 using a method similar to a method described by Pojar, et al. (1995). A total of 254 pronghorn antelope were counted in Unit 51 (33 bucks, 167 does, 54 fawns) for a mean density of 3.73 pronghorn antelope/km² ($s_x = 4.4$). It was estimated that the summer distribution of pronghorn antelope in Unit 51 was approximately 638 km². If this estimate was correct, then there were an estimated $2,381 \pm 1,164$ pronghorn antelope in Unit 51. This compares to 4.62 pronghorn antelope/km² and a total population estimate of $2,948 \pm 2,444$ pronghorn antelope obtained from the line-transect survey conducted in July 1989 (Table 3).

Severe conditions during the 1992-1993 winter caused un-quantified, but above-normal, winter kill. Winter mortality has not been observed since then.

Winter conditions during the 1999-2000 winter were relatively mild at lower elevations. Heavy snowfall in the upper part of Units 50, 51 and 58 in February appeared to have little impact on pronghorn antelope. The Department received no reports of animals suffering winter stress and general observations suggested pronghorn antelope wintered well.

Group 3

Management Units 60, 60A, 61, 63

These units provide important pronghorn antelope habitat but are difficult to manage. Units 60 and 60A have productive summer range, but access to traditional winter range from these units was blocked when Interstate 15 was built. Under current conditions, the herd flourishes during light to moderate winters but is decimated during hard winters.

Pronghorn antelope habitat in the eastern part of Unit 61 is restricted to summer range on Henrys Lake Flat area and adjacent clearcuts. These pronghorn antelope winter in the Madison Valley

of Montana. Summer range is predominantly privately owned. Some landowners have complained to the Department about pronghorn antelope using their land for foraging but have also posted their land to hunting. Montana experiences some winter depredation problems involving these pronghorn antelope. Therefore, the region's goal is to manage this herd for non-consumptive value and use sport harvest to prevent it from increasing and causing more severe depredations.

Habitat in the western part of Unit 61 is primarily confined to the Beaver Creek drainage and its tributaries. These pronghorn antelope winter southeast of Dillon, Montana, and currently are not causing any winter depredation problems.

Unit 63 provides winter range for pronghorn antelope summering in Group 2 units and year-round habitat for a resident population. Approximately half the unit is controlled by the U.S. Department of Energy as the Idaho National Engineering and Environmental Laboratory (INEEL) and is closed to hunting. In several areas, irrigated crops are grown on private lands that abut the INEEL. Consequently, some of the pronghorn antelope summering in Unit 63 cause annual depredation problems on private lands but are unavailable to sportsmen for harvest. Summer crop depredations occur on other private land in the unit but are easier to control with hunting.

Permit numbers were reduced from 50 to 25 in Hunt Area 61 in 1999 because pronghorn antelope numbers appeared to be down (Table 4). Permit numbers for all other hunt areas remained the same for 1999 as they were for 1998.

Two pronghorn antelope depredation complaints were received on stacked hay in Hunt Area 60A during winter 1999-2000. Fifty to 60 pronghorn antelope damaged haystacks in the Dubois area and an estimated 50+ pronghorn antelope damaged haystacks in the Hamer area. Zon guns and caw-caw rope with cracker shells were used to address the depredation problem near Dubois, and Tensor™ netting was used to protect the haystacks near Hamer.

Pronghorn antelope in Units 60 and 60A recovered from near total extirpation during the hard winters of 1983-1984 and 1984-1985 but suffered winter kill again during the 1992-1993 winter. Pronghorn antelope numbers in Unit 61 also followed a similar pattern.

The average horn length for reported hunter harvest in 1999 exceeded 12 inches for Hunt Area 63-1, but was less than 12 inches for all other Group 3 hunts (Table 5). Although the 1991-1995 Pronghorn Antelope Plan does not include a minimum average horn length goal for this group of units, the Plan does note as a management consideration that mature buck numbers were below desired levels.

Hunt Area 63-2 is 1 of only 3 pronghorn antelope hunts in the state restricted to muzzleloaders. Muzzleloader interest has increased over the past few years, and since 1994, all permits have been filled by first-choice applicants.

Consistent herd composition counts and population trend surveys have not been conducted in these units in recent years. A line-transect trend survey was attempted in Unit 63 in 1990 (Table 3). The wide confidence interval suggested this method was not suitable for census of pronghorn antelope in this area. The primary variable producing the wide confidence interval was low population density.

In July 1996, pronghorn antelope were surveyed in that part of Unit 63 south of Highway 33 outside of the INEEL and the adjacent 3.22 km inside the east and south border of INEEL as described for Unit 51 above. Forty-seven pronghorn antelope were counted in the area surveyed in Unit 63 (6 bucks, 73 unclassified) for a mean density of 1.04 pronghorn antelope/km² ($s_x = 6.58$). It was estimated that there were 654 km² surveyed in Unit 63. The estimated number of pronghorn antelope occurring in the area surveyed in Unit 63 during summer 1996 was $682 \pm 1,008$.

The Environmental Science and Research Foundation, Inc., conducted a pronghorn antelope survey on the INEEL in August 1996 following the protocol reported by Pojar et al. (1995). Two hundred fifty-two pronghorn antelope were observed. The total pronghorn antelope estimate on the INEEL was $1,247 \pm 1,212$ (90% C.I.). The buck:doe ratio was 16:100 and the fawn:doe ratio was 8:100.

On 13-15 July 1999, the Environmental Science and Research Foundation, Inc., used a Maule fixed-wing aircraft to conduct a line-transect survey for deer, pronghorn antelope, and elk on the INEEL. Nine hundred sixty-six km² of the 1,432 km² INEEL was covered by north-south transects spaced at one-half mile intervals. Fifty-two pronghorn antelope were observed in 23 groups. Seven of the groups containing 20 pronghorn antelope were observed within 5 miles of agricultural fields near Mud Lake. Analysis of the data with the program Transect II (Johnson and Lindzey 1990) resulted in an estimated of 479 ± 112 pronghorn antelope. This was down from the 579 estimated in summer 1998, but within the range estimated the last 6 summers.

During the 1999-2000 winter, pronghorn antelope numbers on the INEEL were only slightly higher than during the last 3 winters. On 29 February and 1-2 March 2000, the Environmental Science and Research Foundation, Inc., conducted a standard line-transect pronghorn antelope survey over the INEEL using a fixed-wing aircraft. One thousand one hundred ninety pronghorn antelope were observed in 74 groups. Seven groups containing 78 animals were observed within 5 miles of agricultural fields near Howe and 2 groups containing 19 animals were within 5 miles of agricultural fields near Montevieu. Analysis of the data with the program Transect II (Johnson and Lindzey 1990) resulted in an estimated $3,717 \pm 702$ pronghorn antelope on the INEEL. Within the 362-km² area actually surveyed for pronghorn antelope, the estimated density predicted 1,520 pronghorn antelope. One thousand one hundred ninety pronghorn antelope were actually observed giving a sightability estimate of 78%.

Conditions during the 1992-1993 winter were severe for pronghorn antelope wintering in Units 60A and 63, and supplemental feeding occurred. However, winter mortality has not been observed since then.

Upper Snake Region Management

Pronghorn antelope permit levels and harvest increased steadily from 1975 to 1983. Permit levels have fluctuated widely since then (Table 6). Severe winter conditions resulted in some winter kill during the 1992-1993 winter; therefore, doe/fawn-only hunts were closed in 1994.

Literature Cited

- JOHNSON, B. AND F. LINDZEY. 1990. Guidelines for estimating pronghorn numbers using line-transects. Wyoming Game and Fish Department. 30 pp.
- POJAR, T. M., D. C. BOWDEN, AND B. R. GILL. 1995. Aerial counting experiments to estimate pronghorn density and herd structure. *Journal of Wildlife Management* 59(1):117-128.

Table 1. Summary of pronghorn antelope harvest, Group 2, Upper Snake Region, 1995-present.

Hunt area ^a	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
50-1	1995	100	62	12	74	84	80
	1996	100	45	15	60	75	69
	1997	100	63	14	77	82	77
	1998	100	39	15	54	72	54
	1999	100	37	16	53	70	55
50-2	1995	50	20	4	24	83	53
	1996	50	24	3	27	89	55
	1997	50	17	3	20	85	40
	1998	50	22	6	28	79	56
	1999	50	25	4	29	86	60
50-3	1995	30	15	5	20	75	80
	1996	30	10	6	16	63	58
	1997	30	9	5	14	64	47
	1998	30	14	4	18	78	61
	1999	30	10	10	20	50	64
51-1	1995	75	57	2	59	97	91
	1996	75	50	6	56	89	82
	1997	75	49	13	62	79	83
	1998	75	41	11	52	79	69
	1999	75	41	11	52	79	72
51-2	1995	50	28	2	30	93	68
	1996	50	29	8	37	78	82
	1997	50	28	3	31	90	62
	1998	50	23	8	31	74	62
	1999	50	26	9	35	74	70
51-3	1997	50	12	7	19	63	38
	1998	50	21	10	31	68	62
	1999	50	26	6	32	81	65
58	1995	50	26	10	36	72	78
	1996	50	25	10	35	71	81
	1997	50	34	4	38	89	76
	1998	50	29	14	43	67	85
	1999	50	36	1	37	97	76
59	1995	100	72	11	83	87	87
	1996	100	75	15	90	83	92
	1997	100	80	4	84	95	84
	1998	100	67	16	83	81	83
	1999	100	61	14	75	81	75

^a Refer to annual hunting regulations for a description of hunt boundary, weapon type, and age/sex restrictions.

Table 2. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters by unit within Group 2, Upper Snake Region, 1995-present.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
50-1	1995	100	36	11.9
	1996	100	18	10.3
	1997	100	35	10.8
	1998	100	24	12.3
	1999	100	37	11.7
50-2	1995	50	16	11.4
	1996	50	14	12.4
	1997	50	11	10.6
	1998	50	17	10.3
	1999	50	25	10.8
50-3	1995	30	12	12.6
	1996	30	7	14.1
	1997	30	7	12.1
	1998	30	11	11.5
	1999	30	10	10.4
51-1	1995	75	48	12.5
	1996	75	24	12.2
	1997	75	34	12.8
	1998	75	30	14.3
	1999	75	41	12.3
51-2	1995	50	25	11.4
	1996	50	17	12.1
	1997	50	22	10.6
	1998	50	17	12.6
	1999	50	26	11.5
51-3	1997	50	8	13.2
	1998	50	16	12.0
	1999	50	26	11.7
58	1995	50	20	11.6
	1996	50	15	11.3
	1997	50	28	13.2
	1998	50	19	12.4
	1999	50	36	14.3
59	1995	100	40	11.5
	1996	100	30	10.6
	1997	100	45	11.6
	1998	100	42	12.8
	1999	100	61	12.1

Table 3. Line-transect survey data and population estimates using the TRANSECT program for pronghorn antelope in the Little Lost Valley, Unit 51, 1989; and the Big Desert, Unit 63, 1990.

Search area		No. of groups in distance bands ^b				Mean	Density			Population estimate ^a		
Name	Size (km ²) ^a	Survey date	1	2	3	4 group size	Groups/km ²	95% C.I.	Antelope/km ²	Range (95% confidence)		
Unit 51	880	7/17/89	8	19	14	15	5	0.0636	3.83	4.62	3,372	4,062
Unit 63	2,880	7/19-21, 1990	83	63	104	134	5	0.0288	0.39	0.7730	1,121	2,111

^a Size of area used for determination of population estimates. Unit 51: 880 km². Unit 63: 1,459 km²; INEL: 1,421 km²; Combined: 2,880 km².

^b Distance band widths: (1) 0-25 m, (2) 25-50 m, (3) 50-100 m, (4) 100-200 m.

Table 4. Summary of pronghorn antelope harvest, Group 3, Upper Snake Region, 1995-present.

Hunt area ^a	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
60A	1995	75	15	14	29	52	46
	1996	75	20	8	28	71	47
	1997	75	19	28	47	40	63
	1998	50	17	6	23	74	45
	1999	50	22	11	33	67	71
61	1995	50	8	7	15	53	36
	1996	50	5	11	16	31	36
	1997	50	15	9	24	63	48
	1998	50	1	12	13	8	26
	1999	25	12	10	22	55	84
63-1	1995	50	18	1	19	95	45
	1996	50	28	12	40	70	85
	1997	50	27	3	30	90	62
	1998	50	31	3	34	91	68
	1999	50	22	5	27	81	54
63-2	1995	125	41	15	56	73	58
	1996	125	43	17	60	72	50
	1997	175	68	20	88	77	50
	1998	175	48	23	71	68	40
	1999	175	57	27	84	68	48

^a Refer to annual hunting regulations for a description of hunt boundary, weapon type, and age/sex restrictions.

Table 5. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters by unit within Group 3, Upper Snake Region, 1995-present.

Hunt area	Year	Number permits	Number reports	Mean maximum horn length
60A	1995	75	13	9.9
	1996	75	10	8.9
	1997	75	13	10.1
	1998	50	14	10.4
	1999	50	22	8.9
61	1995	50	6	7.2
	1996	50	3	10.7
	1997	50	8	10.9
	1998	50	1	3.0
	1999	25	12	9.8
63-1	1995	50	14	12.4
	1996	50	16	10.1
	1997	50	20	10.5
	1998	50	19	11.2
	1999	50	22	13.1
63-2	1995	125	19	11.1
	1996	125	15	12.1
	1997	175	24	11.0
	1998	175	19	11.3
	1999	175	57	10.5

Table 6. Summary of pronghorn antelope harvest, Upper Snake Region, 1975-present.

Year	# Permits	Harvest			Male (%)	Success (%)
		Male	Female	Total		
1975	755	394	139	533	74	71
1976	755	326	106	432	75	57
1977	855	441	140	581	76	68
1978	930	503	202	705	71	76
1979	1,030	598	180	778	77	76
1980	1,120	660	165	825	80	74
1981	1,340	870	250	1,120	78	84
1982	1,565	1,025	233	1,258	81	80
1983	2,115	1,150	365	1,515	76	72
1984	1,883	879	354	1,233	71	65
1985	1,852	944	412	1,356	70	73
1986	2,045	1,054	558	1,612	65	79
1987	1,856	979	425	1,404	70	76
1988	2,095	1,156	506	1,662	70	79
1989	1,530	738	326	1,064	69	70
1990	2,385	783	1,008	1,791	44	75
1991	1,750	617	668	1,285	48	73
1992	1,555	551	654	1,205	46	77
1993	1,555	454	491	945	48	61
1994	716	379	110	489	78	68
1995	755	362	83	445	81	59
1996	755	354	111	465	76	62
1997	855	255	68	323	79	38
1998	830	353	128	481	73	58
1999	805	375	154	529	71	66

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Antelope Surveys and</u>
PROJECT:	<u>W-170-R-24</u>		<u>Inventories</u>
SUBPROJECT:	<u>7</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>I</u>		<u>Trends, Utilization, and</u>
JOB:	<u>7</u>		<u>Associated Habitat Studies</u>
PERIOD COVERED: <u>July 1, 1999 to June 30, 2000</u>			

PRONGHORN ANTELOPE - SALMON REGION

Abstract

There were 123 pronghorn antelope harvested in the Salmon Region in 1999 (Table 1). The buck harvest of 87 animals was by far the lowest in 3 decades. The doe harvest of 36 animals was 6% of the 1992 peak harvest, and also the lowest doe harvest in decades. All doe/fawn permits were eliminated in 1998, compared to 100 issued in 1997 and 825 in 1992-1993. Any-antelope permits remained constant at 520 from 1990-1997. In 1998, any-antelope Hunt 21A was eliminated (10 permits), reducing the total to 510. In 1999, hunts in Units 29, 36A, and 37A were combined, and permits were reduced in most Salmon Region hunts. Average horn lengths met the minimum 12-inch criterion in only 3 of 8 hunts, but sample sizes were quite small. Aerial surveys were conducted in April 1999. A total of 1,918 pronghorn antelope were counted in all units, down 53% from 1990. No depredation hunts were held in 1999.

Group 1: The male harvest was 16 animals, down 79% from the 1992-1996 average harvest and the lowest in 3 decades. Permits were reduced 57% from 1998 and 81% from the 1992-1993 peak.

Group 2: The female harvest was 16 animals, compared to 72 in 1997, 83 in 1996, and 333 in 1992. The male harvest was 51 animals, which is about one-fifth of the recent harvest peaks. Both male and female harvests were the lowest in 3 decades. Permits were reduced 49% from 1998 and 81% from the 1992-1993 peak.

Group 3: The 1999 male harvest was 20 animals, compared to the 1997 harvest of 51 and 1982 peak harvest of 162 animals. The 1999 male harvest was the lowest in 3 decades. The female harvest was 6 animals, compared to the 1985 peak of 65 animals. Permits were reduced 56% from 1998 and 85% from the 1992-1993 peak.

Group 1

Management Units 21A, 28, 36A (Part), 36B, 37 (Part)

The total 1999 harvest from this group of hunts was 30 pronghorn antelope, down 84% from the 1992 peak (Table 2). The male harvest of 16 animals was 21% of the 1992-1996 average. Any-antelope Hunt 21A was eliminated in 1998. Doe/fawn Hunt 21A-2 was eliminated in 1994; Hunt 36B-2 was eliminated and Hunt 37-3 permits were reduced from 75 to 25 in 1996, then eliminated in 1998. Hunts 36A-1 and 36A-2 were combined and permits were reduced in 1999. Hunt 37-1 permits were also reduced in 1999. Mean horn lengths from the telephone survey were above the 1991-1995 Plan criterion of 12.0 inches in all 3 hunts, but sample sizes were small (Table 3).

Group 2

Management Units 29 (Part), 30, 36A (Part), 37 (Part), 37A

The total 1999 harvest was 67 animals, down 88% from the 1992 peak. The male harvest of 51 animals was about one-fifth of recent peak harvests. The female harvest was 16 animals, compared to 72 animals in 1997, 83 in 1996, and 333 in 1992. As the objective to reduce populations and depredation problems was reached, all doe/fawn permits have been eliminated (Table 4). Specifically, in 1996, 3 doe/fawn hunts were eliminated (29-3, 29-4, and 37A-3) and doe/fawn permits were reduced in 2 hunts (36A-3 and 37-4), then eliminated in 1998. Hunts in Units 29, 36A, and 37A were combined in 1999, with permit reductions of 50-75%. Permits in Hunt 37-2 were also reduced by 75% in 1999. Mean horn lengths were below the 1991-1995 Plan criterion of 12.0 inches in 4 hunts and above the criterion in 1 hunt, but sample sizes were small (Table 5).

GROUP 3

Management Units 29 (Part), 30A

The total 1999 harvest was 26 pronghorn antelope, down 87% from the peak harvest. Only 6 females were harvested, the fewest in the past 3 decades. Hunts 29-1 and 29-2 were combined in 1999 with 50 total permits instead of 50 permits in each hunt (Table 6). Mean horn lengths were below the 1991-1995 Plan criterion of 12 inches in Hunt 30A-1 (Table 7). However, horn length is not a Plan criterion for Group 3 hunts since depredation control is one of the primary management considerations.

Table 1. Summary of pronghorn antelope harvest, Salmon Region, 1969-present.

Year	# Permits	Harvest			Male (%)	Success (%)
		Male	Female	Total		
1969	855	385	241	626	62	73
1970	855	414	232	646	64	76
1971	855	402	188	590	68	69
1972	885					
1973	875	353	204	557	63	64
1974	835	371	180	551	67	66
1975	765	296	157	453	65	59
1976	725	238	120	358	66	49
1977	610	260	111	371	70	61
1978	460	256	95	351	73	76
1979	445	270	88	358	75	80
1980	445	283	61	344	82	77
1981	495	350	53	403	87	81
1982	565	414	61	475	87	84
1983	670	469	89	558	84	83
1984	745	486	90	576	84	77
1985	745	426	137	563	76	76
1986	760	460	136	596	77	78
1987	760	435	153	588	74	77
1988	760	470	133	603	78	79
1989	968	464	309	773	60	80
1990	774	341	271	612	56	79
1991	995	429	373	802	53	81
1992	1,345	416	561	977	43	73
1993	1,345	372	499	871	43	65
1994	1,010	321	342	663	48	66
1995	915	286	200	486	59	53
1996	620	270	114	384	70	62
1997	620	240	107	347	69	56
1998	510	162	73	235	69	46
1999	245	87	36	123	71	50

Table 2. Summary of pronghorn antelope harvest, Group 1, Salmon Region, 1969-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
21A-1	1969-1971 Closed						
	1972	15					
	1973	15	9	1	10	90	67
	1974	15	4	1	5	80	33
	1975	15	6	3	9	67	60
	1976	15	6	3	9	67	60
	1977-1983 Closed						
	1984	15	12	3	15	80	100
	1985	15	13	0	13	100	87
	1986	15	15	0	15	100	100
	1987	15	11	1	12	92	80
	1988	15	6	6	12	50	80
	1989	15	9	1	10	90	67
	1990	10	9	0	9	100	90
	1991	10	9	1	10	90	100
	1992	10	8	0	8	100	80
	1993	10	3	0	3	100	30
	1994	10	3	1	4	75	40
	1995	10	9	0	9	100	90
	1996	10	2	2	4	50	40
1997	10	7	0	7	100	70	
21A-2	1998-1999 Closed						
	1990	6	0	4	4	0	67
	1991	10	0	7	7	0	70
	1992	20	0	11	11	0	55
	1993	20	0	12	12	0	60
36A-1	1994-1999 Closed						
	1983	50	17	8	25	68	50
	1984	50	16	6	22	73	44
	1985	25	9	1	10	90	40
	1986	15	8	2	10	80	67
	1987	15	5	1	6	83	40
	1988	15	8	1	9	89	60
	1989	15	8	2	10	80	67
	1990	15	8	0	8	100	53
	1991	15	8	3	11	73	73
	1992	15	13	0	13	100	87
	1993	15	4	4	8	50	53
	1994	15	8	2	10	80	67
	1995	15	6	3	9	67	60
	1996	15	4	1	5	80	33
1997	15	6	0	6	100	40	

Table 2. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
36B-1	1998	15	4	2	6	67	40
	1999 Combined with Hunt 36A-2 into Hunt 36A						
	1969	50	13	7	20	65	40
	1970	50	10	5	15	67	30
	1971	50	12	1	13	92	26
	1972	40					
	1973	30	1	2	3	33	10
	1974	30	5	3	8	63	27
	1975	30	5	4	9	56	30
	1976-1982 Closed						
	1983	30	28	0	28	100	93
	1984	50	38	3	41	93	82
	1985	50	31	6	37	84	74
	1986	50	32	10	42	76	84
	1987	50	27	11	38	71	76
	1988	50	33	4	37	89	74
	1989	50	32	9	41	78	82
	1990	25	12	6	18	67	72
	1991	25	20	1	21	95	84
	1992	25	15	1	16	94	64
	1993	25	18	1	19	95	76
	1994	25	15	1	16	94	64
	1995	25	17	0	17	100	68
1996	25	16	1	17	94	68	
1997	25	15	0	15	100	60	
1998	25	17	0	17	100	68	
1999	25	11	7	18	61	72	
36B-2	1990	9	3	5	8	38	89
	1991	10	1	3	4	25	40
	1992	25	0	13	13	0	52
	1993	25	0	11	11	0	44
	1994	25	0	9	9	0	36
	1995	25	0	9	9	0	36
1996-1999 Closed							
37-1	1969	125	66	41	107	62	86
	1970	125	79	27	106	75	85
	1971	125	81	26	107	76	86
	1972	150					
	1973	150	70	41	111	63	74
	1974	175	98	30	128	77	73
	1975	175	74	43	117	63	67
	1976	175	60	28	88	68	50

Table 2. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
	1977	175	76	39	115	66	66
	1978	175	98	37	135	73	77
	1979	100	63	18	81	78	81
	1980	100	58	15	73	79	73
	1981	100	64	7	71	90	71
	1982	75	59	8	67	88	89
	1983	75	46	12	58	79	77
	1984	50	29	7	36	81	72
	1985	75	48	10	58	83	77
	1986	75	55	8	63	87	84
	1987	75	55	15	70	79	93
	1988	75	63	3	66	95	88
	1989	100	73	8	81	90	81
	1990	75	39	17	56	70	75
	1991	75	63	6	69	91	92
	1992	75	58	5	63	92	84
	1993	75	48	11	59	81	79
	1994	75	50	11	61	82	81
	1995	75	43	8	51	84	68
	1996	75	43	6	49	88	65
	1997	75	33	9	42	79	56
	1998	75	21	13	34	62	45
	1999	25	5	7	12	42	48
37-3	1990	18	2	14	16	13	89
	1991	75	2	39	41	5	55
	1992	100	0	69	69	0	69
	1993	100	2	49	51	4	51
	1994	75	1	35	36	3	48
	1995	75	1	19	20	5	27
	1996	25	0	10	10	0	40
	1997	25	0	14	14	0	56
	1998-1999	Closed					

Table 3. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters by unit, Group 1, Salmon Region, 1991-present.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
21A-1	1991	10	2	10.1
	1992	10	4	11.6
	1993	10	2	13.2
	1994	10	2	14.5
	1995	10	9	12.9
	1996	10	2	15.0
	1997	10	5	13.4
	1998-1999 Closed			
36A-1	1991	15	6	13.1
	1992	15	8	13.0
	1993	15	3	12.9
	1994	15	5	12.4
	1995	15	5	11.8
	1996	15	3	10.0
	1997	15	4	13.4
	1998	15	4	11.5
1999 Combined with Hunt 36A-2 into Hunt 36A				
36B-1	1991	25	13	12.5
	1992	25	9	11.9
	1993	25	13	11.4
	1994	25	13	13.5
	1995	25	12	14.3
	1996	25	11	13.4
	1997	25	9	12.4
	1998	25	11	13.4
	1999	25	11	12.0
37-1	1991	75	28	12.9
	1992	75	33	13.4
	1993	75	26	12.4
	1994	75	35	14.0
	1995	75	34	13.6
	1996	75	21	12.3
	1997	75	23	14.3
	1998	75	15	10.8
	1999	25	5	15.7

^a Information prior to 1994 was provided by hunter report cards; subsequent data collected through telephone survey.

Table 4. Summary of pronghorn antelope harvest, Group 2, Salmon Region, 1969-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)	
			Male	Female	Total			
29	1969-1998	Split into separate hunts						
	1999	50	12	11	23	52	46	
29-1	1969	80	42	14	56	75	70	
	1970	80	46	15	61	75	76	
	1971	80	34	21	55	62	69	
	1972	80						
	1973	80	26	21	47	55	59	
	1974	80	27	13	40	68	50	
	1975	50	15	6	21	71	42	
	1976	15	7	1	8	88	53	
	1977	15	9	0	9	100	60	
	1978	15	8	5	13	62	87	
	1979-1982	Closed						
	1983	30	27	2	29	93	97	
	1984	50	36	1	37	97	74	
	1985	50	38	1	39	97	78	
	1986	75	45	16	61	74	81	
	1987	75	41	14	55	75	73	
	1988	75	47	17	64	73	85	
	1989	75	42	9	51	82	68	
	1990	50	27	7	34	79	68	
	1991	50	41	1	42	98	84	
	1992	50	29	7	36	81	72	
	1993	50	34	4	38	89	76	
	1994	50	29	7	36	81	72	
	1995	50	27	4	31	87	62	
	1996	50	26	5	31	84	62	
	1997	50	12	8	20	60	40	
	1998	50	9	5	14	64	28	
	1999	Combined with Hunt 29-2 into Hunt 29						
29-3	1989	24	0	24	24	0	100	
	1990	19	0	16	16	0	84	
	1991	25	0	22	22	0	88	
	1992	100	4	66	70	6	70	
	1993	100	7	42	49	14	49	
	1994	50	1	25	26	4	52	
	1995	25	0	13	13	0	52	
	1996-1999	Closed						
30-1	1969	125	63	33	96	66	77	
	1970	125	57	40	97	59	78	
	1971	125	51	24	75	68	60	
	1972	125						
	1973	125	31	30	61	51	49	
	1974	35	13	4	17	76	49	
	1975	20	8	8	16	50	80	
	1976	20	10	1	11	91	55	

Table 4. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
	1977	20	11	2	13	85	65
	1978	20	13	4	17	76	85
	1979	20	9	2	11	82	55
	1980	20	15	2	17	88	85
	1981	20	17	2	19	89	95
	1982	40	32	1	33	97	83
	1983	60	33	18	51	65	85
	1984	80	59	4	63	94	79
	1985	80	46	13	59	78	74
	1986	80	43	15	58	74	73
	1987	80	36	29	65	55	81
	1988	80	46	16	62	74	78
	1989	60	25	22	47	53	78
	1990	30	25	1	26	96	87
	1991	30	18	8	26	69	87
	1992	30	24	1	25	96	83
	1993	30	22	1	23	96	77
	1994	30	25	0	25	100	83
	1995	30	22	3	25	88	83
	1996	30	21	6	27	78	90
	1997	30	22	1	23	96	77
	1998	30	26	2	28	93	93
	1999	30	22	0	22	100	73
30-2	1989	52	0	43	43	0	83
	1990	34	0	32	32	0	94
	1991	40	2	26	28	7	70
	1992	100	6	65	71	8	71
	1993	100	2	62	64	3	64
	1994	50	4	27	31	13	62
	1995	25	1	15	16	6	64
	1996-1999	Closed					
36A	1969	50	27	9	36	75	72
	1970	50	25	13	38	66	76
	1971	50	29	12	41	71	82
	1972	50					
	1973	50	31	9	40	78	80
	1974	100	50	22	72	69	72
	1975	100	50	17	67	75	67
	1976	150	42	29	71	59	47
	1977	50	23	8	31	74	62
	1978	Closed					
	1979	25	19	0	19	100	76
	1980	25	13	4	17	76	68
	1981	50	34	3	37	92	74
	1982	50	25	5	30	83	60

Table 4. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)	
			Male	Female	Total			
	1983-1998	Split into separate hunts						
36A-2	1999	25	5	0	5	100	20	
	1983	25	23	1	24	96	96	
	1984	50	38	5	43	88	86	
	1985	50	37	8	45	82	90	
	1986	50	44	2	46	96	92	
	1987	50	32	6	38	84	76	
	1988	50	43	3	46	93	92	
	1989	50	40	5	45	89	90	
	1990	50	36	5	41	88	82	
	1991	50	42	3	45	93	90	
	1992	50	44	0	44	100	88	
	1993	50	34	4	38	89	76	
	1994	50	32	3	35	91	70	
	1995	50	23	4	27	85	54	
	1996	50	12	4	16	75	32	
	1997	50	21	6	27	78	54	
1998	50	12	4	16	75	32		
	1999	Combined with Hunt 36A-1 into Hunt 36A						
36A-3	1989	50	3	47	50	6	100	
	1990	47	3	41	44	7	94	
	1991	75	0	51	51	0	68	
	1992	100	7	58	65	11	65	
	1993	100	0	55	55	0	55	
	1994	50	0	17	17	0	34	
	1995	50	0	18	18	0	36	
	1996	25	0	8	8	0	32	
	1997	25	0	10	10	0	40	
	1998-1999	Closed						
37-2	1969	225	100	63	163	61	72	
	1970	225	112	66	178	63	79	
	1971	225	106	51	157	68	70	
	1972	225						
	1973	225	96	51	147	65	65	
	1974	150	73	33	106	69	71	
	1975	150	57	39	96	59	64	
	1976	150	37	23	60	62	40	
	1977	150	56	31	87	64	58	
	1978	50	26	7	33	79	66	
	1979	75	45	17	62	73	83	
	1980	75	51	6	57	89	76	
	1981	75	58	7	65	89	87	
	1982	100	85	9	94	90	94	
	1983	100	80	14	94	85	94	
	1984	100	70	19	89	79	89	
1985	100	58	14	72	81	72		

Table 4. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
	1986	100	70	13	83	84	83
	1987	100	75	18	93	81	93
	1988	100	85	9	94	90	94
	1989	125	84	25	109	77	87
	1990	100	74	13	87	85	87
	1991	100	84	11	95	88	95
	1992	100	91	2	93	98	93
	1993	100	84	5	89	94	89
	1994	100	71	14	85	84	85
	1995	100	57	9	66	86	66
	1996	100	70	15	85	82	85
	1997	100	49	14	63	78	63
	1998	100	20	15	35	57	35
	1999	25	7	2	9	78	36
37-4	1990	45	4	39	43	9	96
	1991	100	4	86	90	4	90
	1992	125	0	91	91	0	73
	1993	125	2	82	84	2	67
	1994	100	0	82	82	0	82
	1995	100	2	37	39	5	39
	1996	50	2	34	36	6	72
	1997	50	0	24	24	0	48
	1998-1999	Closed					
37A	1974	50	19	15	34	56	68
	1975	50	21	9	30	70	60
	1976	50	17	6	23	74	46
	1977	50	20	9	29	69	58
	1978	50	27	6	33	82	66
	1979	75	36	28	64	56	85
	1980	75	55	8	63	87	84
	1981	75	51	13	64	80	85
	1982	75	51	9	60	85	80
	1983	75	59	3	62	95	83
	1984-1998	Split into separate hunts					
	1999	25	5	3	8	63	32
37A-1	1984	50	24	9	33	73	66
	1985	50	24	13	37	65	74
	1986	50	36	8	44	82	88
	1987	50	29	5	34	85	68
	1988	50	27	13	40	68	80
	1989	50	32	6	38	84	76
	1990	50	31	4	35	89	70
	1991	50	44	5	49	90	98
	1992	50	25	8	33	76	66
	1993	50	25	8	33	76	66
	1994	50	17	9	26	65	52

Table 4. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)	
			Male	Female	Total			
	1995	50	19	3	22	86	44	
	1996	50	20	6	26	77	52	
	1997	50	14	5	19	74	38	
	1998	50	15	7	22	68	44	
	1999	Combined with Hunt 37A-2 into Hunt 37A						
37A-2	1984	25	17	3	20	85	80	
	1985	25	15	6	21	71	84	
	1986	25	15	2	17	88	68	
	1987	25	19	1	20	95	80	
	1988	25	13	4	17	76	68	
	1989	25	12	3	15	80	60	
	1990	25	16	6	22	73	88	
	1991	25	21	3	24	88	96	
	1992	25	14	1	15	93	60	
	1993	25	16	6	22	73	88	
	1994	25	13	2	15	87	60	
	1995	25	9	2	11	82	44	
	1996	25	6	5	11	55	44	
	1997	25	10	4	14	71	56	
	1998	25	1	6	7	14	28	
	1999	Combined with Hunt 37A-1 into Hunt 37A						
37A-3	1990	2	0	2	2	0	100	
	1991	50	7	20	27	26	54	
	1992	50	0	22	22	0	44	
	1993	50	4	29	33	12	66	
	1994	50	0	28	28	0	56	
	1995	50	0	18	18	0	36	
	1996-1999	Closed						
37A-4	1990	13	0	9	9	0	69	
	1991	25	0	22	22	0	88	
	1992	25	3	12	15	20	60	
	1993	25	0	8	8	0	32	
	1994	Combined with 37A-3						

Table 5. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters by unit, Group 2, Salmon Region, 1991-present.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
29-1	1991	50	20	10.8
	1992	50	14	10.4
	1993	50	15	12.5
	1994	50	22	14.0
	1995	50	23	12.0
	1996	50	15	11.5
	1997	50	8	10.4
	1998	50	7	12.1
		1999 Combined with Hunt 29-2 into Hunt 29		
29	1999	50	12	9.9
30-1	1991	30	15	12.1
	1992	30	13	12.8
	1993	30	16	12.3
	1994	30	16	12.7
	1995	30	17	13.1
	1996	30	15	11.0
	1997	30	20	12.0
	1998	30	17	12.0
	1999	30	22	11.9
36A-2	1991	50	21	12.0
	1992	50	16	13.2
	1993	50	9	13.5
	1994	50	23	13.0
	1995	50	20	12.3
	1996	50	7	11.1
	1997	50	17	13.4
	1998	50	9	13.8
		1999 Combined with Hunt 36A-1 into Hunt 36A		
36A	1999	25	5	12.5
37-2	1991	100	40	14.2
	1992	100	42	12.4
	1993	100	30	11.9
	1994	100	40	13.2
	1995	100	32	12.3
	1996	100	28	10.3
	1997	100	27	12.4
	1998	100	12	11.8
	1999	25	7	11.0
37A-1	1991	50	18	12.5
	1992	50	15	10.5
	1993	50	9	11.8

Table 5. Continued.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
	1994	50	13	11.5
	1995	50	17	12.4
	1996	50	12	11.5
	1997	50	9	12.6
	1998	50	10	12.2
	1999	Combined with Hunt 37A-2 into Hunt 37A		
37A-2	1991	25	12	12.3
	1992	25	10	10.9
	1993	25	9	12.7
	1994	25	12	10.7
	1995	25	7	10.9
	1996	25	4	13.3
	1997	25	8	10.8
	1998	25	1	12.0
	1999	Combined with Hunt 37A-1 into Hunt 37A		
37A	1999	25	5	11.3

^a Information prior to 1994 was provided by hunter report cards; subsequent data collected through telephone survey.

Table 6. Summary of pronghorn antelope harvest, Group 3, Salmon Region, 1969-present.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
29-2	1969	100	30	37	67	45	67
	1970	100	39	31	70	56	70
	1971	100	43	31	74	58	74
	1972	100					
	1973	100	45	21	66	68	66
	1974	100	37	29	66	56	66
	1975	75	24	11	35	69	47
	1976	50	17	11	28	61	56
	1977	50	30	4	34	88	68
	1978	50	34	5	39	87	78
	1979	50	23	18	41	56	82
	1980	50	34	4	38	89	76
	1981	75	64	2	66	97	88
	1982	125	86	16	102	84	82
	1983	125	89	21	110	81	88
	1984	125	87	18	105	83	84
	1985	125	57	39	96	59	77
	1986	125	50	38	88	57	70
	1987	125	54	30	84	64	67
	1988	125	66	25	91	73	73
	1989	100	57	17	74	77	74
	1990	50	27	9	36	75	72
	1991	50	37	5	42	88	84
	1992	50	36	8	44	82	88
	1993	50	38	5	43	88	86
	1994	50	30	8	38	79	76
	1995	50	27	9	36	75	72
	1996	50	28	7	35	80	70
	1997	50	28	8	36	78	72
	1998	50	15	13	28	54	56
	1999	Combined with Hunt 29-1 into Hunt 29					
29-4	1989	39	0	26	26	0	67
	1990	19	1	13	14	7	74
	1991	25	0	18	18	0	72
	1992	100	10	66	76	13	76
	1993	100	0	67	67	0	67
	1994	50	0	36	36	0	72
	1995	25	0	13	13	0	52
		1996-1999	Closed				
30A	1996	40	20	4	24	83	60
	1997	40	23	4	27	85	68
	1998	40	22	3	25	88	63

Table 6. Continued.

Hunt area	Year	# Permits	Harvest			Male (%)	Success (%)
			Male	Female	Total		
30A-1	1999	40	20	6	26	77	65
	1969	100	44	37	81	54	81
	1970	100	46	35	81	57	81
	1971	100	46	22	68	68	68
	1972	100					
	1973	100	44	28	71	62	71
	1974	100	45	30	75	60	75
	1975	100	36	17	53	68	53
	1976	100	42	18	60	70	60
	1977	100	35	18	53	66	53
	1978	100	50	31	81	62	81
	1979	100	75	5	80	94	80
	1980	100	57	22	79	72	79
	1981	100	62	19	81	77	81
	1982	100	76	13	89	85	89
	1983	100	67	10	77	87	77
	1984	100	60	12	72	83	72
	1985	100	50	26	76	66	76
	1986	100	47	22	69	68	69
	1987	100	51	22	73	70	73
	1988	100	33	32	65	51	65
	1989	80	47	14	61	77	76
	1990	40	20	6	26	77	65
	1991	40	26	3	29	90	73
	1992	40	27	6	33	82	83
	1993	40	29	1	30	97	75
1994	40	21	9	30	70	75	
1995	40	22	8	30	73	75	
	1996	Combined with Hunt 30A-2 into Hunt 30A					
30A-2	1989	58	0	48	48	0	83
	1990	42	4	22	26	15	62
	1991	40	0	29	29	0	73
	1992	80	2	49	51	4	64
	1993	80	0	32	32	0	40
	1994	40	1	16	17	6	43
	1995	20	1	5	6	17	30
	1996	Combined with Hunt 30A-1 into Hunt 30A					

Table 7. Summary of mean maximum male horn length reported by successful pronghorn antelope hunters by unit, Group 3, Salmon Region, 1991-present.

Hunt area	Year	Number permits	Number reports ^a	Mean maximum horn length
29-2	1991	50	21	11.8
	1992	50	25	10.8
	1993	50	17	11.1
	1994	50	26	12.8
	1995	50	23	12.2
	1996	50	17	11.1
	1997	50	21	11.2
	1998	50	13	10.2
	1999	Combined with Hunt 29-2 into Hunt 29		
30A-1	1991	40	16	11.7
	1992	40	22	10.8
	1993	40	15	11.2
	1994	40	16	12.1
	1995	40	19	10.1
	1996	Combined with Hunt 30A-2 into Hunt 30A		
30A	1996	40	13	11.6
	1997	40	20	11.7
	1998	40	15	12.3
	1999	40	20	10.3

^a Information prior to 1994 was provided by hunter report cards; subsequent data collected through telephone survey.

APPENDIX A

1999 Idaho Antelope Season Structure



1999 ANTELOPE HUNTING SEASONS

Doe or fawn only: Only antelope without a black "cheek patch" or with horns less than 3 inches long may be taken during doe or fawn only antelope seasons.

Antelope archery tags may be purchased for use in any archery antelope hunt. Controlled hunt permits and tags issued for antelope controlled hunts may be used only in the hunt for which the permittee was drawn.

Any person who purchases an archery antelope tag who is subsequently drawn for a controlled hunt must return the unused archery tag to an IDFG office to exchange the tag for a controlled hunt tag at a cost of \$3.50.

Any person who receives a controlled hunt permit and tag for antelope is prohibited from hunting in any general season archery antelope hunt.

EVIDENCE OF SEX

See page 11.

Attention Antelope Archery Hunters!

Don't give your sport a black eye. Did you know that leaving blind material is considered littering? And, digging pits on federal land is a violation of federal law? For information on how to construct a legal blind, contact your local Bureau of Land Management office.

GENERAL ANTELOPE ARCHERY SEASONS

(Either sex may be taken)

Unit(s)	1999 SEASON DATES
21A, 28, 29, 30, 30A, 36, 36A, 36B, 37, 37A, 40, 41, 42, 46, 47, 49, 50, 51, 53, 58, 59, 59A, 60, 60A, 61, 63 (that portion south of Highway 33), 68.	Aug 15 - Sept 15

1999 EITHER SEX ANTELOPE CONTROLLED HUNTS (1,865 Permits)

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
4001	Sept 25 - Oct 24	29	50	
4002	Sept 25 - Oct 24	30	30	
4003	Sept 25 - Oct 24	30A	40	
4004	Sept 25 - Oct 24	36A	25	
4005	Sept 25 - Oct 24	36B*	25	
4006	Sept 25 - Oct 24	37-1	25	
4007	Sept 25 - Oct 24	37-2	25	
4008	Sept 25 - Oct 24	37A	25	
4009	Sept 25 - Oct 24	39	10	
4010	Sept 25 - Oct 24	40	150	
4011	Sept 25 - Oct 24	42*	200	
4012	Sept 25 - Oct 24	44-1*	40	
4013	Sept 25 - Oct 24	46-1	60	
4014	Sept 25 - Oct 24	49*	50	
4015	Sept 25 - Oct 24	50-1	100	
4016	Sept 25 - Oct 24	50-2	50	
4017	Sept 25 - Oct 24	50-3	30	
4018	Sept 25 - Oct 24	51-1	75	
4019	Sept 25 - Oct 24	51-2*	50	
4020	Oct 25 - Nov 30	51-3*	50	
4021	Sept 25 - Oct 24	53	30	

1999 EITHER SEX ANTELOPE CONTROLLED HUNTS - CONTINUED

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
4022	Sept 25 - Oct 24	54	10	
4023	Sept 25 - Oct 24	57*	5	
4024	Sept 25 - Oct 24	58	50	
4025	Sept 25 - Oct 24	59*	100	
4026	Sept 25 - Oct 24	60A*	50	
4027	Sept 25 - Oct 24	63-1	50	
4028	Sept 25 - Oct 24	68	50	

Notes:

* — See antelope controlled hunt area descriptions. This area includes other units or parts of other units.

1999 DOE OR FAWN ANTELOPE CONTROLLED HUNTS

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
4029	Oct 5 - Oct 24	44-2	40	
4030	Oct 5 - Oct 24	46-2	50	

1999 EITHER SEX ANTELOPE MUZZLELOADER CONTROLLED HUNTS

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
4031	Sept 25 - Oct 24	41	25	
4032	Sept 25 - Oct 24	47	40	
4033	Aug 1 - Oct 24	63-2	175	

1999 EITHER SEX ANTELOPE SHORT-RANGE WEAPON CONTROLLED HUNTS

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
4034	Sept 25 - Oct 24	61	25	Limited Access

1999 EITHER SEX ANTELOPE YOUTH CONTROLLED HUNTS

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
4035	Sept 25 - Oct 24	52	10	Applicants must be 15 or younger on May 31, 1999

ANTELOPE CONTROLLED HUNT AREA DESCRIPTIONS

Hunt Area 29 — All of Unit 29 except the Poison Creek drainage.

Hunt Area 30 — All of Unit 30 and that portion of Unit 21A south and east of the Carmen Creek Road.

Hunt Area 30A — All of Unit 30A.

Hunt Area 36A — All of Unit 36A.

Hunt Area 36B — All of Unit 36B, and that portion of Unit 28 upstream from and including the Iron Creek drainage.

Hunt Area 37-1 — That portion of Unit 37 south of the Doublespring Pass-Goldburg Road.

Hunt Area 37-2 — That portion of Unit 37 north of the Doublespring Pass-Goldburg Road.

Hunt Area 37A — All of Unit 37A and that portion of Unit 29 in the Poison Creek drainage.

Hunt Area 39 — All of Unit 39.

Hunt Area 40 — All of Unit 40.

Hunt Area 41 — That portion of Unit 41 east of State Highway 51.

Hunt Area 42 — That portion of Unit 41 west of State Highway 51 and all of Unit 42.

Hunt Areas 44-1 and 44-2 — All of Unit 44 and that portion of Unit 45 within the Camas Creek drainage.

Hunt Areas 46-1 and 46-2 — All of Unit 46.

Hunt Area 47 — All of Unit 47.

Hunt Area 49 — All of Unit 49 and that portion of Unit 50 in the Copper Creek and Cottonwood Creek drainages west of the Craters of the Moon National Monument.

Hunt Area 50-1 — That portion of Unit 50 north of Antelope Creek and west of U.S. 93.

Hunt Area 50-2 — That portion of Unit 50 southeast of Antelope and Pass creeks but EXCLUDING the Copper Creek and Cottonwood Creek drainages west of Craters of the Moon National Monument.

Hunt Area 50-3 — That portion of Unit 50 north of Pass Creek and east of U.S. 93.

Hunt Area 51-1 — That portion of Unit 51 north of Badger Creek Road and north of the Wet Creek-Pass Creek Road.

Hunt Areas 51-2 and 51-3 — That portion of Unit 51 south of Badger Creek Road and south of the Wet Creek-Pass Creek Road and that portion of Unit 63 within Butte County including that portion of this hunt area within one-half mile inside the boundary of the Idaho National Engineering and Environmental Laboratory (INEEL) adjacent to agricultural lands.

Hunt Area 52 — All of Unit 52.

Hunt Area 53 — All of Unit 53.

Hunt Area 54 — All of Unit 54.

Hunt Area 57 — All of Unit 57 and that portion of Unit 56 west of Interstate 84.

Hunt Area 58 — All of Unit 58 outside the Idaho National Engineering and Environmental Laboratory (INEEL) boundary.

Hunt Area 59 — All of Units 59 and 59A.

Hunt Area 60A — All of Units 60 and 60A, and that portion of Unit 61 west of Hotel Creek.

Hunt Area 61 — That portion of Unit 61 east of Hotel Creek.

Hunt Area 63-1 — That portion of Unit 63 south of State Highway 33, and including that portion of this hunt area within one-half mile inside the east boundary of the Idaho National Engineering and Environmental Laboratory (INEEL) and which is adjacent to agricultural lands.

Hunt Area 63-2 — That portion of Unit 63 north of State Highway 33 and including that portion of this hunt area within one-half mile inside the boundary of the Idaho National Engineering and Environmental Laboratory (INEEL) and which is adjacent to agricultural lands, EXCLUDING the Camas National Wildlife Refuge which is CLOSED.

Hunt Area 68 — All of Unit 68.

Submitted by:

Lou Nelson
Regional Wildlife Manager

Randall Smith
Regional Wildlife Manager

Carl Anderson
Regional Wildlife Manager

Brad Compton
Regional Wildlife Biologist

Mike Scott
Regional Wildlife Manager

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME



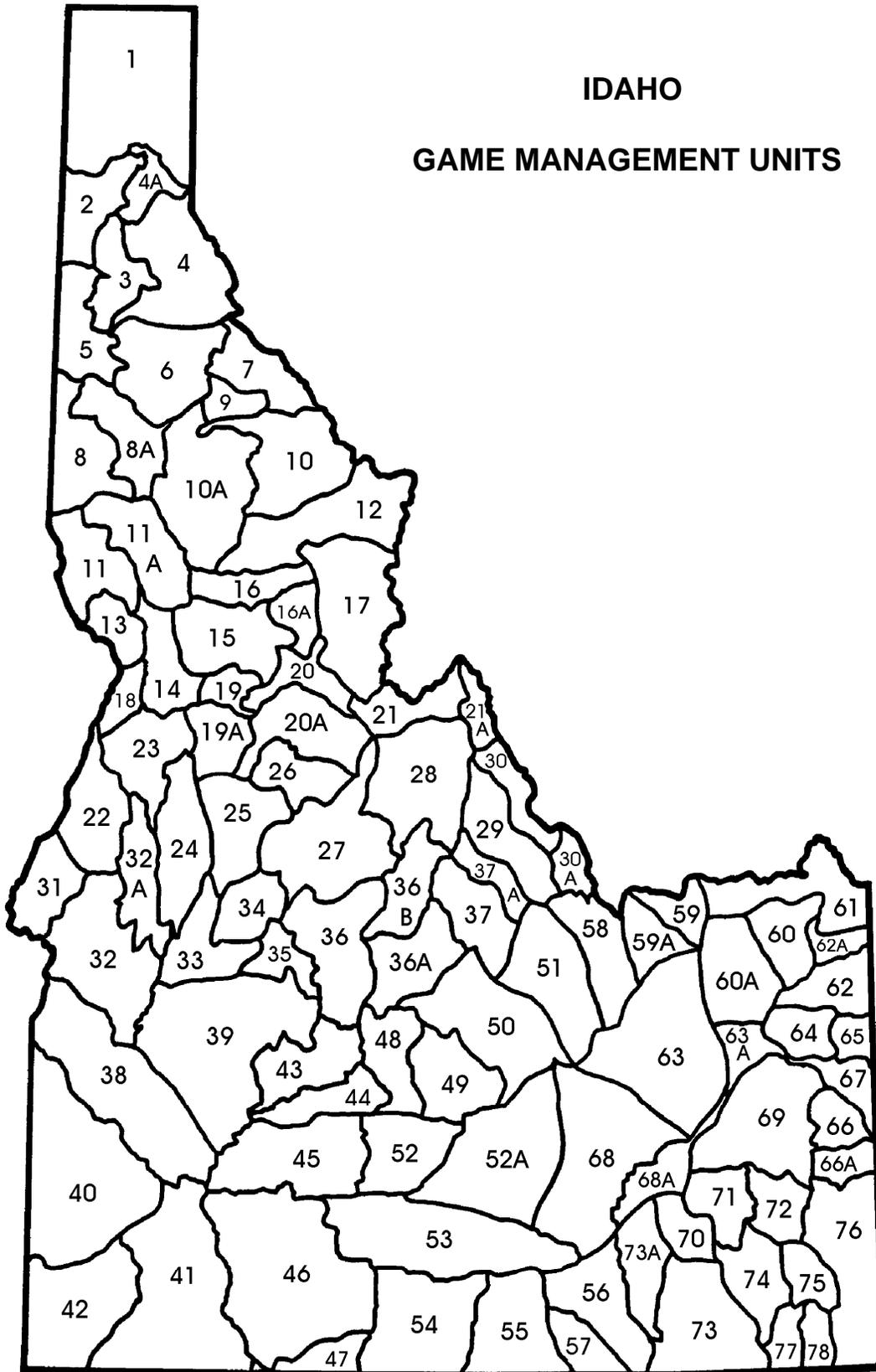
Wayne Melquist
Nongame Wildlife Manager
Federal Aid Coordinator



Steven M. Huffaker, 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.

