

IDAHO DEPARTMENT OF FISH AND GAME

Steven M. Huffaker, Director

Project W-170-R-26

STATEWIDE SURVEYS AND INVENTORY

July 1, 2001 to June 30, 2002



JOB PROGRESS REPORT

STUDY I, JOB 5

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**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys</u>
PROJECT:	<u>W-170-R-26</u>		<u>and Inventories</u>
SUBPROJECT:	<u>1-7</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2001 to June 30, 2002</u>		

MOUNTAIN GOAT – STATEWIDE

Abstract

In 2001, the Idaho Department of Fish and Game identified 17 controlled hunts for mountain goats, offering a total of 52 permits for mountain goat hunters. Due to wildfires on public lands in central Idaho, both permits designated for hunt 27-4 in 2000 were deferred until the 2001 season, yielding a total of 54 valid permits. The 54 hunters harvested 48 mountain goats, for a harvest success rate of 89% as compared with 89% success in 2000, 86% in 1999 and 84% in 1998.

Mountain goat permits are highly sought by sportsmen. Non-resident hunters may compete with resident hunters for mountain goat permits, but are limited to successfully drawing no more than 1 permit per hunt, and no more than 10% of the total number of permits available each season.

The total number of first-choice applications received for mountain goat permits was 431 in 2001, down from 509 first-choice applicants for mountain goat permits in 2000 and 486 in 1999. All permits were awarded to first-choice applicants, for a success rate of 12% in the drawing as compared with 11% in 2000, 11.5% in 1999 and 12.3% in 1998. Non-resident hunters, who comprised 15% of the applicant pool (63 of 431) were successful in drawing the maximum permitted number of permits (5).

Mountain goat populations in Idaho are often comprised of small, widely-scattered groups, typical of a species at the southern extent of its range. In eastern Idaho, a number of populations appear to be experiencing significant declines; a survey of mountain goats in Big Game Management Units 59 and 59A prompted a closure of these units for the 2002 hunting season.

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JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2001 to June 30, 2002</u>		

MOUNTAIN GOAT – PANHANDLE REGION

Abstract

Mountain goats are not hunted in Idaho’s panhandle because populations do not meet management criteria set in the current mountain goat management plan. No aerial surveys were conducted during this reporting period to assess regional mountain goat populations.

UNITS 1, 4A, 9

Management Direction

The Statewide Management Policy for Mountain Goats is to introduce mountain goats into all suitable ranges, maintain or increase all herds, and harvest under a conservative management framework. Harvest is allowed if the total population is at least 50 mountain goats. Harvest shall not exceed 5% of the adult segment of the population except during periods of high recruitment, usually during the early phases of a newly introduced population.

The Pend Oreille population of Unit 4A is specifically identified as having nonconsumptive values, with wildlife viewing as the primary focus of this population. The population in the Little North Fork of the Clearwater River is specifically identified for use as a transplant source rather than management for harvest. Selkirk and West Cabinet herds are currently below population levels established as criteria to allow hunting.

Background

Three native populations (Selkirk, West Cabinets, and Little North Fork of the Clearwater River) and one introduced population (Pend Oreille) of mountain goats inhabit the Panhandle Region. All populations are small, and no hunting is currently allowed on any of these populations. The Pend Oreille population of mountain goats has a particularly high public value for watchable wildlife, with excellent access by boat to this year-long, low elevation range.

Anecdotal information indicates that mountain goat populations in the Panhandle had dropped substantially prior to 1950. Brandborg (1955) cites personal communications of Forest Service employees in the Selkirk Range who specifically noted a drop in numbers and restriction in distribution during the 1928-1950 period.

Brandborg attributed these declines to increased access to mountain goat habitat, and implicated unregulated hunting. By 1950, general mountain goat seasons were reduced to just 11 days during September. Controlled hunts were used 1952-1955, and 1966-1976, when most mountain goat hunting was closed in the Panhandle. Since then, the allowable mountain goat harvest in the Panhandle Region has ranged from 0 to 2 mountain goats annually. However, 57 mountain goats have been transplanted out of the Panhandle Region since 1961 (Hayden and Spicer 1993).

Population Surveys

Winter population surveys were conducted on all four mountain goat populations during this report period. Observations in the Selkirk Mountains (Table 1) were similar to those of the prior (1995) flights, although numbers of adults was slightly lower, and number of kids slightly higher. There has been a near complete loss of mountain goats in the southern and eastern portions of the Selkirk Mountains. Most of the recent population increase is attributable to transplants into the Selkirk Mountains. Subsequent to a count of only 3 mountain goats in the Selkirk Mountains in 1981, a total of 28 mountain goats were transplanted into this range, primarily from Snow Peak. Recent growth of this population is evident in the release areas.

Idaho includes the minor portion of mountain goat range in the West Cabinet Mountains. Here, counts can be substantially affected by localized movements across state and drainage borders, and the main value in surveys is assessing occupancy of winter range and general recruitment trends. A decline of mountain goats in the Wiggletail/Blue Creek areas and a decline in recruitment is apparent and of concern (Table 2).

The Pend Oreille mountain goat population may be experiencing some growth despite low winter recruitment (Table 3). The numbers remain, however, about 60% of those estimated in the mid-1980s. The Green Monarchs, the original transplant site proposed, is essentially devoid of mountain goats, with only occasional sightings.

Mountain goat numbers in the Little North Fork of the Clearwater River have changed little over the past 40 years (Table 4), despite removal of 88 mountain goats since 1960. However, there has been a noticeable change in distribution, with far fewer mountain goats near the trap site (Snow Peak on Canyon Creek) and more in the nearby Foehl Creek drainage.

Management Implications

Regionally, mountain goat numbers are showing an improvement, but progress is slow (Figure 1). Current numbers are likely at least 50% lower than 40-50 years ago, and may be considerably worse when compared to the early 1900s.

Given the successful reestablishment of mountain goats in the Selkirk Mountains where transplants occurred, it may be desirable to transplant additional mountain goats into isolated areas that have been uninhabited by mountain goats for several decades, particularly the Parker/Canyon Creek, Pack/Myrtle Creek, and Indian/Two Mouth Creek areas. Foehl Creek should be investigated as a potential transplant source to supplement trapping on Snow Peak.

LITERATURE CITED

Brandborg, S. M. 1955. Life history and management of the mountain goat in Idaho. Wildlife Bulletin No. 2. Idaho Department of Fish and Game, Boise, Idaho, USA.

Hayden, J., and D. Spicer. 1993. Pages 3-16 in L.E. Oldenburg (ed.) Mountain Goat. Job Progress Report W-170-R-17. Idaho Department of Fish and Game, Boise, Idaho, USA.

Table 1. Summary of mountain goat surveys in the Selkirk Range, Unit 1.

Inclusive Location	Year	Adults	Kids	Unknown	Total	Kids/100
						Adults
Smith to Parker Creek	1955 ^a	0	0	65	65	-
	1963	15	3	0	18	20.0
	1971	0	0	0	0	0.0
	1981	0	0	0	0	0.0
	1988	0	0	0	0	0.0
	1991	2	1	0	3	50.0
	1995	0	0	0	0	0.0
	2001	0	0	0	0	0.0
Fisher to Farnham Creek	1955 ^a	0	0	0	0	0.0
	1963 ^c	0	0	0	0	0.0
	1971	0	0	0	0	0.0
	1981	0	0	0	0	0.0
	1988	0	0	0	0	0.0
	1991	0	0	0	0	0.0
	1995	3	0	0	3	0.0
	2001	6	1	0	7	16.7
Indian to Two Mouth Creek	1955 ^a	0	0	50	50	-
	1963	5	1	0	6	20.0
	1971	0	0	3	3	-
	1981	0	0	0	0	0.0
	1988	1	1	0	2	100.0
	1991	0	0	0	0	0.0
	1995	0	0	0	0	0.0
	2001	0	0	0	0	0.0
Lion Creek	1955 ^a	0	0	35	35	-
	1963	0	0	0	0	0.0
	1971	0	0	0	0	0.0
	1981	0	0	3	3	-
	1988	4	2	0	6	50.0
	1991	9	1	0	10	11.1
	1995	13	0	0	13	0.0
	2001	5	1	0	6	20.0
Caribou Creek	1955 ^a	0	0	55	55	-
	1963	9	2	0	11	22.2
	1971	0	0	0	0	0.0
	1981	0	0	0	0	0.0
	1988	6	2	0	8	33.3
	1991	2	0	0	2	0.0
	1995	14	3	0	17	21.4
	2001	15	6	0	21	40.0

Table 1. Continued.

Inclusive Location	Year	Adults	Kids	Unknown	Kids/100	
					Total	Adults
Selkirk Population	1955 ^a	0	0	195	^b 195	-
	1963	29	6	0	35	20.7
	1971	0	0	3	3	-
	1981	0	0	3	3	-
	1988	11	5	0	16	45.5
	1991	13	2	0	15	15.4
	1995	30	3	0	33	10.0
	2001	26	8	0	34	30.8

^a Summer estimates from ground surveys.

^b Includes 20 mountain goats estimated in the Pack River-Myrtle Creek area and 10 mountain goats on Snowytop Mountain. Both areas were flown 1971 and 2001 winters with neither tracks nor mountain goats observed. The Pack River-Myrtle Creek area was flown winters 1963 and 1981, as well, with no tracks nor mountain goats observed.

^c Not specifically mentioned in the survey.

Table 2. Summary of mountain goat surveys in the West Cabinet Range, Unit 1.

Inclusive Location	Year	Adults	Kids	Unknown	Total	Kids/100
						Adults
Wiggletail to W. Fk. Blue Cr.	1971	0	0	0	0	0.0
	1979 ^a	9	2	0	11	22.2
	1981	0	0	0	0	0.0
	1988	23	1	0	24	4.3
	1991	11	1	0	12	9.1
	1993	11	2	0	13	18.2
	1998 ^b	11	3	0	14	27.3
	2001	3	0	0	3	0.0
Regal to Sam Morris Creek	1971	0	0	0	0	0.0
	1981	0	0	0	0	0.0
	1988	0	0	0	0	0.0
	1991	0	0	0	0	0.0
	1993	2	0	0	2	0.0
	1998 ^b	5	0	0	5	0.0
	2001	2	0	0	2	0.0
East Fork Lightning Creek (Includes Savage and Char)	1971	0	0	5	5	-
	1981	3	0	0	3	0.0
	1988	20	3	0	23	15.0
	1991	4	3	0	7	75.0
	1993	12	5	0	17	41.7
	1998 ^b	11	1	0	12	9.1
West Cabinet (Idaho Only)	2001	9	1	0	10	11.1
	1971	0	0	5	5	-
	1981	3	0	0	3	0.0
	1988	43	4	0	47	9.3
	1991	15	4	0	19	26.7
	1993	25	7	0	32	28.0
	1998 ^b	27	4	0	31	14.8
2001	14	1	0	15	7.1	

^a Montana Fish, Wildlife and Parks data, August survey.

^b August survey of summer range.

Table 3. Summary of mountain goat surveys in the Pend Oreille Population, Unit 4A.

Inclusive Location	Year	Adults	Kids	Unknown	Kids/100	
					Total	Adults
Buttonhook to Lakeside	1973	11	3	0	14	27.3
	1975 ^a	31	12	0	43	38.7
	1976	16	3	0	19	18.8
	1981	30	7	0	37	23.3
	1985 ^b	42	10	0	52	23.8
	1991	9	4	0	13	44.4
	1991 ^c	11	7	0	18	63.6
	1992	15	2	0	17	13.3
	1995 ^d	13	2	0	15	15.4
	2001	27	4	0	31	14.8
Green Monarchs	1973	2	0	0	2	0.0
	1975 ^a	0	0	0	0	0.0
	1976	4	0	0	4	0.0
	1981	2	0	0	2	0.0
	1991	2	0	0	2	0.0
	1991 ^c	0	0	0	0	0.0
	1992	0	0	0	0	0.0
	1995 ^d	0	0	0	0	0.0
	2001	0	0	0	0	0.0
	Pend Oreille Population	1973	13	3	0	16
1975 ^a		31	12	0	43	38.7
1976		20	3	0	23	15.0
1981		32	7	0	39	21.9
1985 ^b		42	10	0	52	23.8
1991		11	4	0	15	36.4
1991 ^c		11	7	0	18	63.6
1992		15	2	0	17	13.3
1995 ^d		13	2	0	15	15.4
2001		27	4	0	31	14.8

^a Ground survey.

^b Population estimate based on capture/recapture with ground surveys during spring.

^c Ground survey during October.

^d Helicopter survey during August.

Table 4. Summary of mountain goat surveys in the Little North Fork of the Clearwater River, Unit 9.

Inclusive Location	Year	Adults	Kids	Unknown	Total	Kids/100
						Adults
Hoodoo Peak to Spotted Louis	1957	2	0	0	2	0.0
	1958	6	0	0	6	0.0
	1961	0	0	0	0	0.0
	1964	2	0	0	2	0.0
	1965	0	0	3	3	-
	1966	0	0	1	1	-
	1971	0	0	3	3	-
	1972	0	0	0	0	0.0
	1976	4	0	0	4	0.0
	1979 ^a	-	-	-	-	-
	1981	4	0	0	4	0.0
	1988	15	5	0	20	33.3
	1991	4	3	0	7	75.0
	1993	3	0	0	3	0.0
Culdesac to Canyon Creek	2001	4	2	0	6	50.0
	1957	53	3	0	56	5.7
	1958	27	6	0	33	22.2
	1961	27	3	0	30	11.1
	1964	41	4	0	45	9.8
	1965	0	0	49	49	-
	1966	0	0	43	43	-
	1971	0	0	29	29	-
	1972	0	0	18	18	-
	1976	24	8	0	32	33.3
	1979 ^a	32	5	0	37	15.6
	1981	48	8	0	56	16.7
	1988	26	2	0	28	7.7
	1991 ^b	13	3	0	16	23.1
1993	23	8	0	31	34.8	
2001	18	6	0	24	33.3	
Sawtooth Creek	1957	26	7	0	33	26.9
	1958	17	4	0	21	23.5
	1961	20	5	0	25	25.0
	1964	12	1	0	13	8.3
	1965	0	0	10	10	-
	1966	0	0	13	13	-
	1971	0	0	4	4	-
	1972	0	0	9	9	-
	1976	8	0	0	8	0.0
	1979 ^a	-	-	-	-	-
	1981	5	0	0	5	0.0
	1988	7	2	0	9	28.6
	1991	9	1	0	10	11.1
	1993	6	2	0	8	33.3
2001	9	0	0	9	0.0	

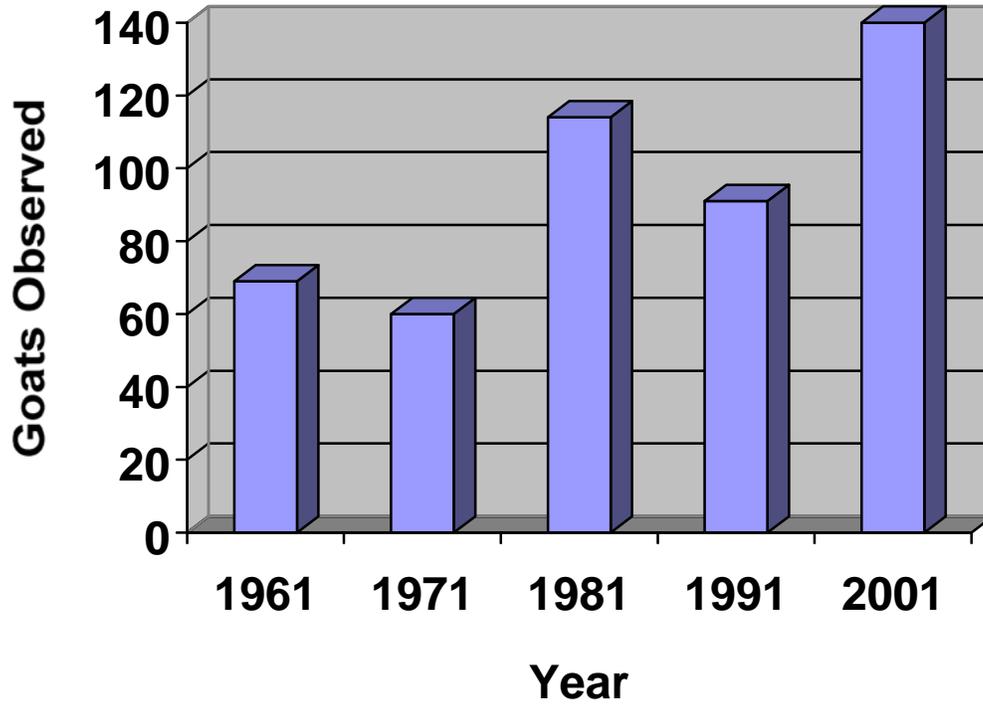
Table 4. Continued.

Inclusive Location	Year	Adults	Kids	Unknown	Kids/100	
					Total	Adults
Foehl Creek	1957	0	0	0	0	0.0
	1958	0	0	0	0	0.0
	1961	9	5	0	14	55.6
	1964	17	0	0	17	0.0
	1965	0	0	7	7	-
	1966	0	0	0	0	0.0
	1971	0	0	0	0	0.0
	1972	0	0	2	2	-
	1976	0	0	0	0	0.0
	1979 ^a	-	-	-	-	-
	1981	3	1	0	4	33.3
	1988	5	0	0	5	0.0
	1991	8	2	0	10	25.0
	1993	12	4	0	16	33.3
	2001	16	5	0	21	31.3
	Larkin to Devil's Club Creek	1957	2	0	0	2
1958		0	0	0	0	0.0
1961		0	0	0	0	0.0
1964		0	0	0	0	0.0
1965		0	0	0	0	0.0
1966		0	0	0	0	0.0
1971		0	0	0	0	0.0
1972		0	0	0	0	0.0
1976		0	0	0	0	0.0
1979 ^a		-	-	-	-	-
1981		0	0	0	0	0.0
1988		1	0	0	1	0.0
1991		0	0	0	0	0.0
1993		1	1	0	2	100.0
2001		0	0	0	0	0.0
Little North Fork Clearwater Population		1957	83	10	0	93
	1958	50	10	0	60	20.0
	1961	56	13	0	69	23.2
	1964	72	5	0	77	6.9
	1965	0	0	69	69	-
	1966	0	0	57	57	-
	1971	0	0	36	36	-
	1972	0	0	29	29	-
	1976	36	8	0	44	22.2
	1979 ^a	32	5	0	37	15.6
	1981	60	9	0	69	15.0
	1988	54	9	0	63	16.7
	1991 ^b	34	9	0	43	26.5
	1993	45	15	0	60	33.3
	2001	47	13	0	60	27.7

^a Area flown only identified as "Snow Peak." It is unknown what area was actually flown.

^b Weather conditions precluded complete coverage of the Canyon Creek portion of the flight.

Figure 1. Comparison of aerial surveys for mountain goats in the Panhandle Region, 1961-2001. Note data from 1991 includes only a partial survey of Canyon Creek.



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SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys</u>
PROJECT:	<u>W-170-R-26</u>		<u>and Inventories</u>
SUBPROJECT:	<u>2</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Utilization, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2001 to June 30, 2002</u>		

MOUNTAIN GOAT – CLEARWATER REGION

Abstract

Current management direction allows for limited-entry hunting of mountain goats with conservative permit levels. Many of the mountain goat hunt areas in the Clearwater Region remain closed because of low population levels or the loss of mountain goats entirely from previously occupied range. Translocation to reestablish or augment populations in these areas is a high priority. During controlled hunts in 2001, 9 permittees harvested 8 mountain goats. During previous years, paintball mark-resight surveys revealed populations of 54 ± 12 adult mountain goats in Hunt Area 10-1 and 44 ± 5 adult mountain goats in Hunt Area 10-2. A mark-resight survey in April 2002 revealed 196 ± 11 adult mountain goats in Hunt Area 18. During April 2001, 11 mountain goats were captured in Unit 18 and transplanted into Unit 20 (Big Mallard Creek).

UNITS 10, 12, 15, 16, 16A, 17

CONTROLLED HUNT AREAS 10-1, 10-2

A list of controlled hunt units, which were closed prior to 1991, can be found in the Clearwater Region portion of the Department's 1986-1991 Mountain Goat Management Plan.

Management Direction

Goals for managing mountain goats in Units 10, 12, 15, 16, 16A, and 17 include increasing populations through conservative hunting levels, trapping and transplanting into vacant habitat or to augment existing populations, maintaining harvest and recreational opportunity, emphasizing nonconsumptive values, inventorying all mountain goat populations at a maximum interval of 5 years, and collecting information on mountain goat diseases.

Background

Historically, mountain goats were hunted on a general-hunt basis in Idaho north of the Salmon River. As a result, some of the easily accessible herds were overhunted or eliminated. From 1966 to present, all mountain goat hunts have been offered as controlled hunts. Hunt areas were originally quite large, often including several discrete populations of mountain goats. In general, the more accessible populations still received the brunt of the harvest. In 1972, the hunts were divided into smaller, more easily manageable units to control and more evenly distribute hunting pressure.

Permit numbers were reduced from 20 hunts with 51 permits in 1977, to 3 hunts with 6 permits in 1984, and 4 hunts with 12 permits in 1989. In 2001, only 3 hunts with 9 permits were offered in the region (Table 1).

Population Surveys

Population surveys were not conducted for mountain goats during the reporting period. Units 12 and 17 have not been surveyed since 1996 and 1994, respectively (Tables 2 and 3). During April and May of 2000, we conducted a paintball, mark-resight survey of the Black Mountain (10-1 and 10-2) mountain goat population, with 2 objectives:

1. Obtain a precise population estimate for the entire area, as well as individual hunt area estimates.
2. Evaluate the effect of marking on catchability.

On 19 April 2000, we marked 49 mountain goats with orange paintballs in 4.5 flight hours (10.9 mountain goats/hour). On 20-21 April 2000, we marked 42 mountain goats with yellow paintballs including 21 unmarked mountain goats and 21 mountain goats previously marked with orange, in 6.6 flight hours (6.4 mountain goats/hour). We conducted the resight survey on 1 May 2000 in 3.7 flight hours. In addition, 4.6 hours of ferry time were required for two round trips.

This provided the data needed to perform Cormack's test of catchability bias and 2 data sets to derive mark-resight population estimates. On the second marking event (applying yellow marks), we observed marked (orange) and unmarked mountain goats, thus providing the first data set for an estimate. The second data were derived from the final resight survey. We used Petersen's algorithm modified following Seber (1982).

<u>Hunt Area</u>	<u>Survey</u>	<u>Total Goats Observed</u>	<u>Marked Goats Observed</u>	<u>Total Number of Marked Goats</u>	<u>Estimate (90% C.I.)</u>
Both	First	43	21	49	101±18
Both	Second	33	24	70	98±13
10-1	Second	16	10	33	54±12
10-2	Second	17	14	37	44±5

The data suggest a significant decline in the Black Mountain mountain goat population since the last survey in 1996 (Table 4). At that time we observed 136 mountain goats over both hunt areas and presumably some mountain goats were missed during the survey. Thus, at a minimum, the population declined 27% over 4 years. Given this trend, the decision was made to continue existing harvest levels, but to suspend transplant removals.

The data provided the needed information to conduct Cormack's test of catchability bias, which is our most significant reservation about this technique. The assumptions of Petersen's estimator can be grouped into 3 categories: 1) Equal catchability, 2) Marks and Resights were independently and identically distributed, and 3) Marks were observed/recorded properly. At the Seven Devils, we were concerned about our ability to meet #3 because we had trouble distinguishing purple marks from other dark spots. Our use of bright orange paint precluded this problem. The orange marks are unmistakable. We probably violated #2 to a small extent, although it is unlikely that such a deviation caused a significant bias. Significant violation of the first assumption was a significant possibility. Painted mountain goats might have lower capture likelihoods than unmarked mountain goats. So, we collected this data to evaluate any departure from #1, with the following results:

	<u>Second Period</u>		<u>Resight Survey</u>			
	<u>Unmarked</u>	<u>Orange</u>	<u>Unmarked</u>	<u>Orange</u>	<u>Yellow</u>	<u>Both Colors</u>
*Expected Number	21.4	20.6	9.6	9.2	7.3	6.9
Observed Number	22	21	9	10	7	7

*Number of mountain goats with/without various marks expected to be observed, given the total observed number, under the null model (no catchability bias).

We failed to reject the null hypothesis of no catchability bias ($Z = -0.173$, $P = 0.863$). Observed and expected values agreed very closely. Even with no bias, some variation is expected due to chance. Such close agreement of observed and expected values strongly implies a lack of catchability bias.

Harvest Characteristics

Harvest levels have changed little during the last 10-year period. During 2001, 4 of 4 permittees were successful in hunts 10-1 and 10-2 (Table 5). Drawing odds for the Unit 10 hunts have averaged 1 in 12 over the past 10 years. Unit 12 was closed to mountain goat hunting in 1997 due to the decline in mountain goat numbers revealed by the 1996 survey.

Trapping and Transplanting

Since 1962, mountain goats have been trapped on Black Mountain (the Clearwater Region) and Snow Peak (the Panhandle Region) to provide stock for transplants within the state. The region began capturing mountain goats in the Seven Devils range in 1999 with helicopter darting. Eighty-six mountain goats have been transplanted at Clearwater Region sites from 1962 to 2001 (Table 6). Plans to trap mountain goats at Black Mountain in 2000 were cancelled because of the population decline revealed by the 2000 survey.

Habitat Conditions

Mountain goat habitat in Units 10, 12, 15, 16, 16A, and 17 is located mainly along the Idaho-Montana border and in rocky cliffs of the North Fork Clearwater, Lochsa, and Selway River drainages. Nearly all of the areas that support mountain goats are under U. S. Forest Service (USFS) ownership and management. Some commercial timberlands are located near mountain goat habitat; however, the majority of mountain goat habitat is in designated wilderness.

Climatic Conditions

The Clearwater Region experienced weather conditions in 2001-2002 that were considered normal. Snowpack in the Clearwater Basin was 117% of average (October through March) while the Salmon River Basin averaged 87% for the same time period. Snowfall was later than usual in the region with no accumulation at the lower elevations until after the first of December. This allowed big game populations to forage easily until mid-December. However, the presence of substantial snowpack that persisted later than normal into the spring likely had a negative effect on big game survival.

Management Implications

The population decline in hunt areas 10-1 and 10-2 will lead to more conservative and cautious management of exploitation. Current harvest levels (5-year average = 3.4 mountain goats/year) are below the maximum mountain goat management plan level of 5% (5 mountain goats). However, it is unlikely that any removal of additional mountain goats for transplants would be practical or prudent. Trapping will be suspended until future surveys reveal a positive growth trend and sufficient numbers to sustain removals. Permit levels in hunt areas 10-1 and 10-2 will remain conservative to avoid over-exploitation.

In other areas, where populations have been severely reduced, hunts will not be offered until those populations recover to satisfactory levels and exhibit an acceptable level of population growth. Translocation into areas where mountain goats are absent or severely reduced in numbers will continue as transplant stock becomes available.

UNITS 14, 18, 19 & 20

CONTROLLED HUNT AREA 18

Hunts were not offered in 2001 in Units 14, 19, and 20. A list of hunts closed prior to 1991 can be found in the Clearwater Region portion of the Department's 1986-1991 Mountain Goat Management Plan.

Management Direction

Goals for managing mountain goats in Units 14, 18, 19, and 20 include increasing populations through conservative hunting seasons, trapping and transplanting into vacant habitat or to augment existing populations, maintaining harvest and recreational opportunity, emphasizing nonconsumptive values, inventorying all mountain goat populations at a maximum interval of 5 years, and collecting information on mountain goat diseases.

Background

Historically, mountain goats were hunted on a general basis in Idaho north of the Salmon River. As a result, some of the easily accessible herds were overhunted or eliminated. From 1966 to present, all mountain goat hunts have been offered as controlled hunts. Units were originally quite large, often including several discrete populations. In general, the more accessible populations still received the brunt of the harvest. In 1972, the hunts were divided into smaller, more easily manageable units to control and more evenly distribute hunting pressure.

Population Surveys

We conducted a paintball mark-resight survey in Hunt Area 18 (Units 18 and 22) in 2002. On 22 March 2002, we marked 107 goats with orange paintballs fired from a helicopter during 7.3 flight hours. The 107 included 95 2-year-old and older goats, and 12 apparent yearlings. The 14.7 goats marked/flight hour greatly exceeded previous marking rates in the Seven Devils and at Black Mountain. During 1-2 April 2002, we surveyed Hunt Area 18 in 12.9 flight hours with an additional 2.6 hours of ferry time. We observed 90 goats (15 yearlings and 75 older goats), of which 49 were marked (7 yearlings and 42 older goats). This led to an estimate of 196 ± 22 (90% Bound) goats in Hunt Area 18, suggesting a potential increase in abundance from the 1999 estimate of 177 ± 49 (Table 7). However, the 1999 estimate was imprecise, and there was concern over potential bias caused by questionable ability to identify marks. The Hunt Area 18 trend remains questionable.

Units 19 and 20 have not been surveyed since 1993 (Table 8).

Harvest Characteristics

Many of the mountain goat hunts remained closed in 2001 because of low populations or absence of mountain goats (see Clearwater Region portion of the Department's 1986-1991

Mountain Goat Management Plan). Five permits have been offered each year in the mountain goat hunt in Unit 18 since 1983. Drawing odds for Hunt Area 18 have averaged 1 in 10 over the past 10 years. In 2001, the 5 permittees harvested 4 mountain goats (Table 9).

Trapping and Transplanting

Twenty-five mountain goats trapped at Snow Peak, Unit 9, and at Olympic National Park, Washington, have been transplanted into Unit 18 since 1962 (Table 6). With growth in the mountain goat population in the Seven Devils area, the Dry Diggins lookout was evaluated as a potential trap site for mountain goats as early as 1987. Subsequent efforts with clover traps in 1991 and 1993 resulted in the capture of only 1 mountain goat.

Mountain goats were captured in Unit 18 with darts fired from a helicopter in 1999 and 2001. Eighteen goats were captured and subsequently released into Big Mallard Creek in Unit 20. The capture efforts were patterned after the protocol at Olympic National Park where over 300 mountain goats have been captured and removed via darting with Carfentanil. Capture and transport to the staging area required 1.36 flight hours/mountain goat in 1999, and 0.84 flight hours/goat in 2001. Given the mark-resight estimates on population size and a reasonably conservative approach to exploitation rates, up to 12 mountain goats (6 nannies) could be removed every other year for transplants.

Habitat Conditions

The deep, rugged canyons of the Snake and Salmon Rivers dominate the topography of Units 14, 18, 19, and 20. Mountain goat populations in this area are found almost exclusively in habitat designated as wilderness and managed by the USFS. Mountain goats in Unit 18 are found in the Seven Devils area, while those in Units 19 and 20 are found on the breaks of the Salmon River in the Gospel Hump and Frank Church River-of-No-Return wilderness areas. Habitats in both areas are generally drier and more open than mountain goat habitat found in Units 10 and 17.

Climatic Conditions

The Clearwater Region experienced weather conditions in 2001-2002 that were considered normal. Snowpack in the Clearwater Basin was 117% of average (October through March) while the Salmon River Basin averaged 87% for the same time period. Snowfall was later than usual in the region with no accumulation at the lower elevations until after the first of December. This allowed big game populations to forage easily until mid-December. However, the presence of substantial snowpack that persisted later than normal into the spring likely had a negative effect on big game survival.

Management Implications

Given the mountain goat management plan guidelines and the 2002 Hunt Area 18 mark-resight population estimate, with continued harvest, up to 12 mountain goats (6 nannies) could be removed for transplants every other year. The total exploitation level would be at 5%.

In other areas where populations have been severely reduced, no hunts will be offered until those populations recover to satisfactory levels. Translocation to reestablish or augment populations will continue as mountain goats become available.

Table 1. Season structure for 2001 controlled, either-sex, mountain goat hunts in 10-1, 10-2, and 18 in the Clearwater Region.

Hunt Area	Season		Permits
	Dates	Length	
10-1	30 August - 12 November	75 days	2
10-2	30 August - 12 November	75 days	2
18	30 August - 12 November	75 days	5

Table 2. Summary of mountain goat surveys in Unit 12, 1981-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults	
12	1981	Old Man Creek	18	3	0	21	16.7	
		Boulder Creek	9	3	0	12	33.3	
		Noseeum Creek	6	2	0	8	33.3	
		Skookum Creek	2	0	0	2	0.0	
		Grave Butte	2	0	0	2	0.0	
		Stanley Creek	5	1	0	6	20.0	
		Lone Knob	1	0	0	1	0.0	
		Squaw Creek	2	0	0	2	0.0	
		Fish Creek ^a	-	-	-	-	-	
		Boulder/Crooked Fork	4	1	0	5	25.0	
		1981 Total		49	10	0	59	20.4
	1987	Old Man Creek	18	4	0	22	22.2	
		Boulder Creek	9	1	0	10	11.1	
		Noseeum Creek	11	3	0	14	27.2	
		Skookum Creek	6	0	0	6	0.0	
		Grave Butte	0	0	0	0	0.0	
		Stanley Creek	5	0	0	5	0.0	
		Lone Knob ^a	-	-	-	-	-	
		Squaw Creek	8	6	0	14	75.0	
		Fish Creek	1	0	0	1	0.0	
Boulder/Crooked Fork		10	3	0	13	30.0		
	1987 Total		68	17	0	85	25.0	
1996	Old Man Creek	21	3	0	24	14.3		
	Boulder Creek	0	0	0	0	0.0		
	Noseeum Creek	3	0	0	3	0.0		
	Skookum Creek	2	1	0	3	50.0		
	Grave Butte	0	0	0	0	0.0		
	Stanley Creek	4	0	0	4	0.0		
	Lone Knob	0	0	0	0	0.0		
	Squaw Creek	11	0	0	11	0.0		
	Fish Creek	0	0	0	0	0.0		
	Boulder/Crooked Fork	2	1	0	3	50.0		
	1996 Total		43	5	0	48	11.6	

^a Drainage not included in survey.

Table 3. Summary of mountain goat surveys in Unit 17, 1991-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults	
17	1991	E.F. Moose Creek	25	7	0	32	28.0	
		White Cap Creek	23	6	0	29	26.1	
		Canyon Creek	21	12	0	33	57.1	
		Copper Creek	3	0	0	3	0.0	
		Paradise Creek	8	0	0	8	0.0	
		Cub Creek	10	5	0	15	50.0	
		Brushy Fork Creek	10	5	0	15	50.0	
		Bear Creek	4	3	0	7	75.0	
		Upper Selway (above Magruder Crossing)	14	5	0	19	35.7	
		Little Clearwater R to Echo Cr	4	1	0	5	25.0	
		Snake Creek	0	0	0	0	0.0	
		Goat Creek ^a	-	-	-	-	-	
		Grouse Creek/Running Creek	0	0	0	0	0.0	
		Stewart Creek	0	0	0	0	0.0	
			1991 Total		122	94	0	166
	1994		E.F. Moose Creek	25	5	0	30	20.0
			White Cap Creek	25	2	0	27	8.0
			Canyon Creek	14	6	0	20	42.9
			Copper Creek	0	0	0	0	0.0
			Paradise Creek	4	0	0	4	0.0
Cub Creek			3	0	0	3	0.0	
Brushy Fork Creek			12	4	0	16	33.3	
Bear Creek			9	2	0	11	22.2	
Upper Selway (above Magruder Crossing)			16	2	0	18	12.5	
Little Clearwater R to Echo Cr			6	0	0	6	0.0	
Snake Creek			1	0	0	1	0.0	
Goat Creek			11	3	0	14	27.3	
Grouse Creek/Running Creek			0	0	0	0	0.0	
Stewart Creek			1	0	0	1	0.0	
			1994 Total		127	24	0	151

^a Drainage not included in survey.

Table 4. Summary of mountain goat surveys in Unit 10^a, 1991-present.

Year	Hunt Area	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100
							Adults
1991	10	Flat Mtn to Elizabeth Mtn	14	3	0	17	21.0
		Pot Mountain	2	0	0	2	0.0
		Moose Mountain	27	1	0	28	3.7
		S.F. Kelly Cr to Williams Cr	34	6	0	40	17.6
	10-1	Isabella Creek	50	13	0	63	26.0
	10-2	Collins to Quartz Creek	73	15	0	88	20.5
		1991 Total	200	38	0	238	19.0
1996	10	Flat Mtn to Elizabeth Mtn	12	1	0	13	8.3
		Pot Mountain	4	0	0	4	0.0
		Moose Mountain	24	3	0	27	12.5
		S.F. Kelly Cr to Williams Cr	14	0	0	14	0.0
	10-1	Isabella Creek	48	13	0	61	27.1
	10-2	Collins to Quartz Creek	61	14	0	75	23.0
		1996 Total	163	31	0	194	19.0
2000 ^b	10-1	Isabella Creek	54±12			54±12	
	10-2	Collins to Quartz Creek	44±5			44±5	

^a Boundaries in Unit 10 changed in 1991 to include old Unit 9A.

^b Paintball, mark-resight survey (19 April-1 May 2000).

Table 5. Summary of mountain goat harvest and drawing odds by hunt area, 1992-present.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
10-1	1992	2	2	0	100	3.0	25	1:12.5
	1993	2	2	0	100	3.0	18	1:9.0
	1994	2	0	2	100	4.5	28	1:14.0
	1995	2	2	0	100	2.0	26	1:13.0
	1996	2	1	0	50	3.0	22	1:11.0
	1997	2	2	0	100	3.5	39	1:19.5
	1998	2	1	0	50	2.0	42	1:21.0
	1999	2	1	1	100	9.0	33	1:16.5
	2000	2	1	0	50	1.0	26	1:13.0
	2001	2	2	0	100	8.0	31	1:15.5
	10-2	1992	2	0	1	50	3.5	20
1993		2	0	2	100	3.0	22	1:11.0
1994		2	1	0	50	2.0	21	1:10.5
1995		2	2	0	100	10.0	18	1:9.0
1996		2	1	1	100	3.5	29	1:14.5
1997		2	0	2	100	2.5	29	1:14.5
1998		2	2	0	100	1.5	27	1:13.5
1999		2	1	1	100	11.0	24	1:12.0
2000		2	1	1	100	5.0	27	1:13.0
2001		2	1	1	100	4.5	17	1:8.5
12		1992	3	1	1	67	4.5	24
	1993	3	0	3	100	1.0	38	1:12.7
	1994	3	1	2	100	2.0	27	1:9.0
	1995	3	1	1	67	2.7	29	1:9.7
	1996	3	0	2	67	5.5	29	1:9.7

Table 6. Summary of mountain goat transplants in the Clearwater Region, 1962-present.

Date	Capture Site-Unit	Release Site-Unit	Adults		Kids		Total
			M	F	M	F	
6/62	Snow Peak-9	Seven Devils-18	2	4	2	0	8
7/64	Snow Peak-9	Seven Devils-18	2	5	0	2	9
6/66	Snow Peak-9	Dome Hill-15	3	1	0	0	4
6/66	Black Mtn-9A	Dome Hill-15	1	3	0	0	4
6/67	Black Mtn-9A	Dome Hill-15	1	2	0	0	3
6/86	Black Mtn-9A	Boulder Creek-12	2	5	0	0	7
6/87	Snow Peak-9	Oregon Butte-19	0	8	0	0	8
7/87	Black Mtn-9A	Oregon Butte-19	2	2	0	0	4
7/89	Olympic NP, WA	Seven Devils-18	8	0	0	0	8
6/91	Black Mtn-10	Ship Island Cr-27	4	4	0	0	8
6/94	Black Mtn-10	Big Squaw Cr-20	4	4	0	0	8
6/96	Black Mtn-10	Big Squaw Cr-20	0	1	0	0	1
6/98	Black Mtn-10	Johns Creek-15	1	0	0	0	1
6/98	Black Mtn-10	Big Squaw Cr-20	1	2	0	0	3
6/99	Seven Devils-18	Big Mallard Falls-20	4	3	0	0	7
4/01	Seven Devils-18	Big Mallard Falls-20	5	6	0	0	11

Table 7. Summary of mountain goat surveys in Unit 18, 1981-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults	
18	1981	Dry Gulch	20	0	0	20	0.0	
		Bernard Creek	29	4	0	33	13.8	
		Bernard Creek to Three Creek	0	0	0	0	0.0	
		Sheep Creek	3	0	0	3	0.0	
		Three Creek	12	2	0	14	16.7	
		Granite Creek	1	0	0	1	0.0	
		Three Creek to Granite Creek	0	0	0	0	0.0	
			1981 Total	65	6	0	71	9.2
	1987	Dry Gulch	0	0	0	0	0.0	
		Bernard Creek	15	2	0	17	13.3	
		Bernard Creek to Three Creek	28	7	0	35	25.0	
		Sheep Creek	1	0	0	1	0.0	
		Three Creek	3	0	0	3	0.0	
		Granite Creek	19	3	0	22	15.8	
		Three Creek to Granite Creek	4	0	0	4	0.0	
			1987 Total	70	12	0	82	17.1
	1993	Dry Gulch	49	5	0	54	10.2	
		Bernard Creek	3	2	0	5	66.7	
		Bernard Creek to Three Creek	11	4	0	15	36.4	
		Sheep Creek	1	0	0	1	0.0	
		Three Creek	20	3	0	23	15.0	
		Granite Creek	13	3	0	16	23.1	
		Three Creek to Granite Creek	20	3	0	23	15.0	
			1993 Total	117	20	0	137	17.1
	1996	Dry Gulch	0	0	0	0	0.0	
		Bernard Creek	19	1	0	20	5.3	
		Bernard Creek to Three Creek	12	1	0	13	8.3	
Sheep Creek		4	0	0	4	0.0		
Three Creek		16	4	0	20	25.0		
Granite Creek		9	1	0	10	11.1		
Three Creek to Granite Creek		1	0	0	1	0.0		
		1996 Total	61	7	0	68	11.5	
1999 ^a		1999 Total	177±49	61±44	0	237±67	34.5	

^a Paintball, mark-resight estimates that include all of Hunt Area 18 (Units 18 and 22).

Table 8. Summary of mountain goat surveys in Unit 19 and 20, 1982-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults	
19	1982	Wind River	5	2	0	7	40.0	
		Crooked River	7	1	0	8	14.3	
		Sheep Creek	0	0	0	0	0.0	
		Elk Creek	2	1	0	3	50.0	
		Upper Johnson Creek ^a	-	-	-	-	-	
			1982 Total	14	4	0	18	28.6
	1986	Wind River	1	0	0	1	0.0	
		Crooked River	11	3	0	14	27.3	
		Sheep Creek	24	9	0	33	37.5	
		Elk Creek	9	4	0	13	44.4	
		Upper Johnson Creek ^a	-	-	-	-	-	
			1986 Total	45	16	0	61	35.6
	1993	Wind River	7	3	0	10	42.9	
		Crooked River	4	0	0	4	0.0	
		Sheep Creek	8	0	0	8	0.0	
Elk Creek		2	0	0	2	0.0		
Upper Johnson Creek		3	1	0	4	33.3		
		1993 Total	24	4	0	28	16.7	
20	1982	Blowout Creek	2	0	0	2	0.0	
		Rhett Creek	10	4	0	14	40.0	
		Sabe Creek	10	3	0	13	30.0	
		Rattlesnake Creek	3	1	0	4	33.3	
		Bargamin Creek	2	0	0	2	0.0	
			1982 Total	27	8	0	35	29.6
	1987	Blowout Creek	4	0	0	4	0.0	
		Rhett Creek	12	1	0	13	8.3	
		Sabe Creek	30	8	0	38	26.7	
		Rattlesnake Creek	2	0	0	2	0.0	
		Bargamin Creek	2	0	0	2	0.0	
			1987 Total	50	9	0	59	18.0
	1993	Blowout Creek	1	0	0	1	0.0	
		Rhett Creek	1	0	0	1	0.0	
		Sabe Creek	15	2	0	17	13.3	
Rattlesnake Creek		2	0	0	2	0.0		
Bargamin Creek		0	0	0	0	0.0		
		1993 Total	19	2	0	21	10.5	

^a Drainage not included in survey.

Table 9. Summary of mountain goat harvest and drawing odds by hunt area in Unit 18, 1992-present.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
18	1992	5	2	1	60	3.3	34	1:6.8
	1993	5	3	2	100	4.3	47	1:9.4
	1994	5	3	1	80	5.8	36	1:7.2
	1995	5	1	3	80	2.5	57	1:11.4
	1996	5	3	1	80	3.3	39	1:7.8
	1997	5	3	2	100	4.4	64	1:12.8
	1998	5	1	4	100	3.0	71	1:14.2
	1999	5	3	2	100	1.4	64	1:12.8
	2000	5	3	1	80	12.0	51	1:10.2
	2001	5	3	1	80	1.0	60	1:12.0

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys</u>
PROJECT:	<u>W-170-R-26</u>		<u>and Inventories</u>
SUBPROJECT:	<u>3, McCall</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Utilization, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED: <u>July 1, 2001 to June 30, 2002</u>			

MOUNTAIN GOAT - SOUTHWEST REGION, MCCALL

Abstract

No mountain goat harvest occurred in the Southwest Region during this reporting period. A mountain goat aerial survey was conducted on 2 April 2002 in Unit 22. More goats were observed during this survey than in the 1996 survey. Changes in the Unit 22 portion of Hunt Area 18 occurred in 2000.

UNITS 19A, 20A, 22, 23, 24, 25, 26

Management Direction

Management will be consistent with the statewide management direction delineated in the 1991-1995 Mountain Goat Management Plan (page 16).

Background

Historically, Units 20A, 25, and 26 had controlled mountain goat hunt areas. Unit 20A had 3 controlled hunt areas with a total of 13 permits the last year hunting was authorized (1979). All 3 hunts were discontinued in 1980. Unit 25 also had 3 controlled hunt areas. Hunting was discontinued in one area in 1979 and in 1980 in the other areas. A total of 7 permits were issued the last year hunting was allowed. Unit 26 had 2 controlled hunt areas. By 1980, hunting was discontinued in both hunt areas. A total of 5 permits were issued the last year hunting was allowed in both areas.

Population Surveys

A population survey of mountain goats was conducted on 2 April 2002 in Unit 22. Survey results indicate that more mountain goats were observed than in the 1996 survey (Table 1).

Harvest Characteristics

Mountain goats are hunted in portions of Unit 22 and 23 of the Southwest Region and harvest is reported with the Unit 18 harvest in the Clearwater Region. No other mountain goat hunting occurs in the Southwest Region.

Management Implications

The McCall subregion accounted for 8 mountain goat controlled hunt areas in 1977. All mountain goat hunting in the region was discontinued in 1980. Mountain goat hunting will remain closed within the Southwest Region until population survey data document that populations have recovered and meet the minimum requirements to establish a hunt as set forth in the 1991-1995 Mountain Goat Management Plan. An exception to this is the Unit 22 mountain goat population, which is contiguous with the Unit 18 population. The Unit 22 population has been increasing as a result of mountain goats pioneering out from the Unit 18 hunt area. Mountain goat Hunt Area 18 was expanded south in 1997 to include the Brush Creek drainage of Unit 22. The apparent increase in goat numbers may allow for further expansion of the Hunt Area 18 boundaries in Unit 22 if a logical boundary can be derived to protect the highly valued and visible goats that can be observed from the Hells Canyon visitor center.

Mountain goat transplant sites were identified and prioritized during the 1988-1990 reporting period. Authorization from the appropriate land management agencies was obtained during the 1989-1990 reporting period. These sites were incorporated into the Department's 1991-1995 Mountain Goat Management Plan and revised in August 2000.

Table 1. Summary of Mountain Goat Observations in Unit 22 of the Southwest Region, 1996-2002.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
22	1996	Deer Creek	11	1	0	12	9.1
		Granite Creek	26	2	0	28	7.7
		Sawpit Creek	7	2	0	9	28.6
	2002	Deer Creek	6	4	0	10	66.7
		Granite Creek	25	2	0	27	8.0
		Sawpit Creek	14	3	0	17	21.4

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys</u>
PROJECT:	<u>W-170-R-26</u>		<u>and Inventories</u>
SUBPROJECT:	<u>4</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2001 to June 30, 2002</u>		

MOUNTAIN GOAT - MAGIC VALLEY REGION

Abstract

No aerial surveys were conducted during this reporting period. Both hunters in Hunt Area 48 were successful in 2001.

UNITS 43, 48, 49

CONTROLLED HUNT AREA 48

Management Direction

Follow statewide management direction, encourage the U.S. Forest Service to reduce livestock/human/mountain goat conflicts in favor of mountain goats, and maintain current hunts and permit levels.

Background

After relatively liberal harvests during the 1970s, mountain goat hunting seasons were closed in Unit 43 in 1979 and 1980 because of concern over declining numbers and a lack of information on the status of populations. Surveys conducted in February 1981 indicated mountain goat numbers were high enough to allow limited hunting. From 1981-1990, 4 controlled hunt permits (2 hunt areas) were authorized and from 1991-1994, 3 permits (1 hunt area) were authorized. Helicopter surveys conducted in 1994, 1996, and 2001 indicate the Unit 43 population has decreased substantially since the 1990 survey and does not meet minimum standards to allow harvest. Unit 43 has been closed to mountain goat hunting since 1995.

From 1981-1986, that portion of Unit 49 west of the Little Wood River was included in a hunt area with a portion of Unit 48 and 2 permits were authorized. An aerial survey in December 1985 indicated that the Unit 49 mountain goat population was not large enough to allow sport harvest and the season has been closed since 1987. An aerial survey in 2000 indicated population levels increased substantially since the previous survey in 1992. In 2001, Unit 49

was opened to harvest and included Hunt Area 50. Controlled hunt permit levels for this hunt area remained the same as in the previous year at two permits.

From 1981-1986, 4 permits were issued in 2 hunt areas for Unit 48 (1 area included that portion of Unit 49 west of the Little Wood River). In 1987, Unit 49 was closed to mountain goat hunting and excluded from the 48-2 hunt area. From 1987-1990, Unit 48 was divided into 2 hunts each with 2 permits; east of State Highway 75 (48-2) and west of State Highway 75 upstream from and including the Baker Creek drainage (48-1). Permit levels were reduced in 1991 based on aerial survey results. Since 1991, 2 permits have been authorized annually in 1 hunt area that includes all of the former 48-1 and 48-2 hunt areas (Table 1).

Population Surveys

No population surveys were conducted in 2001-2002. Past surveys are summarized in Table 2.

Transplants

Potential release sites have been identified in Units 43, 48, and 49. No transplants occurred in the region during the reporting period.

Harvest Characteristics

In 2001, both mountain goat permittees in Unit 48 were successful. One hunter harvested a 5½-year-old male mountain goat in 7 days of hunting, while the other hunter harvested a 7½-year-old male in 2 days of hunting. Drawing odds in the Unit 48 hunt averaged 17% from 1991-2001. A summary of mountain goat harvest data for the Magic Valley Region is shown in Tables 3 and 4.

Management Implications

Results of the 2001 aerial survey in Units 43 and 48 suggest that mountain goat numbers have remained stable in both units since the last survey. Both units appear to have relatively low production and limited potential for additional harvest. The Unit 43 population has very low numbers; however, sexually mature adults are scattered throughout the suitable habitat and the potential for increasing the population is good. Unit 48 remains the most productive mountain goat unit in the Magic Valley Region. Because of its proximity to the Ketchum/Sun Valley area and State Highway 75, Unit 48 goats are frequently observed by the general public and have important nonconsumptive value.

Hunting will remain closed in Unit 43 until aerial survey data indicates population increases in these and adjacent units. In Unit 48, the permit level will remain at 2 until data becomes available to suggest a change. Because of an increased number of mountain goats observed in 2000 in Unit 49, it was included in a hunt area with Unit 50 for the 2001-2002 seasons. Permit levels remained at 2 for this hunt area. Future surveys of this mountain goat population will include habitat in both Units 49 and 50 since this population uses portions of both units. The

population has been identified for augmentation releases if and when a source of mountain goats becomes available. Currently, the U.S. Forest Service is attempting to improve mountain goat habitat through improved livestock management and limiting motorized access, which should assist in population recovery.

Table 1. 2001 Structure for Controlled, Either-Sex Mountain Goat Hunt 48 in the Magic Valley Region.

Hunt Area	Season		Permits
	Dates	Length	
48	30 August - 12 November	75 days	2

Table 2. Summary of Mountain Goat Surveys in Units 43, 48, and 49, 1981-present.

Year	Unit	Adults	Kids	Unknown	Total	Kids/100 Adults
1981	48 ^a	18	3	0	21	16.7
1981	48 ^b	19	2	0	21	10.5
1981	48/49 ^c	21	1	5	30	4.8
1985	48 ^a	26	8	0	34	30.8
1990	48	43	16	0	59	37.2
1994	48	52	13	0	65	25.0
2001	48	55	14	0	69	25.5
1981	43	69	20	0	89	29.0
1990	43	67	21	0	88	31.3
1994	43	21	4	0	25	19.0
1996	43	25	7	0	32	28.0
2001	43	26	2	0	28	7.7
1992	49	8	2	0	10	25.0
2000	49	22	1	0	23	4.5

^a That portion of Unit 48 west of the North Fork Big Wood River and north of State Highway 75.

^b That portion of Unit 48 west of State Highway 75 and north of Baker Creek.

^c That portion of Unit 48 east of State Highway 75 and south of the Trail Creek Road, and that portion of Unit 49 west of the Little Wood River.

Table 3. Summary of Mountain Goat Harvest and Drawing Odds in Hunt Area 43-1, 43-2, and 43, 1983-1994.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter	First Choice Applicants	Drawing Odds
			M	F				
43-1	1983	2	0	0	0	7.5	22	1:11.0
	1984	2	1	0	50	3.5	21	1:10.5
	1985	2	0	1	50	4.0	41	1:20.5
	1986	2	1	1	100	4.0	14	1:7.0
	1987	2	1	1	100	6.5	8	1:4.0
	1988	2	1	0	50	8.0	9	1:4.5
	1989	2	1	0	50	4.0	9	1:4.5
	1990	2	0	1	50	12.0	5	1:2.5
43-2	1983	2	2	0	100	1.0	29	1:14.5
	1984	2	0	2	100	2.5	25	1:12.5
	1985	2	0	2	100	3.0	31	1:15.5
	1986	2	0	2	100	2.0	10	1:5.0
	1987	2	0	2	100	4.0	7	1:3.5
	1988	2	2	0	100	-	7	1:3.5
	1989	2	2	0	100	3.0	10	1:5.0
	1990	2	1	1	100	6.5	9	1:4.5
43 ^a	1991	3	0	1	33	6.7	18	1:6.0
	1992	3	0	1	33	3.7	7	1:2.3
	1993	3	1	2	100	5.3	14	1:4.7
	1994	3	1	2	100	5.5	11	1:3.7

^a Same geographical area as 43-1 and 43-2 combined.

Table 4. Summary of Mountain Goat Harvest and Drawing Odds in Hunts 48-1, 48-2, and 48, 1983-2001.

Hunt Area	Year	Permits	Harvest		% Success	Days/Hunter	First Choice Applicants	Drawing Odds
			M	F				
48-1	1983	2	1	1	100	1.0	41	1:20.5
	1984	2	1	1	100	5.5	26	1:13.0
	1985	2	1	1	100	2.0	46	1:23.0
	1986	2	0	2	100	3.0	4	1:2.0
	1987	2	2	0	100	11.0	9	1:4.5
	1988	2	2	0	100	-	6	1:3.0
	1989	2	1	1	100	6.5	13	1:6.5
	1990	2	2	0	100	1.5	2	1:1.0
48-2	1983	2	1	0	50	3.0	39	1:19.5
	1984	2	2	0	100	3.5	24	1:12.0
	1985	2	0	2	100	1.0	46	1:23.0
	1986 ^a	2	1	1	100	17.5	7	1:3.5
	1987 ^b	2	2	0	100	3.0	13	1:6.5
	1988	2	2	0	100	-	10	1:5.0
	1989	2	2	0	100	2.0	8	1:4.0
	1990	2	1	1	100	3.5	9	1:4.5
48 ^c	1991	2	1	0	50	8.0	18	1:9.0
	1992	2	1	0	50	2.0	8	1:4.0
	1993	2	2	0	100	6.0	12	1:6.0
	1994	2	2	0	100	3.0	10	1:5.0
	1995	2	0	2	100	3.5	13	1:6.5
	1996	2	2	0	100	1.0	8	1:4.0
	1997	2	2	0	100	5.5	16	1:8.0
	1998	2	2	0	100	2.0	13	1:6.5
	1999	2	1	0	50	25.0	20	1:10.0
	2000	2	1	1	100	2.5	13	1:6.5
	2001	2	2	0	100	4.5	8	1:4.0

^a Hunt 48-2 changed to Hunt 49 in 1986 and back to 48-2 in 1987.

^b That portion of Unit 48 east of State Highway 75. The portion of Unit 48 west of the North Fork of the Big Wood River and north of State Highway 75 was formerly included in Hunt 36A-2.

^c Same geographical area as 48-1 and 48-2 combined.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys</u>
PROJECT:	<u>W-170-R-26</u>		<u>and Inventories</u>
SUBPROJECT:	<u>6</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Utilization, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2001 to June 30, 2002</u>		

MOUNTAIN GOAT - UPPER SNAKE REGION

Abstract

Five distinct populations of mountain goats occur in the Upper Snake Region. These include the Pioneer Mountains (Unit 50), South Lemhi Range (Units 29, 51, and 58), Red Conglomerates (Unit 59), Italian Peaks (Unit 59A), and the Snake River Range (Unit 67).

Four controlled hunts were offered in the Upper Snake Region in 2001. Sixteen permits were offered, and 15 mountain goats were harvested (94% success) based on mandatory harvest reports (no telephone survey has been conducted on trophy species permit holders since 1996). Drawing odds ranged from 1:6.8 (Hunt Area 59A) to 1:16.3 (Hunt Area 67).

Population surveys were flown in Hunt Areas 59 and 59A in mid August 2001. Despite good counting conditions, counts were down dramatically in both areas. No goats were observed in Unit 59 (25 goats were counted in 1994) and only 25 goats were tallied in Unit 59A, compared to the 128 counted in 1994. The declines in these populations have resulted in the closure of both of these hunts (59 in 1995 and 59A in 2002). Reasons for these declines are poorly understood.

No trapping and/or transplant operations were conducted during this reporting period.

UNITS 29, 51, 58, 59A

CONTROLLED HUNT AREAS 51, 59A

Description: Hunt Area 51 - That portion of Unit 29 south of and excluding the Big Timber Creek drainage, that portion of Unit 51 east of the Howe-Goldburg Road, and that portion of Unit 58 west of State Highway 28.

Description: Hunt Area 59A - All of Unit 59A and that portion of Unit 58 east of State Highway 28.

Background

Mountain goats are native to these ranges. Reports of observations of one to a few mountain goats date back to the early 1950s. Numbers remained low, however, until about the mid-1970s. Aerial surveys in 1982 indicated that populations in Hunt Areas 51 and 59A had increased enough to increase permits in Hunt Area 51 and initiate Hunt Area 59A. Hunt Area 59 was initiated in 1987 after a 1986 survey found 46 mountain goats with a ratio of 44 kids per 100 adults. This hunt was closed after a 1994 population survey accounted for only 25 mountain goats.

From 1983 to 1986, Hunt Area 51 was split into 51-1 (north of Rocky Canyon drainage) and 51-2 (south of and including Rocky Canyon drainage). These hunts were combined in 1987 when observations showed mountain goats moved freely between the two hunt areas and hunter densities were not a problem.

Two controlled hunts (Table 1), with a total of 11 permits, were held in these units in 2001.

Population Surveys

A population survey was most recently flown in Hunt Area 51 in the first week of August 2000. A total of 157 mountain goats with a kid:adult ratio of 26:100 was counted (Table 2). This total represents the historical high count for the area and was 105% higher than the next most recent count of 61 in 1992.

Population surveys were conducted in Units 59 and 59A in mid August 2001 (Table 2). A Bell G47 Soloy helicopter was used to conduct the surveys.

No goats were found in Unit 59 in 2001 despite good counting conditions, the same areas being surveyed by the same observer and same pilot as the previous (1994) survey. A total of 25 mountain goats were counted in Unit 59 in 1994. The observed kid:adult ratio was 79:100, and no twin sets were identified. The 25 mountain goats counted on this survey represented a decrease of 46% from the next most recent survey (1986).

The 2001 survey of Unit 59A accounted for only 25 mountain goats (11 nannies, 4 kids and 5 billies). This total represents an 80% decrease from the previous survey (1994). Counting conditions were good during this survey, and again, the same areas were surveyed by the same observer, pilot, and aircraft as the previous survey. The 1994 survey results included a total count of 128 mountain goats with 39 kids:100 adults (four sets of twins identified). This total represented an increase of 44% from the 1991 survey and represented the most mountain goats ever counted in this unit.

Harvest Characteristics

A total of 11 permits were issued for these two hunts in 2001 and 10 mountain goats were harvested. All six permittees were successful in harvesting a mountain goat in Hunt Area 51 in

2001 while four of the five hunters in Hunt Area 59A harvested a mountain goat (Table 3) based on mandatory harvest reports. A letter and report form was sent to all 5 permit holders in Hunt Area 59A requesting they record observations of mountain goats while they hunted. Four of the 5 hunters sent in their reports while the 5th hunter called in his observations. All the hunters reported seeing few goats, consistent with the aerial survey information.

Total harvest for Units 59 and 59A in 2001 consisted of 7 males and 3 females. No telephone survey has been conducted on mountain goat permit holders since 1995. Therefore, caution must be exercised when comparing 1996-2001 harvest results with earlier data. Drawing odds were 1:9.0 for Hunt Area 51 and 1:6.8 for Hunt Area 59A in 2001 (Table 3).

Climatic Conditions

Spring and summer weather conditions during 2001 were much warmer and drier than normal. Winter precipitation was near normal and temperatures were slightly below average. Precipitation has again dropped well below average since mid March.

Habitat Conditions

Mountain goat habitat in these units consists of alpine meadows interspersed with scree and talus, conifers and mountain mahogany. Water and alpine meadow habitat is limited in these ranges and may be limiting goat distribution and population growth.

Trapping and Transplanting

No trapping and/or transplant operations were conducted during this reporting period.

Management Implications

The 1991-1995 Mountain Goat Management Plan authorizes hunts in game management units having a minimum of 50 adult mountain goats, requires that hunted units be inventoried at least once every five years, and sets permit levels to not exceed 5% of the adults in any population. Based on most recent survey data, season framework modifications were implemented beginning in 1995. The permit level in Unit 51 was increased from 4 to 6. However, the dramatic decrease in goats counted in both Units 59 and 59A have resulted in the closure of these hunts (Unit 59 in 1995 and Unit 59A in 2002). Reasons for these declines are poorly understood.

UNIT 50

CONTROLLED HUNT AREA 50

Description: Hunt Area 50 – All of Unit 49 and that portion of Unit 50 south and east of the Trail Creek Road and south and west of U.S. Highway 93.

Background

Hunt Areas 50-1 and 50-2 were closed in 1982 because of a low kid:adult ratio. Hunt Area 50 (that portion of Unit 50 south and east of the Trail Creek Road and south and west of U.S. Highway 93) was reopened, with five permits, in 1986 after 92 mountain goats with 30 kids:100 adults were counted on a 1985 survey. This hunt area was previously identified as 50-2 and was closed when only 45 mountain goats with 22 kids:100 adults were counted during a helicopter survey during the winter of 1981-1982. Unit 49 was added to this hunt in 2001. Current season structure for Hunt Area 50 is shown in Table 4.

Population Characteristics

A helicopter survey was last conducted in Unit 50 in late August 1999 (Table 5). The total number of mountain goats counted (50) in the Hunt Area 50 portion was nearly identical to the total accounted for on the next most recent survey (49 in 1992), but was only 54% of the total counted on the 1985 survey (92). However, the kid:adult ratio had improved to 25:100.

The most recent population survey in Unit 49 was conducted in 2000 and accounted for 23 goats (22 adults and 1 kid).

Harvest Characteristics

Two permits were issued in Hunt Area 50 again in 2001, resulting in the harvest of 2 mountain goats (Table 6), both males harvested in Unit 50. Drawing odds were 1:11.5 in 2001.

Climatic Conditions

Spring and summer weather conditions during 2001 were warmer and much drier than normal. Winter precipitation was slightly below normal and temperatures were near to slightly below normal. The spring of 2002 has seen the return of below average precipitation levels.

Habitat Conditions

Mountain goats in Hunt Area 50 occupy the higher elevation peaks and ridges of the Pioneer Range. Habitat in this area is discontinuous and appears less productive than other occupied mountain goat habitat in the Upper Snake Region. The two habitat components that are most limited are alpine meadow summer range and mountain mahogany stands for winter range. Tracks observed on aerial surveys indicate mountain goats, either solitary or in small groups, shift several miles to find suitable habitats following winter storms. Water may also be limiting in some parts of the summer range.

Trapping and Transplanting

No trapping and/or transplanting operations have been conducted in Unit 50.

Management Implications

Permits in Hunt Area 50 were reduced from 5 to 2 in 1993 based upon results of the 1992 population survey. The 50 mountain goats accounted for on the two most recent (February 1992 and August 1999) population surveys place this hunt at the minimum population level for a unit to sustain a hunt, as per the 1991-1995 Mountain Goat Management Plan. The addition of Unit 49 adds more goats to this hunt area and better encompasses the Pioneer Range goat population.

UNIT 67

CONTROLLED HUNT AREA 67

Description: Hunt Area 67 – All of Unit 67.

Background

The Snake River Range lies outside the historical range of mountain goats. Five mountain goats were introduced in 1969 (Hayden 1989). The mountain goat population in Unit 67 grew rapidly in the 1970s and 1980s. Hunts were initiated in 1983. Each of Hunt Areas 67-1, 67-2, 67-3, and 67-4 had 4 permits in 1986, resulting in a net increase of 6 permits over the 1985 seasons. Two new hunts (67-5 and 67-6) were created in 1987. Due to decreasing population trends and plans to continue trapping mountain goats from the Mt. Baldy and Mt. Baird populations for statewide transplants, seasons were restructured in 1991. Total permits were reduced from 24 to 13. Hunt Areas 67-2, 67-4, and 67-6 were combined and renumbered to 67-1. Additionally, Hunt Area 67-1 became 67-2; 67-3 remained 67-3; and 67-5 became 67-4. The continued downward population trend resulted in the further restructuring of the Unit 67 goat hunts in 2001 (Table 7), to consist of only one hunt with 3 permits encompassing all of Unit 67.

Population Surveys

Productivity and survival have historically been high in this introduced population. In 1982 and 1983, the percent of adult females producing young was 71% and 83%, respectively, and twinning rates were 25% and 33%, respectively. Annual survival from 1982 to 1983 was calculated to be 88% among kids, 95% among yearlings, and 93% among adult/subadults (Hayden 1989). Even in the face of declining populations, kid:adult ratios have remained high (Table 8).

Surveys have been conducted in Unit 67 on a fairly frequent basis. An aerial population survey was most recently conducted on these two mountain goat populations with a Bell G47 Soloy helicopter in early August 2000.

A total of 90 mountain goats with a kid:adult ratio of 48:100 was counted in the Mt. Baird portion of Unit 67 (Hunt Area 67-1; Table 8). The next most recent count in this area was a helicopter count conducted in 1998 that accounted for 163 mountain goats. This population has

shown a steady decline from 217 (the historical high count) down to 90 since 1996. Reasons for this decline are largely unknown.

The 2000 population survey of the Mt. Baldy portion of Unit 67 resulted in a total count of only 14 goats with a kid:adult ratio of 56:100 (Table 8). This total of 14 mountain goats represents the lowest total for this population and a continuation of a significant downward trend over the past 10 years. The total of 14 mountain goats is just 11% of the historical high count of 126 for this area that was observed in 1986.

Harvest Characteristics

In 2001, 3 mountain goats (2 males and 1 female) were harvested on the 3 permits on the Unit 67 hunt (Table 9). Drawing odds decreased to 1:16.3 in 2001 with the reduction in available permits.

Climatic Conditions

Spring and summer weather conditions during 2001 were warmer and significantly drier than normal. Winter precipitation was at or slightly above normal and temperatures were below average. Weather conditions for the spring of 2002 have been characterized by periods of both higher and lower than normal temperatures and near normal precipitation levels.

Habitat Conditions

Unit 67 mountain goat habitat is productive, with a good complex of alpine meadows, mountain mahogany, and conifers. In summer, the mountain goats use lush, alpine meadows and cirque basins. Examination of harvested mountain goats from this area indicates they are in extremely good body condition going into winter.

Domestic sheep graze the Mt. Baird area and may be impacting mountain goat summer range. This area is heavily used by mountain goats prior to sheep use, but they leave and move onto winter range when domestic sheep are present. It is not known if this mountain goat movement is due to forage or spatial competition, or disturbance created by herders and dogs. The Targhee National Forest, who administers the area, has continued to evaluate the conflict.

Trapping and Transplanting

Several efforts to translocate mountain goats from the Mt. Baldy population were made between 1987 and 1997. Mountain goats were trapped in clover traps using salt as bait from 1989-1991. A total of 15 mountain goats were removed from the Mt. Baldy population during these three trapping efforts (Table 10).

In July 1992, a private net-gun crew captured 11 mountain goats on Mt. Baldy. These animals were successfully translocated to the Salmon Region (Panther Creek in Unit 28). The

11 mountain goats translocated in 1992 consisted of 9 females (3 yearlings, 3 two-year-olds, 2 three-year-olds, and 1 four-year-old), and 2 males (1 yearling and 1 two-year-old).

In August 1994, a total of 11 mountain goats were net gunned from the Mt. Baird portion of Unit 67 to be transplanted to Square Top in Unit 21 (Salmon Region) by the New Zealand net gun crew. One 3.5-year-old male was killed during the capture operation. The 10 mountain goats transplanted to Unit 21 consisted of 6 females (4 yearlings and 2 two-year-olds) and 4 males (1 yearling, 2 two-year-olds, and 1 three-year-old). This operation represented the first attempt to remove mountain goats from the Mt. Baird portion of Unit 67.

A private net-gun crew again captured mountain goats in the Mt. Baird portion of Unit 67 in August 1997. A total of 10 adult mountain goats (6 females, 4 males) were transplanted to the Corn Lakes area in Unit 21 (Salmon Region).

A complete summary of mountain goat transplants in Unit 67 is presented in Table 10.

Management Implications

The past heavy harvest strategy (pre-1992) was dictated by the rapidly increasing, productive nature of this introduced herd. Subsequent downward population trends, along with plans to continue trapping mountain goats for transplant operations, precipitated a reduction in permits and a restructuring of Unit 67 mountain goat hunts.

The largest number of mountain goats (217) counted in the old Hunt Area 67-1 (Mt. Baird area) was observed on the 1996 survey flight. Subsequent survey results indicated a decrease to 163 in 1998 and then 90 in 2000. The population objective after the 1996 survey was to reduce this population to a level thought to be more in balance with available habitat. A more aggressive harvest strategy (20 permits) was adopted beginning with the 1997 hunting season and an additional 10 goats were trapped and provided for statewide transplant operations. However, the 67-1 goat population has declined more precipitously than management actions would dictate. Reasons for this decline are largely unknown. This situation will continue to be monitored closely. Permits will be reduced accordingly.

The continued downward population trend in the old Hunt Area 67-2 is cause for concern and will be monitored closely. This population decline resulted in the 67-2 hunt being closed beginning with the 1999 season.

The two hunts were combined in 2001 and permits were reduced to three. Population monitoring surveys are again scheduled for late summer 2002.

LITERATURE CITED

Hayden, J. A. 1989. Status and population dynamics of mountain goats in the Snake River Range, Idaho. M. S. Thesis, Univ. Montana, Missoula. 147 pp.

Table 1. 2001 Season Structure for Controlled, Either-sex Mountain Goat Hunt Areas 51 and 59A in the Upper Snake Region.

Hunt Area	Season		Permits
	Dates	Length	
51	30 August - 12 November	75 days	6
59A	30 August - 12 November	75 days	5

Table 2. Summary of Mountain Goat Surveys in Units 51, 59, and 59A, 1982-Present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
51	1982 ^{a,c}	Lemhi Range South of the Big Timber Creek drainage	75	22	0	97	29.3
	1986 ^a		68	15	17	101	22.1
	1987 ^b		100	30	0	130	30.0
	1992 ^a		54	7	0	61	13.0
	2000 ^a		125	32	0	157	25.6
59	1986 ^a	Red Conglomerates	32	14	0	46	43.8
	1994 ^a		14	11	0	25	78.6
	2001 ^a		0	0	0	0	0.0
59A	1982 ^a	Italian Peaks	46	13	0	59	28.3
	1986 ^a		10	3	0	13	30.0
	1991 ^b		61	24	4	89	39.3
	1994 ^a		92	36	0	128	39.1
	2001 ^a		16	4	0	20	25.0

^a Helicopter count.

^b Ground count.

^c Census results combined for Hunt Areas 51-1 and 51-2.

Table 3. Summary of Mountain Goat Harvest and Drawing Odds by Hunt Area (Hunt Areas 51, 59, and 59A), 1992-2001.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
51	1992	6	3	2	83	4.5	50	1:8.3
	1993	6	5	1	100	4.4	32	1:5.3
	1994	6	5	1	100	4.2	44	1:7.3
	1995	4	1	2	75	11.3	36	1:9.0
	1996	4	3	0	75	4.3	25	1:6.3
	1997	4	1	2	75	1.3	20	1:5.0
	1998	4	3	1	100	4.5	40	1:10.0
	1999	4	2	1	75	13.7	34	1:8.5
	2000	4	3	1	100	2.0	33	1:8.3
	2001	6	5	1	100	8.5	54	1:9.0
	59	1992	2	1	1	100	5.0	14
1993		2	2	0	100	3.5	14	1:7.0
1994		2	0	2	100	4.0	11	1:5.5
59A	1992	3	2	1	100	3.7	22	1:7.3
	1993	4	3	0	75	4.3	25	1:6.3
	1994	4	1	2	75	3.8	34	1:8.5
	1995	5	1	4	100	2.8	35	1:7.0
	1996	5	2	2	80	3.3	44	1:8.8
	1997	5	4	1	100	3.6	43	1:8.6
	1998	5	4	0	80	5.3	36	1:7.2
	1999	5	3	1	80	7.5	49	1:9.8
	2000	5	3	1	80	3.5	45	1:9.0
2001	5	2	2	80	4.5	34	1:6.8	

^a From 1992-1995, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

Table 4. 2001 Season Structure for Controlled, Either-sex, Mountain Goat Hunt Area 50 in the Upper Snake Region.

Hunt Area	Season		Permits
	Dates	Length	
50	30 August - 12 November	75 days	2

Table 5. Summary of Mountain Goat Surveys in Unit 50, 1982-Present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
50	1982 ^a	That portion north and west of the Trail Creek Road and south and west of U.S. Highway 93.	13	3	0	16	23.1
	1985 ^a		9	2	0	11	22.2
	1992 ^a		13	0	0	13	0.0
	1999 ^a		26	4	0	30	15.4
50	1982 ^a	That portion south and east of the Trail Creek road and south and west of U.S. Highway 93.	37	8	0	45	21.6
	1985 ^a		66	20	6	92	30.3
	1992 ^a		45	4	0	49	8.9
	1999 ^a		40	10	0	50	25.0

^a Helicopter count.

Table 6. Summary of Mountain Goat Harvest and drawing odds by Hunt Area, (Hunt Area 50) 1992-2001.

Hunt Area	Year	Permits	Harvest		% Success	Days/Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
50	1992	5	2	3	100	3.0	26	1:5.2
	1993	2	1	1	100	7.0	15	1:7.5
	1994	2	1	1	100	8.5	15	1:7.5
	1995	2	1	0	50	5.0	14	1:7.0
	1996	2	2	0	100	4.0	11	1:5.5
	1997	2	1	0	50	1.0	11	1:5.5
	1998	2	1	1	100	2.5	17	1:8.5
	1999	2	2	0	100	3.0	17	1:8.5
	2000	2	1	1	100	1.0	30	1:15.0
	2001	2	2	0	100	3.0	23	1:11.5

^a From 1992-1995, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

Table 7. 2001 Season Structure for Controlled, Either-sex, Mountain Goat Hunt Area 67 in the Upper Snake Region.

Hunt Area	Season		Permits
	Dates	Length	
67	30 August - 12 November	75 days	3

Table 8. Summary of Mountain Goat Surveys in Unit 67, 1982-Present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
67-1	1982 ^a	South of Palisades Creek (Mt. Baird area)	33	13	0	46	39.4
	1985 ^a		35	16	0	51	45.7
	1986 ^b		0	0	104	104	-
	1986 ^a		37	15	0	52	40.5
	1988 ^b		71	21	0	92	29.6
	1990 ^b		45	18	0	63	40.0
	1993 ^b		104	33	16	153	31.7
	1994 ^a		73	42	0	115	57.5
	1996 ^a		151	66	0	217	43.7
	1998 ^a		118	45	0	163	38.1
67-2	2000 ^a	North of Palisades Creek (Mt. Baldy area)	61	29	0	90	47.5
	1982 ^a		45	12	0	57	26.7
	1985 ^a		31	8	0	39	25.8
	1986 ^b		0	0	126	126	-
	1986 ^a		38	19	49	106	50.0
	1987 ^b		72	28	0	100	38.9
	1988 ^b		91	31	0	122	34.1
	1989 ^b		35	12	0	47	34.3
	1990 ^b		73	22	0	95	30.1
	1994 ^a		41	20	0	61	48.8
1996 ^a	47	17	0	64	36.2		
1998 ^a	26	7	0	33	26.9		
2000 ^a	9	5	0	14	55.6		

^a Helicopter survey.

^b Ground count.

Table 9. Summary of Mountain Goat Harvest and Drawing Odds by Hunt Area (Hunt Area 67), 1992-2001.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
67 ^b	2001	3	2	1	100	5.7	49	1:16.3
67-1	1992	7	4	3	100	3.8	72	1:10.3
	1993	7	2	4	86	3.0	67	1:9.6
	1994	7	6	1	100	2.7	77	1:11.0
	1995	7	2	0	29	7.0	97	1:13.9
	1996	7	4	1	71	3.4	77	1:11.0
	1997	20	8	8	80	2.6	166	1:8.3
	1998	20	4	9	65	6.5	129	1:6.5
	1999	10	4	5	90	3.0	105	1:10.5
	2000	10	5	4	90	4.1	83	1:8.3
	67-2	1992	2	1	1	100	3.0	9
1993		2	2	0	100	1.0	17	1:8.5
1994		2	1	1	100	6.5	11	1:5.5
1995		4	1	0	25	5.7	32	1:8.0
1996		4	3	1	100	3.8	41	1:10.3
1997		4	3	1	100	4.5	26	1:6.5
67-3	1998	4	3	0	75	5.0	21	1:5.3
	1992	2	2	0	100	3.5	12	1:6.0
	1993	2	1	0	50	7.5	24	1:12.0
67-4	1994	2	0	2	100	2.0	9	1:4.5
	1992	2	1	0	50	4.0	21	1:10.5
67-4	1993	2	2	0	100	2.0	9	1:4.5
	1994	2	1	1	100	2.0	22	1:11.0

^a From 1992-1995, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

^b Old Hunt Areas 67-1 and 67-2 combined and renamed Hunt Area 67 in 2001.

Table 10. Summary of Mountain Goat Transplants in Unit 67 in the Upper Snake Region.

Date	Capture Site-Unit	Release Site-Unit	Adults		Kids		Total
			M	F	M	F	
7/69	Snow Peak-9	Palisades Creek-67	1	2	0	0	3
7/69	Black Mtn-9A	Palisades Creek-67	1	1	0	0	2
7/70	Black Mtn-9A	Black Canyon-67	3	0	0	0	3
7/70	Black Mtn-9A	Black Canyon-67	1	2	1	0	4
8/89	Mt Baldy-67	Williams Creek-28	1	1	0	0	2
7/90	Mt Baldy-67	Panther Creek-28	2	3	0	2	7
7/91	Mt Baldy-67	Panther Creek-28	1	4	0	1	6
7/92	Mt Baldy-67	Panther Creek-28	2	9	0	0	11
8/94	Mt Baird-67	Square Top-21	4	6	0	0	10
8/97	Mt Baird-67	Corn Lakes-21	4	6	0	0	10

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys</u>
PROJECT:	<u>W-170-R-26</u>		<u>and Inventories</u>
SUBPROJECT:	<u>7</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Utilization, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2001 to June 30, 2002</u>		

MOUNTAIN GOAT - SALMON REGION

Abstract

During 2001, 25 permits for mountain goats were available in 9 hunt areas. Two permit holders chose to defer their permits until the 2001 season because of wildfires in the Salmon Region during 2000. Of 27 active hunters, 23 harvested animals (85% success), 14 (61%) of which were males. Chances of drawing a permit for mountain goat in the Salmon Region were 16% in 2000.

Aerial surveys specifically for mountain goats were conducted in units 21A, 30, 27, 36, 36A, and 36B during April 2002. April surveys yielded 267 individuals, with an additional 49 observed in Unit 28 and parts of Unit 27 incidental to January elk surveys. Conditions for observing mountain goats during April were poor in most areas and numbers observed in comparable survey areas were 45% below those of previous surveys. Among hunt areas, change in number of goats observed ranged from +10% to -78%. Overall kid ratio was 14.5 per 100 adults. The Salmon Region has approval for 10 mountain goat release sites, 5 of which are in designated wilderness. Sixty-one mountain goats have been released since 1989 and the region could accommodate release of 120 additional mountain goats.

UNITS 21, 21A, 27, 28, 29, 30, 30A, 36, 36A, 36B, 37, 37A

**CONTROLLED HUNT AREAS 27-1, 27-2, 27-3, 27-4, 30,
36A-1, 36A-2, 36A-3, 36A-4, 36B**

Management Direction

Follow statewide management direction. Increase population, increase nonconsumptive use of mountain goat herds, maintain harvest and recreational opportunity, and translocate mountain goats.

Background

Most herds winter at low elevations on south-facing cliffs, where mountain-mahogany (*Cercocarpus ledifolius*) is a dominant forage species. These mountain goats move to higher elevations during summer where alpine, subalpine, or north-slope habitats are preferred. Mountain goats in Units 36 and 36A depend less on mountain-mahogany winter ranges. Most do migrate to south-facing cliffs, but some winter on high elevation ridgelines.

As with other herds in Idaho, population trends over the past 20-25 years have varied considerably among individual herds. Some herds, particularly in accessible areas, have been drastically reduced or eliminated. Other herds have declined and then recovered to near historical high numbers.

The U. S. Forest Service (USFS) administers most mountain goat habitat, but the Bureau of Land Management also manages small amounts of critical winter range. Portions of Units 21, 27, 28, and 36 are designated wilderness.

Suitable mountain goat habitats are often widely separated. Thus, movement of mountain goats into low-density areas is slow and erratic. Translocating animals may accelerate processes of repopulating vacant habitats and stimulating increases in stagnant herds.

Unit 37 appears to have potential mountain goat habitat, but this area lies outside the native range of mountain goats in Idaho. Because mountain goats have prospered following introduction into several areas outside their native range in North America, there may be potential for establishing a new herd in Unit 37. However, no inventory has been made of habitats in Unit 37 and we currently have no reliable estimate of the area's potential to support mountain goats.

Population Surveys

During April 2002, 267 mountain goats were observed during aerial surveys of units 21A, 30, 27, 36, 36A, and 36B (Tables 1-3). Observed age ratio during April was 13.1 kids per 100 adults. An additional 49 mountain goats were observed during elk surveys in January 2002, primarily in Unit 27. Kid ratios from January observations were 23 per 100 adults. During January and February 2001, 69 mountain goats were observed during aerial surveys of Units 21 and 28 (Table 4). Observed age ratio was 21 kids per 100 adults. The number of mountain goats observed in Unit 21 was approximately 20% of the previous count in 1996. Comparable data in Unit 28 are scarce; however, counts of some mountain goat herds in and adjacent to Hunt Area 27-4 appear stable to increasing. Units 29 and 37A have not been surveyed since 1988 (Table 5).

Goat numbers in most hunt areas were well below levels observed during previous surveys. Populations in 2 hunt areas were essentially stable. Across comparable survey areas we observed a 45% decrease in total mountain goat numbers. The largest drop (-78%) occurred in Hunt Area 36B. Decreases in East Fork Salmon River hunt areas ranged from 33% to 55%. However, with the exception of Units 21A and 30, conditions for detecting goats were quite

poor. Reasons for low observability included patchy snow cover in some areas and hardened snow. Based on tracks, goats were very mobile and moved long distances over hard-packed snow during the several days before surveys occurred. We frequently observed mountain goat tracks over large areas of typical habitat without actually detecting the animals. Further, anecdotal information and observations of herds during the previous summer and autumn suggest that substantial numbers of goats were not detected in at least some survey areas. The number of mountain goats observed in Hunt Area 30 was again low; approximately 37% less than levels observed during surveys in 1996 and 1997 and we observed only 3 kids.

Harvest Characteristics

The 1991-1995 Mountain Goat Management Plan set criteria for establishing permit levels: (1) Set permit levels so annual harvest does not exceed 5% of adult segment of a herd, except 15% of adults can be harvested in highly productive herds if at least 15% of adult females are producing twins. (2) Authorize hunts only for herds consisting of ≥ 50 individuals.

From 1975-1982, 21 mountain goat hunts were completely closed in response to declining populations. Permits in remaining hunts were reduced to a low of 10 in 1985 (Tables 6 and 7). From 1986 to 1993, the number of permits increased to 32 as several hunts were reinstated and permit levels were increased in existing hunts. In 1995, permits were reduced in hunts 36A-3 and 36A-4 and hunts 27-1 and 27-2 were closed. In 1997, hunt 27-2 was reopened with 2 permits. Hunt 27-4 was added in 1999 with 2 permits.

Harvest and hunter information was compiled from Big Game Mortality Reports (BGMRs). Successful hunters must present mountain goat horns to an IDFG representative within 10 days of harvest and complete a BGMR. Mountain goat season structure (Table 8) has been unchanged since 1991; permit levels (Tables 6 and 7) were increased by 1 (Hunt Area 36A-1) over 2000. Nine controlled hunts with 25 permits were authorized for 2001 in the Salmon Region. Hunters could harvest a mountain goat of either sex, except females accompanied by kids were protected. Two holders of mountain goat permits for 2000 opted to defer their permits until the 2001 hunting season because of wildfires in the region. Success among 27 active hunters was 85% in 2001. Of 23 mountain goats, 14 were males. During 75-day seasons (Table 8), region-wide hunter success has averaged 90% since 1995 and males have comprised 66% of the harvest.

Prior to 1986, the chance of drawing a Salmon Region mountain goat permit was very low, averaging 5%. Since 1986, hunters applying for a mountain goat permit have been restricted to only that controlled hunt application. From 1986 to 1994, drawing success substantially increased, averaging 20%. When mountain goat permit numbers were reduced in 1995, applicant numbers did not drop proportionally. Since 1995, drawing success has averaged 14%, reaching a low of 12% in 2000. Drawing odds for individual hunts vary widely from year to year.

Climatic Conditions

Summer 2001 was relatively dry. However vegetation at higher elevations apparently remained relatively lush, in part due to above normal summer precipitation. Winter conditions were relatively mild with temperatures and snow accumulation generally slightly below average. Animals, therefore, entered winter in average body condition, then encountered a mild to average winter, which should have produced average to relatively high overwinter survival. Snowpack was below average (70-85% of normal) and snowmelt occurred somewhat later than normal. Onset of spring weather and associated plant phenology was apparently delayed by approximately 2-3 weeks. Water-year precipitation has been below average, so drier-than-average conditions prevailed through the end of the reporting period.

Habitat Conditions

Mountain goat herds along the Bitterroot Mountains, Panther Creek, Lemhi Range, Middle Fork Salmon River, and Squaw Creek are largely migratory. Winter ranges are low elevation, south-facing cliffs where mountain-mahogany is the dominant forage species. These mountain goats generally move to higher elevation, sub-alpine habitats in summer. Some mountain goats along the Idaho border summer in Montana.

During the past 15 years, elk numbers have increased dramatically throughout the Salmon Region. Portions of mountain goat winter ranges in Units 21, 21A, 27, 29, and 37A now receive substantial use by elk during winter. The capacity of these ranges to support mountain goats may be reduced because of competition with elk.

There is little overlap between elk and mountain goats on critical winter and summer ranges in Units 36 and 36A. Habitat conditions are believed to be stable and able to accommodate some increase in mountain goat populations, primarily in Unit 36.

Capture and Translocation

Ten potential release sites have been approved in the Salmon Region (Table 9) with more sites pending. Since 1989, 61 mountain goats have been released within the region (Table 10).

Management Implications

Most mountain goat herds in the Salmon Region are stable, whether or not herds are hunted. Permit levels have been adjusted to reflect current populations.

Translocation of mountain goats into historical range will continue to be a priority. Release sites along the Middle Fork Salmon River have high esthetic values because of the $\geq 8,000$ river tourists during summer. Release sites will remain closed to hunting until populations increase to huntable levels.

Units 36 and 36A are very popular areas for human recreation during both summer and winter. The visible mountain goat herds in these units, therefore, fulfill a valuable esthetic role in addition to providing harvest. A few recreational activities, such as snowmobiling and heliskiing, have potential to disturb wintering mountain goats in some areas. Regulation of these activities needs to be coordinated with the Sawtooth National Recreation Area.

Table 1. Mountain goat surveys in Units 21A and 30, Salmon Region, 1988-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
30	1988	Sheep Creek - Goat Mt.	116	22	0	138	19.0
	1996	Sheep Creek - Goat Mt.	81	4	0	85	4.9
	1997	Sheep Creek - Goat Mt.	73	16	0	89	21.9
	2002 ^a	Sheep Creek - Goat Mt.	53	2	0	55	3.8

Table 2. Mountain goat surveys in Unit 27, Salmon Region, 1988-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
27	1993 ^a	Waterfall Creek - Goat Cr	15	1	0	16	6.7
	1993 ^a	Big Creek - Soldier Creek	0	0	0	0	0.0
	1999 ^a	Rapid River headwaters	21	3	0	24	14.3
	1999 ^a	Waterfall Creek - Goat Cr	14	1	0	15	7.1
	1999 ^a	Big Creek - Soldier Creek	5	1	0	6	20.0
	1999 ^a	Marble Creek - Indian Cr	18	2	0	20	11.1
	2002 ^b	Marble Creek - Indian Cr	6	1	0	7	16.7
	2002 ^b	Upper Middle Fork	11	2	0	13	18.2
27-1	1988	E.F. Mayfield Creek	17	4	0	21	23.5
	1994	E.F. Mayfield Creek	10	1	0	11	10.0
	1995	E.F. Mayfield Creek	16	4	0	20	25.0
	1997	E.F. Mayfield Creek	17	2	0	19	11.8
	1999 ^a	E.F. Mayfield Creek	7	1	0	8	14.3
	2002 ^a	Mayfield Cr - Yankee Fork	8	2	0	10	25.0
27-2	1988	Trail Creek - China Creek	54	11	0	65	20.4
	1994	Trail Creek - China Creek	36	5	0	41	13.9
	1995	Trail Creek - China Creek	50	6	0	56	12.0
	1997	Trail Creek - China Creek	92	10	0	102	10.9
	1999 ^a	Trail Creek - China Creek	37	4	0	41	10.8
	2002 ^a	Trail Creek - China Creek	38	7	0	45	18.4
27-3	1993 ^a	Meyers Cove - Falconberry	37	7	0	44	18.9
	1999 ^a	Meyers Cove - Falconberry	37	4	0	41	10.8
	2002 ^a	Meyers Cove - Falconberry	15	3	0	18	20.0
27-4	1993 ^a	Yellowjacket Cr - Waterfall Cr	49	8	0	57	16.3
	1999 ^a	Yellowjacket Cr - Waterfall Cr	57	6	0	63	10.5
	2001	Camas Cr - Yellowjacket Cr	30	7	0	37	23.3
	2002 ^a	Yellowjacket Cr - Waterfall Cr	2	3	0	5	150.0
	2002 ^b	Camas Cr - Yellowjacket Cr	6	0	0	6	0.0

^a Spring green-up count.

^b Incidental to elk survey.

Table 3. Mountain goat surveys in Units 36, 36A, and 36B, Salmon Region, 1988-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
	1988	Beaver Creek - Galena	32	7	0	39	21.9
	1994	Beaver Creek - Galena	27	2	0	29	7.4
36-1	1988	Elk Creek - Redfish Lake	27	7	0	34	25.9
	1994	Elk Creek - Redfish Lake	22	0	0	22	0.0
36-2	1988	Redfish Lake - Alturas Creek	39	7	0	46	17.9
	1994	Redfish Lake - Alturas Creek	28	7	0	35	25.0
36A-1	1988	E Pass Creek - W Pass Creek	37	13	0	50	35.1
	1994	E Pass Creek - W Pass Creek	38	10	0	48	26.3
	2002 ^a	E Pass Creek - W Pass Creek	28	4	0	32	14.3
36A-2	1988	Above W Pass Creek	33	9	0	42	27.3
	1994	Above W Pass Creek	36	7	0	43	19.4
	2002 ^a	Above W Pass Creek	21	6	0	27	28.6
36A-3	1988	Warm Springs Cr - Wickiup Cr	61	18	0	79	29.5
	1994	Warm Springs Cr - Wickiup Cr	48	8	0	56	16.7
	2002 ^a	Warm Springs Cr - Wickiup Cr	22	1	0	23	4.5
36A-4	1988	Germania Creek - 4 th July Cr	86	21	0	107	24.4
	1994	Germania Creek - 4 th July Cr	65	6	0	71	9.2
	2002 ^a	Germania Creek - 4 th July Cr	33	5	0	38	15.2
36B	1985	Mill Creek - Ramey Creek	52	23	0	75	44.2
	1986	Mill Creek - Ramey Creek	37	16	0	53	43.2
	1988	Mill Creek - Ramey Creek	73	20	0	93	27.4
	1994	Mill Creek - Ramey Creek	92	23	2	117	25.0
	2002 ^a	Mill Creek - Ramey Creek	24	2	0	26	8.3

^a Spring green-up count.

Table 4. Mountain goat surveys in Units 21 and 28, Salmon Region, 1996-present.

Hunt Area	Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
21	1996	Lost Trail - Hughes Creek	8	2	0	10	25.0
	1996	Hughes Cr - Horse Creek	26	4	0	30	15.4
	2001	Hughes Cr - Horse Creek	5	1	0	6	20.0
28	1996	Cobalt - Garden Creek	10	0	0	10	0.0
	1996	Williams Creek	2	2	0	4	100.0
	1996	Iron Creek - Moyer Creek	11	5	0	16	45.5
	1999 ^a	Upper Camas Creek	5	0	0	5	0.0
	1999 ^b	Iron Creek - Moyer Creek	21	2	0	23	9.5
	2001	Cobalt - Garden Creek	2	0	0	2	0.0
	2001	Iron Creek - Moyer Creek	17	3	0	20	17.6
	2001	Napias Creek	3	1	0	4	33.3
2002	Williams Creek	4	1	0	5	25.0	

^a Spring green-up count.

^b Incidental to elk survey.

Table 5. Mountain goat surveys in units 29 and 37A, Salmon Region, 1988.

Year	Inclusive Location	Adults	Kids	Unknown	Total	Kids/100 Adults
1988	Above Patterson Creek	9	1	0	10	11.1
	Mahogany - Patterson	21	3	0	24	14.3
	Morse Creek - Falls Creek	12	2	0	14	16.7
	McKim Creek - Tater Creek	10	1	0	11	10.0

Table 6. Mountain goat harvest and drawing odds, Salmon Region, 1979-present.

Year	Permits	Harvest			% Success	First Choice Applicants	Drawing Odds
		M	F	Total			
1979	93	18	10	28	30	1,833	1:19.7
1980	40	11	4	15	38	1,524	1:38.1
1981	23	10	6	16	70	-	-
1982	20	6	6	12	60	456	1:22.8
1983	20	7	7	14	70	350	1:17.5
1984	20	12	5	17	85	270	1:13.5
1985	10	6	0	6	60	178	1:17.8
1986	13	8	2	10	77	65	1:5.0
1987	13	7	5	12	92	67	1:5.2
1988	13	5	2	7	54	80	1:6.2
1989	29	17	6	23	79	95	1:3.3
1990	29	13	7	20	69	130	1:4.5
1991	29	18	8	26	90	174	1:6.0
1992	29	18	7	25	86	149	1:5.1
1993	32	18	7	25	78	165	1:5.2
1994	32	20	6	26	81	172	1:5.4
1995	21	13	6	19	90	158	1:7.5
1996	21	15	4	19	90	143	1:6.8
1997	22	10	8	18	82	144	1:6.5
1998	22	11	11	22	100	159	1:7.2
1999	24	17	5	22	92	140	1:5.8
2000	24 ^a	14	5	19	86	201	1:8.4
2001	27 ^a	14	9	23	85	155	1:5.7

^a Two of these permits were deferred until 2001 season because of wildfires.

Table 7. Mountain goat harvest and draw odds by Hunt Area, Salmon Region, 1989-present.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
27-1	1989	3	2	0	67	2.0	9	1:3.0
	1990	3	2	0	67	2.7	9	1:3.0
	1991	3	1	2	100	3.3	14	1:4.7
	1992	3	2	1	100	2.7	13	1:4.3
	1993	3	1	2	100	3.3	15	1:5.0
	1994	3	2	1	100	3.5	8	1:2.7
27-2	1989	3	3	0	100	3.3	10	1:3.3
	1990	3	1	0	33	3.0	10	1:3.3
	1991	3	2	0	67	8.0	18	1:6.0
	1992	3	3	0	100	5.5	9	1:3.0
	1993	3	3	0	100	6.0	23	1:7.7
	1994	3	2	1	100	9.0	15	1:5.0
	1995	Closed						
	1996	Closed						
	1997	2	2	0	100	4.0	7	1:3.5
	1998	2	1	1	100	7.0	23	1:11.5
	1999	2	1	1	100	1.5	10	1:5.0
27-3	2000	2	1	1	100	3.0	16	1:8.0
	2001	2	0	1	50	3.0	14	1:7.0
	1993	2	0	2	100	8.0	11	1:5.5
	1994	2	2	0	100	6.0	8	1:4.0
	1995	2	2	0	100	3.0	12	1:6.0
	1996	2	2	0	100	1.0	22	1:11.0
	1997	2	1	0	50	4.0	10	1:5.0
	1998	2	1	1	100	3.0	12	1:6.0
	1999	2	1	0	50	4.0	14	1:7.0
	2000	2	1	1	100	1.5	13	1:6.5
	2001	2	0	1	50	2.0	8	1:4.0
27-4	1999	2	2	0	100	4.8	13	1:6.5
	2000	2 ^b	0	0	-	-	13	1:6.5
	2001	4 ^b	1	2	75	2.7	18	1:9.0
30	1989	3	2	1	100	5.0	19	1:6.3
	1990	3	2	1	100	3.3	9	1:3.0
	1991	3	3	0	100	8.0	27	1:9.0
	1992	3	3	0	100	4.0	11	1:3.7
	1993	3	3	0	100	6.0	21	1:7.0
	1994	3	2	1	100	3.0	17	1:5.7
	1995	3	1	2	100	11.0	20	1:6.7
	1996	3	1	2	100	6.0	14	1:4.7
	1997	3	1	2	100	6.3	32	1:10.7
	1998	3	2	1	100	10.0	23	1:7.7
	1999	3	1	2	100	5.7	10	1:3.3
	2000	3	3	0	100	3.5	27	1:9.0
	2001	3	1	2	100	3.7	19	1:6.3

Table 7. Continued.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
36A-1	1989	3	2	0	67	4.0	5	1:1.7
	1990	3	1	2	100	5.7	24	1:8.0
	1991	3	2	1	100	2.3	12	1:4.0
	1992	3	2	1	100	3.7	34	1:11.3
	1993	3	2	0	67	3.0	8	1:2.7
	1994	3	3	0	100	4.7	29	1:9.7
	1995	3	0	2	67	4.7	31	1:10.3
	1996	3	2	1	100	1.7	16	1:5.3
	1997	3	2	0	67	2.0	15	1:5.0
	1998	3	1	2	100	2.0	16	1:5.3
	1999	3	2	0	67	3.0	8	1:2.7
	2000	3	2	0	67	5.0	21	1:7.0
	2001	4	3	1	100	4.3	17	1:4.3
36A-2	1989	2	2	0	100	3.5	3	1:1.5
	1990	2	1	1	100	4.5	18	1:9.0
	1991	2	0	2	100	8.0	10	1:5.0
	1992	2	2	0	100	4.0	11	1:5.5
	1993	2	1	0	50	4.0	7	1:3.5
	1994	2	0	0	0	4.0	8	1:4.0
	1995	2	1	1	100	2.0	9	1:4.5
	1996	2	2	0	100	4.5	21	1:10.5
	1997	2	1	1	100	4.5	7	1:3.5
	1998	2	0	2	100	1.5	17	1:8.5
	1999	2	2	0	100	4.5	8	1:4.0
	2000	2	1	1	100	3.5	27	1:13.5
	2001	2	1	1	100	5.5	13	1:6.5
36A-3	1989	4	1	2	75	3.0	12	1:3.0
	1990	4	1	2	75	3.7	18	1:4.5
	1991	4	2	1	75	2.3	22	1:5.5
	1992	4	3	1	100	4.8	19	1:4.8
	1993	4	3	1	100	6.0	21	1:5.3
	1994	4	2	1	75	6.3	23	1:5.8
	1995	2	0	1	50	5.0	13	1:6.5
	1996	2	2	0	100	14.5	11	1:5.5
	1997	2	1	1	100	2.5	12	1:6.0
	1998	2	2	0	100	3.0	12	1:6.0
	1999	2	2	0	100	3.0	11	1:5.5
	2000	2	2	0	100	3.5	13	1:6.5
	2001	2	1	0	50	2.0	14	1:7.0

Table 7. Continued.

Hunt Area	Year	Permits	Harvest		% Success	Days/ Hunter ^a	First Choice Applicants	Drawing Odds
			M	F				
36A-4	1989 ^c	8	4	3	88	6.0	27	1:3.4
	1990 ^c	8	2	1	38	10.6	33	1:4.1
	1991 ^c	8	5	2	88	6.9	34	1:4.2
	1992 ^c	8	1	3	50	11.0	37	1:4.6
	1993 ^c	8	2	1	38	12.8	33	1:4.1
	1994 ^c	7	3	2	71	4.5	36	1:4.5
	1995 ^c	5	5	0	100	4.7	47	1:9.4
	1996 ^c	5	2	1	60	6.3	27	1:5.4
	1997	4	0	3	75	3.0	31	1:7.8
	1998	4	2	2	100	5.2	33	1:8.2
	1999	4	3	1	100	5.3	31	1:7.8
	2000	4	1	2	75	1.3	39	1:9.8
	2001	4	4	0	100	3.5	33	1:8.3
	36B	1989	3	1	0	33	5.7	10
1990		3	3	0	100	2.3	9	1:3.0
1991		3	3	0	100	4.0	37	1:12.3
1992		3	2	1	100	1.3	15	1:5.0
1993		4	3	1	100	2.8	26	1:6.5
1994		5	4	0	80	2.0	28	1:7.0
1995		4	4	0	100	1.3	26	1:6.5
1996		4	4	0	100	5.2	32	1:8.0
1997		4	2	2	100	3.0	30	1:7.5
1998		4	2	2	100	3.5	23	1:5.8
1999		4	3	1	100	6.0	35	1:8.8
2000	4	3	0	75	2.3	32	1:8.0	
2001	4	3	1	100	10.0	19	1:4.8	

^a Days/hunter based only on partial sample of successful hunters beginning in 1996.

^b Both permits in Area 27-4 were deferred until 2001 season.

^c Archery only.

Table 8. Season structure for controlled mountain goat hunts, Salmon Region, 2001-2002.

Hunt Area	Season		Permits
	Dates	Length	
27-1	30 August - 12 November	75 days	2
27-2	30 August - 12 November	75 days	2
27-3	30 August - 12 November	75 days	2
30	30 August - 12 November	75 days	3
36A-1	30 August - 12 November	75 days	4
36A-2	30 August - 12 November	75 days	2
36A-3	30 August - 12 November	75 days	2
36A-4	30 August - 12 November	75 days	4
36B	30 August - 12 November	75 days	4

Table 9. Approved release sites for mountain goats in Salmon Region.

Unit	Location	Release method	No. goats to release	No. released to date
21 ^a	Horse Creek	Helicopter	30	20
21	Beartrap Springs	Vehicle	10	-
27 ^a	Goat Creek	Helicopter	10-20	-
27 ^a	Tumble/Parrot Creek	Helicopter	10	-
27 ^a	Ship Island Creek	Helicopter	20-30	8
27 ^a	Jack/Wilson Creek	Helicopter	10	7
28	Panther Creek	Vehicle	10-20	23
28	Williams Creek	Vehicle	10	2
29	Warm Springs Creek	Helicopter	10-20	-
29	Haynes Creek	Vehicle	10-20	-

^a Designated wilderness, helicopter use authorized by USFS.

Table 10. Mountain goat translocation history, Salmon Region, 1982-present.

Date	Capture Site-Unit	Release Site-Unit	Adults		Kids		Total
			M	F	M	F	
1982	Olympic Park, WA	Patterson Cr-37A	8	12	0	0	20
1989	Snow Peak-9	Jack Creek-27	0	1	0	0	1
1989	Black Mtn-10	Jack Creek-27	2	4	0	0	6
1989	Mt Baldy-67	Williams Creek-28	1	1	0	0	2
1990	Swan Valley-67	Pine Creek-28	1	0	0	0	1
1990	Mt Baldy-67	Panther Creek-28	1	3	0	2	6
1991	Black Mtn-10	Ship Island Cr-27	4	4	0	0	8
1991	Mt Baldy-67	Panther Creek-28	1	4	0	1	6
1992	Mt Baldy-67	Panther Creek-28	2	9	0	0	11
1994	Mt Baird-67	Square Top Mtn-21	4	6	0	0	10

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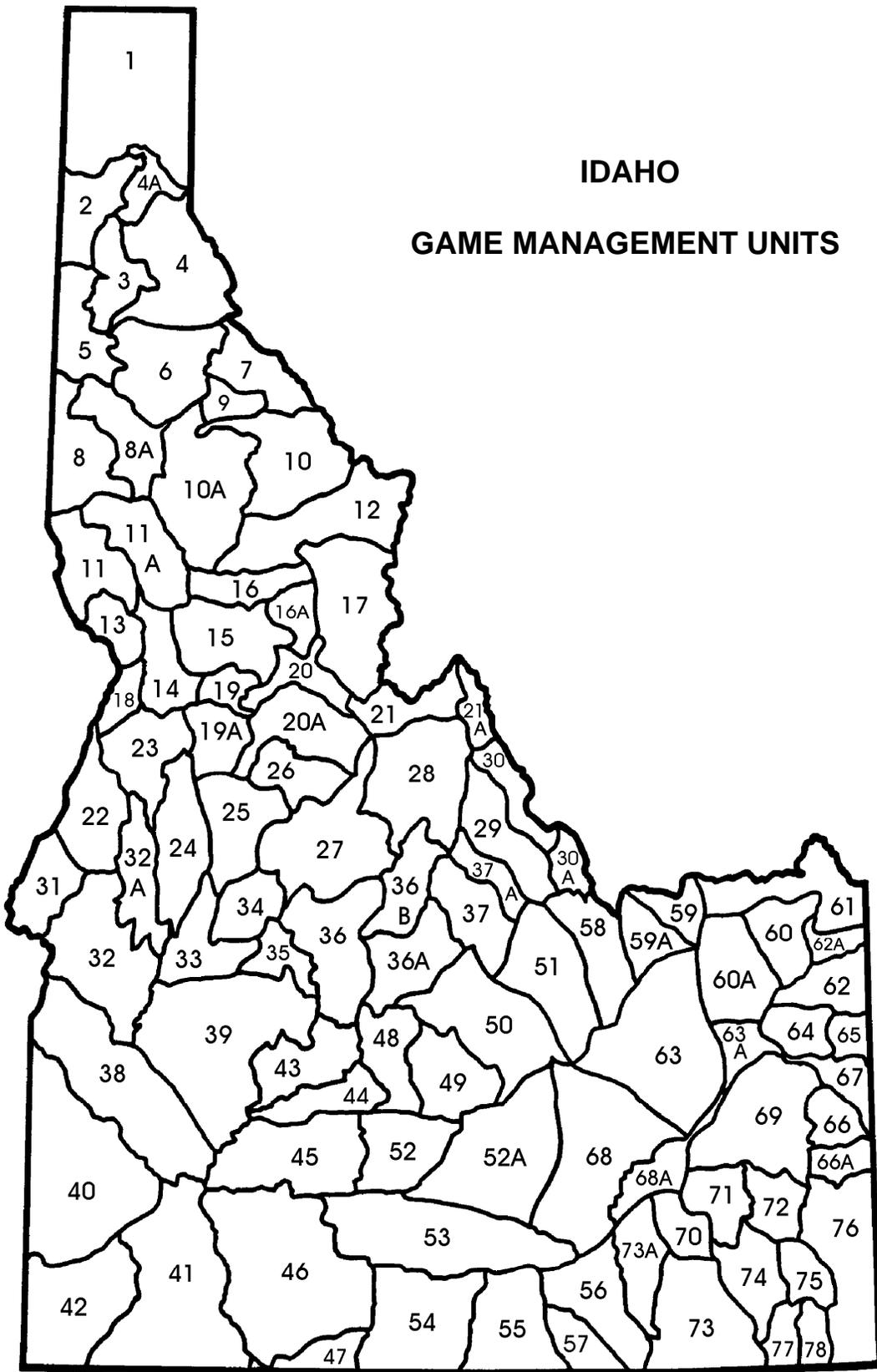
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IDAHO

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.

