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Steven M. Huffaker, Director

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Progress Report



MOUNTAIN GOAT

Study I, Job 5

July 1, 2003 to June 30, 2004

Prepared by:

Jim Hayden, Dave Spicer..... Panhandle Region
Jay Crenshaw Clearwater Region
Jon Rachael, Hollie Miyasaki, Dave Collins Southwest (Nampa) Region
Jeff Rohlman..... Southwest (McCall) Region
Randy Smith, Bruce Palmer..... Magic Valley Region
Daryl Meints, Jeff Short..... Upper Snake Region
Tom Keegan..... Salmon Region

Compiled and edited by: Dale Toweill, Wildlife Program Coordinator

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**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>1</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

STATEWIDE

Abstract

In 2003, the Idaho Department of Fish and Game authorized 15 controlled hunts for mountain goats, offering a total of 40 permits for mountain goat hunters (Appendix A). The 40 hunters harvested 33 mountain goats for a harvest success rate of 83%, as compared with success rates of 87% in 2002, 89% in 2001 and 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 one 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 488, an increase over the 466 applications received in 2002 and the 431 applications received in 2001. There were 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 8% as compared with 10% in 2002, 12% in 2001, 11% in 2000, 11.5% in 1999, and 12.3% in 1998. Non-resident hunters, who comprised 13% of the applicant pool (62 of 488) were successful in drawing four permits.

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. However, surveys conducted in the White Cloud Mountain-Boulder Mountain complex in January and February 2004 (Game Management Units 36A and 48) resulted in observation of 295 mountain goats. This total included 229 adults and 66 kids (28.8 kids:100 adults), a relatively high kid:adult ratio often indicative of a growing population. This count is near the highest recorded over the last four decades; the previous high count was recorded in 1988. Approximately half (46%) of the mountain goats actually present in the survey area are observed during aerial surveys.

A review of mountain goat status and management in Idaho was presented at the Northern Wild Sheep and Goat Council meeting in May 2004. A copy is included here.

Mountain Goat Status and Management in Idaho

Dale E. Toweill, Idaho Department of Fish and Game, PO Box 25, Boise, Idaho 83707, USA

Abstract

Mountain goats (*Oreamnos americanus*) are native to Idaho, the southernmost portion of their recent distribution in North America. Mountain goat populations apparently declined sharply in the late nineteenth and early twentieth centuries due to unregulated hunting. The first survey of known mountain goat ranges indicated approximately 2,785 animals in 1955. Populations have increased only slightly over the five decades since, despite efforts to restore populations through transplants into native ranges and unoccupied suitable habitat. Mountain goat populations are believed to have reached a peak of 3,090 animals in 1990, and have declined steadily since. Currently, mountain goat populations are at the lowest levels on record, with an estimated 2,590 animals remaining in Idaho. Several recent declines occurred suddenly, over <3 years, and resulted in near extirpation of some herds. Causes of recent declines are not well understood. The best-monitored mountain goat population in Idaho, the Palisades herd, demonstrated early and rapid population growth followed by a population crash and near extirpation. Mountain goats are a game animal in Idaho. Harvest is strictly controlled by permit only and only when populations exceed a threshold size of >50 adult animals as revealed by population survey data. Harvest is limited to <5% of the adults in each herd. Approximately 50-90 permits have been provided annually during the period 1982-present. Hunters are limited to harvest of one mountain goat in their lifetime. Hunters may harvest a mountain goat of either sex. Analysis of annual hunter harvest data indicate that hunter success rates are uniformly high (~80%), and that hunter success rates, male:female ratios among harvested animals, and mean age of harvested animals are all poor indicators of population trends.

Northern Wild Sheep and Goat Council Proceedings 14:000-000

Key words: mountain goat, *Oreamnos*, management, hunting.

Mountain goats occur only in northwestern North America. The largest populations occur in British Columbia and Alaska; populations in Idaho represent the southernmost limits of natural distribution, although recent transplants have extended the range of this species into southern Utah and Colorado (Shacklton 1997).

Distribution and Status in Idaho

Information on the prehistoric distribution of mountain goats in Idaho is limited, but mountain goats are believed to have been distributed throughout northern and central Idaho (Figure 1). Mountain goat bones have been recovered from two separate layers of the Bernard Creek rock shelter, an archaeological site within in the Hells Canyon Natural Recreation Area of Idaho (Randolph and Dahlstrom 1977). The bones were skeletal and fragmented, suggesting that the animals represented were consumed on site; radio-carbon dating placed their age at 300 to 1,000 years old (Reagan and Womack 1981). A corresponding but somewhat older (500-1,500 years old) site was reported on the Oregon side of Hells Canyon on Camp Creek (Leonhardy and

Thompson 1991). Corless (1990), writing about the Weiser branch of the Shoshone Tribe, reported that they hunted mountain goats in the Seven Devils Mountains above Hells Canyon.

There are few written records of mountain goats in Idaho prior to 1950. Narratives describing mountain goat range in Idaho are scarce, and narratives are confusing because female bighorn sheep were often called goats or ibex. Hallock (1879, quoted in Lyman 1998) wrote “The White Goat is confined to the loftiest peaks of the Rocky Mountains: it is not known south of Colorado, and is probably rare south of the Washington Territory”. Owen Wister wrote in *The White Goat and His Ways* (1904) “In Alaska and British Columbia we find the goat, and in northwest Montana, and in Idaho, but only in spots ...”; more specifically, he says that mountain goats may be found as far south as the ‘Saw Tooth Mountains’ in Idaho.

Other early records of mountain goats in Idaho include the Stanley Lake basin (Stanley Lake, Alturus Lake, and Boulder Peak), Loon Creek, and mountains along the Salmon River (Davis 1939) and “the high peaks [Cabinet and Selkirk Mountains?] of northern Idaho” (Rust 1946).

In May 1949, Stuart Brandborg began a year of intensive field work to document aspects of mountain goat ecology near the mouth of the Middle Fork of the Salmon River under the auspices of the Idaho Cooperative Wildlife Research Unit. Brandborg’s initial work was expanded by the Idaho Department of Fish and Game in September 1950, when he was directed to conduct census and distribution studies of mountain goats in the entire Salmon River drainage and Selkirk Mountain range. This project, which relied primarily on ground surveys, was continued through 1952 (Brandborg 1955). The statewide population estimate of 2,785 mountain goats distributed among 88 peaks and drainages was the first comprehensive estimate of mountain goat numbers in Idaho.

Although Brandborg’s 1955 estimate of 2,785 mountain goats in Idaho was based on ‘liberal’ estimates (Kuck 1977a), it is very comparable to subsequent information (Figure 2). Kuck (1977a) believed that there were 2,200 to 2,500 mountain goats in Idaho in 1977, and statewide population assessments by wildlife managers with the Idaho Department of Fish and Game estimated 2,415 in 1981 (Idaho Department of Fish and Game 1980), 2,765 in 1985 (Kuck and Pehrson 1985), and 3,060 in 1990 (Hayden *et al.* 1990). Populations appear to have remained nearly constant through 2000, when the statewide population was estimated at 2,825 (Idaho Department of Fish and Game, file data). However, mountain goat populations may have declined between 2000 and 2004; biologist’s estimates following spring aerial surveys in 2004 totaled less than 2,590 mountain goats (Idaho Department of Fish and Game, file data).

Despite the relative consistency in estimated population size, there have been dramatic regional fluctuations in mountain goat populations between 1955 and 2004. Brandborg (1955) estimated that 195 mountain goats occupied the Selkirk Range of the Idaho Panhandle adjacent to northeastern Washington, and an additional 25 mountain goats were reported in the Cabinet Mountain adjacent to western Montana. By 1977, these herds had dwindled to approximately 40 animals (Kuck 1977a), and despite closure of hunting in 1971 and over three decades of protection, only about 50 mountain goats were present in 2003 (Toweill 2003). Declines are now believed to have been, at least in part, due to over-harvest.

In central Idaho, mountain goat herds declined slowly but steadily from 1960-1975, years when annual harvest of mountain goat regularly exceeded 100 animals. The decline was most pronounced among both populations and occupied habitat south of the Snake River, in Big Creek, and the Middle Fork of the Salmon River. Following surveys in 1982, wildlife managers reported that 'satellite' herds appeared to be missing (Oldenburg 1983).

In contrast with central and northern Idaho, mountain goat herds increased in southern portions of their distribution between 1955 and 1982 in Idaho's Pahsimeroi, Lemhi, Medicine Lodge, and Snake River ranges.

Declines in mountain goat populations in northern and central Idaho after 1960 were largely offset by herds established by transplants into suitable but unoccupied habitats. A small herd was established at Echo Bay on Lake Pend Oreille in 1960-1968 (stable at 40-50 animals from 1981-present), a herd was established in the Seven Devils Mountains near Hells Canyon in 1962-1964 (estimated to include 100 animals in 1981 and 200 in 2004), and a third herd was established north of Palisades Reservoir on the South Fork of the Snake River in 1969-1970. This herd, near Idaho's eastern border, grew rapidly and was estimated at 220 mountain goats in 1990, but declined from an estimated 195 animals in 2000 to only 42 in 2003. To the north, another mountain goat herd in the Red Conglomerates and Pilot Peak area along the border with Montana also declined dramatically from an estimated 155 animals in 2000 to 22 animals in 2004. Cause of these declines is not known.

Mountain Goat Management

Mountain goat management goals identified in the statewide species management plan (Hayden et al. 1990) include management of mountain goat herds using both conservative hunter harvest strategies and transplants, refining knowledge of mountain goat population dynamics, maintaining or increasing recreational opportunities (consumptive and non-consumptive) associated with mountain goat herds, and increasing knowledge of mountain goat diseases and parasites and their impacts on populations.

Harvest and Population Dynamics

Accurate data on mountain goat herd status is difficult to obtain. Many of the herds in central Idaho occur within designated wilderness, and others occur along Rocky Mountain borders with adjoining states. Idaho has little true alpine habitat, and most mountain goat herds occur in subalpine habitats near the tree line at elevations of 7,000-10,000 feet. Counts are typically conducted from helicopter using trained observers, but are confounded by small, patchy habitats used by mountain goats; poor visibility due to the presence of trees and rough, broken terrain; mountain goat behavioral avoidance of helicopters (animals may flee into timber, hide under tree canopies, or even enter caves); and unstable air currents. Independent verification of data by ground observers is rarely possible, so that detection rates are usually unknown. Due to cost (and often unstable weather), replicated data is rarely obtained; in fact, most mountain goat herds in Idaho are surveyed only once every five years. Further, despite data indicating that areas used

by mountain goats vary both seasonally and annually in Idaho (Kuck 1977b), most observers focus primarily on historically favored habitats during annual surveys.

As a result of these concerns, data presented on mountain goat populations discussed in this paper are based on actual count data, rounded to the nearest ten animals, and thus represent a minimum estimate of mountain goat numbers.

In an effort to improve population estimation, Pauley and Crenshaw (paper in review) marked mountain goats in Idaho's Hells Canyon area using paintballs from hand-held paintball guns fired from a helicopter. Subsequent surveys of variously marked and unmarked animals allowed calculation of estimated population size using a Petersen estimator. Of particular note was the estimated sightability of mountain goats in this area, which ranged from 0.37 to 0.46. Other published estimates of mountain goat sightability by helicopter-based observers are 0.46 in coastal Alaska (Smith and Bovee 1984), 0.46 to 0.77 in west-central British Columbia (Cichowski et al. 1994), and 0.67 in the timbered Robson Valley of east-central British Columbia (Poole et al. 2000). Despite the low and variable probability of seeing mountain goats, the mark-recapture estimate shows promise for obtaining greatly improved population estimates.

Mountain goat populations are very susceptible to over-harvest and disturbance (for review, *see* Cote and Festa-Bianchet 2003). Idaho applies a very conservative approach to mountain goat harvest. Only one mountain goat may be harvested by an individual in Idaho, and all harvest is restricted to permits valid only in a limited area. In 2004, Idaho will issue a total of 40 mountain goat permits among 15 individual hunting areas statewide; i.e., maximum allowable harvest is less than 2% of the minimum number of mountain goats in the state, with an actual annual harvest that is likely less than 1% of the adult population.

Hunts are limited to discrete herds that include more than 50 adult mountain goats, and permits in those areas are limited to less than 4% of the adult population (one permit/25 adult animals). Hunters may harvest any mountain goat, but are strongly encouraged to harvest adult male animals; nannies with kids are protected. Successful hunters must report their kill within ten days for collection of biological data and hunt information; unsuccessful hunters must return their unused permit within ten days of the close of the season. Hunters currently harvest an average of 40-50 mountain goats annually (Figure 3).

Efforts to educate hunters to accurately identify and harvest only male mountain goats have had little success. Female typically have represented 30-40 percent of the harvest annually over the past 25 years (Figure 4).

Hunter success rates are high. In 1975, 235 hunters harvested 93 mountain goats for a success rate of 40%; in contrast, harvest success has averaged >80% since 1980. Analyses indicate no identifiable association between population trend and either annual hunter success nor percent of the harvest comprised of females (Figure 5).

Conservative management has provided a constant to slightly increase trend in average age of mountain goats harvested in Idaho. Average age of harvested mountain goats has increased from 5.2 to 6.2 years since 1990 (Figure 6).

Among unsuccessful hunters, approximately half failed to hunt after receiving their permit. Kuck (1977a) reported that 32 (12%) of 267 mountain goat permit holders in 1975 failed to hunt, as compared with three (8%) of 39 permit holders I contacted in 2003 (file data).

Idaho's conservative approach to mountain goat management resulted in large part from studies conducted between 1969 and 1975 on Idaho's Pahsimeroi Range by Kuck (1977b). Following three years of baseline data collection, Kuck manipulated harvest rates in an attempt to relate harvest to annual production of kids. Although Kuck reported that annual production of kids appeared to be a function of shrub forage availability and nanny health, survival and recruitment of kids was not related to harvest; i.e., population recruitment was not compensatory relative to harvest. Kuck reported that surviving animals redistributed themselves in the most favorable terrain following removal of dominant adults via hunting. Thus, mountain goat densities and foraging pressure on the favored cliffs remained constant, while less preferred cliffs, even though more productive in terms of vegetation, were abandoned. Kuck hypothesized that hunting could therefore decrease production, and that hunting mortality was likely additive to natural mortality. He believed that behavioral dominance within mountain goat populations was a constant force directing forage exploitation in the most desirable habitats so that removal of dominant animals had little impact on forage availability, animal condition, or production of kids. Kuck concluded that selection for physical characteristics of habitat rather than forage was the key determinant of mountain goat population size, and that hunting mortality was additive to natural mortality (Kuck 1977b). If hunting is indeed additive, harvest levels should be reduced to focus harvest insofar as possible on post-breeding adults. This approach to harvest, implemented in Idaho since 1976, has been supported by more recent research on hunted and unhunted mountain goat herds (Gonzalez-Voyer et al. 2000), whose work suggested that harvest should be limited to 1-2% of adult males annually. However, this approach has failed to result in increases in mountain goat populations; most herds are presently static or declining slowly.

Swenson (1985) reported on data obtained over an 18-year period in Montana's Absoroka Mountains, and suggested that mountain goat populations that relied primarily on grasses (rather than shrubs, as in Idaho's Pahsimeroi Range) had a potential to exhibit compensatory response to hunting pressure in part because the forage base was more resilient than in habitats where mountain goats rely on longer-lived shrubs (Swenson 1985).

Some mountain goat herds, particularly those resulting from introductions to suitable but unoccupied habitat, have grown rapidly and are able to withstand higher levels of harvest during the expansion phase following introduction. Adams and Bailey (1982) reported that a herd introduced to the Sawatch Range of Colorado produced an annual harvestable surplus of about 7%, and reported that kid production declined as the population increased. In Idaho, Hayden (1989) documented a rate of growth of 22% in the Palisades herd between 1971 and 1983. In this herd, twinning was common (29% of adult females observed during 1982-1983), and 86% of mature females were observed with at least one kid. Observed survival of kids was 88% and

yearling survival 95% during this study. After modeling this herd, Hayden recommended annual removal of 10-15% of adults during the initial growth phase to stabilize herd size, and to reduce potential for the herd to exceed carrying capacity of available range. He noted that many introduced mountain goat populations peak within two decades following introduction, and then stabilize at a level well below the peak numbers seen in the expansion phase. The Palisades herd apparently peaked at about 220 mountain goats in 1990, and between 2000 and 2004, it declined 78% from a minimum of 195 animals to a minimum of 42.

These contrasting scenarios—endemic herds on stable to declining habitat in a ‘post-decline’ phase as defined by Caughley (1970) and introduced herds moving through phases of initial expansion, stabilization, decline, and post-decline phases—present a challenge to wildlife managers. Data suggest that harvest levels must be very conservative when applied to herds within stable environments unless those herds are clearly within the initial phases of population establishment as described by Caughley (1970). Data further suggest that, since harvest is likely additive to natural mortality within such situations, and since no inersity response to food availability can be expected, the only way to provide additional harvest is to change the habitat within which populations occur.

To benefit long-established mountain goat populations, habitat change must significantly improve the forage base and, at the same time, alter behavioral habitat use patterns. For example, recent retreat of glaciers and semi-permanent icefields should expose soil and result in an increased forage base. In Idaho, where glaciers and semi-permanent icefields are rare, another opportunity to accomplish this goal is natural wildfire on alpine and subalpine ranges. Allowing natural wildfire to burn within mountain goat habitats would reduce tree encroachment on subalpine and alpine meadows, and would likely reinvigorate decadent shrubs essential in mountain goat diets, thereby increasing productivity in mountain goats herds. It appears that extensive wildfires in central Idaho wilderness in 2000 have indeed resulted in an increase in mountain goat herds, but the evidence is confounded by associated changes in mountain goat visibility and detection by observers.

Evidence for initial rapid population increases following introduction of mountain goats into suitable unoccupied habitat provides wildlife managers opportunity to expand mountain goat range and associated hunting opportunity where habitat exists to support introduced mountain goats. However, such populations must be regularly monitored to keep expanding herds below levels at which they begin to damage available vegetation, resulting in a decline in numbers prior to herd stabilization.

Supplementing established herds of mountain goats in an effort to stimulate production has been attempted in Idaho, but available data are not encouraging. After only 3 mountain goats were observed in Idaho’s Selkirk Range in 1971 and again in 1981, 28 mountain goats were introduced to this area. However, this introduction resulted in minimal herd response; only 34 mountain goats were present in 2001. It appears that survival of introduced animals is high, but that little recruitment has occurred. It was believed that food availability, if limited by mountain goats prior to their observed decline, should have increased due to the extremely low numbers of

mountain goats present in this area over the decade of low use, but apparently either food availability was not a limiting factor or recovery did not occur.

Recreational Opportunities

Recreational opportunities associated with mountain goat management include hunting and wildlife viewing. Demand for hunting opportunity is high, with 400-500 applications received for the 40-50 mountain goat permits available annually since 2000.

Opportunities to view and photograph mountain goats in Idaho are limited for those unwilling or unable to climb into the steep and often remote country occupied. One of the premier viewing sites in Idaho is located at Farragut State Park on the south end of Lake Pend Oreille (Pope 2003). Sixteen mountain goats were introduced to Bernard Peak, 1960-1965 (Naylor 1988); the current herd numbers about 40 animals. These mountain goats are usually highly visible, and have become very habituated to people viewing them from the lakeshore or from boats below the primary cliffs utilized by the animals. Other sites include Priest Lake, the Mallard-Larkins Pioneer Area, Hells Canyon Dam, the Middle Fork Salmon River Canyon, the Main Fork Salmon River (above Corn Creek), and Upper Trail Creek (Pope 2003). These sites are very popular with the public, and interpretive materials have been provided at Farragut State Park.

However, much winter recreation has high potential to adversely impact mountain goat populations. Mountain goats are more susceptible to disturbance by helicopters than most open-terrain ungulates; Cote (1996) reported that mountain goats exhibited overt responses to 58% of helicopter flights within 1.2 mile (2 km), and Gordon and Reynolds (2000) reported that mountain goats exhibited moderate to extreme response to helicopters during 75% of all sightings from the helicopter. Winter disturbance is especially problematic, since mountain goats that are already stressed by cold and by limited food supplies due to snow cover in all but the steepest environments may exhibit panic, increased metabolic rates and energy expenditure, and reduced time spent feeding (Gordon and Reynolds 2000). Repeated disturbance by helicopters, snow machines, or even logging or road building (Chadwick 1983) may result in abandonment of favored habitats—steep cliffs that readily shed snow cover, allowing goats access to forage in an environment where they are normally secure from predators—potentially reducing probability of winter survival through mechanisms of increased energetic demand associated with feeding and increased exposure to potential predators.

Increased winter activity in the vicinity of mountain goat habitat, especially heli-skiing and over-snow travel by snowmobiles, has potential to severely reduced the amount of habitat that may be used by mountain goats.

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ORDER: Artiodactyla
FAMILY: Bovidae

Mountain Goat (*Oreamnos americanus*)

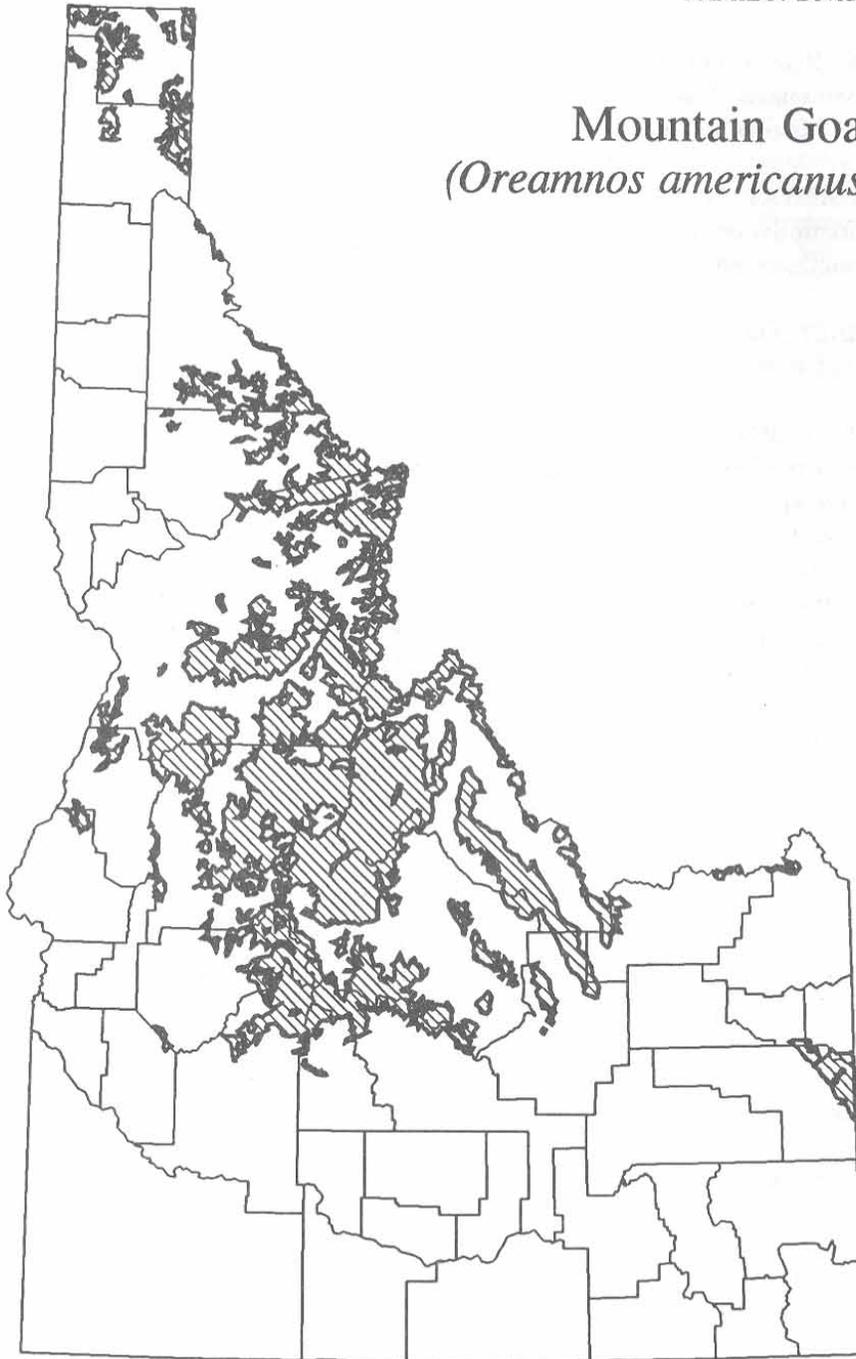


Figure 1. Mountain goat distribution in Idaho (Groves et al. 1997).

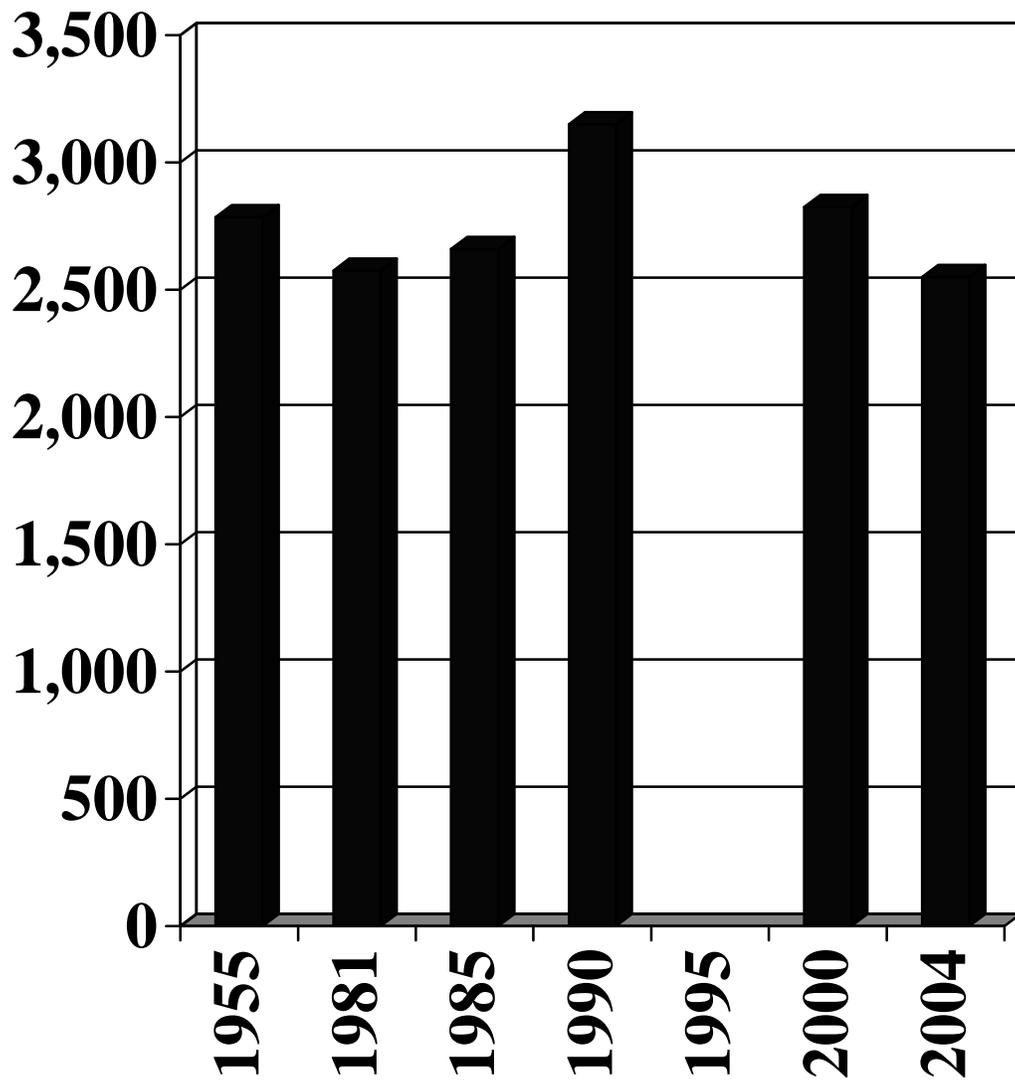


Figure 2. Population estimates for mountain goats in Idaho, 1955-2004.

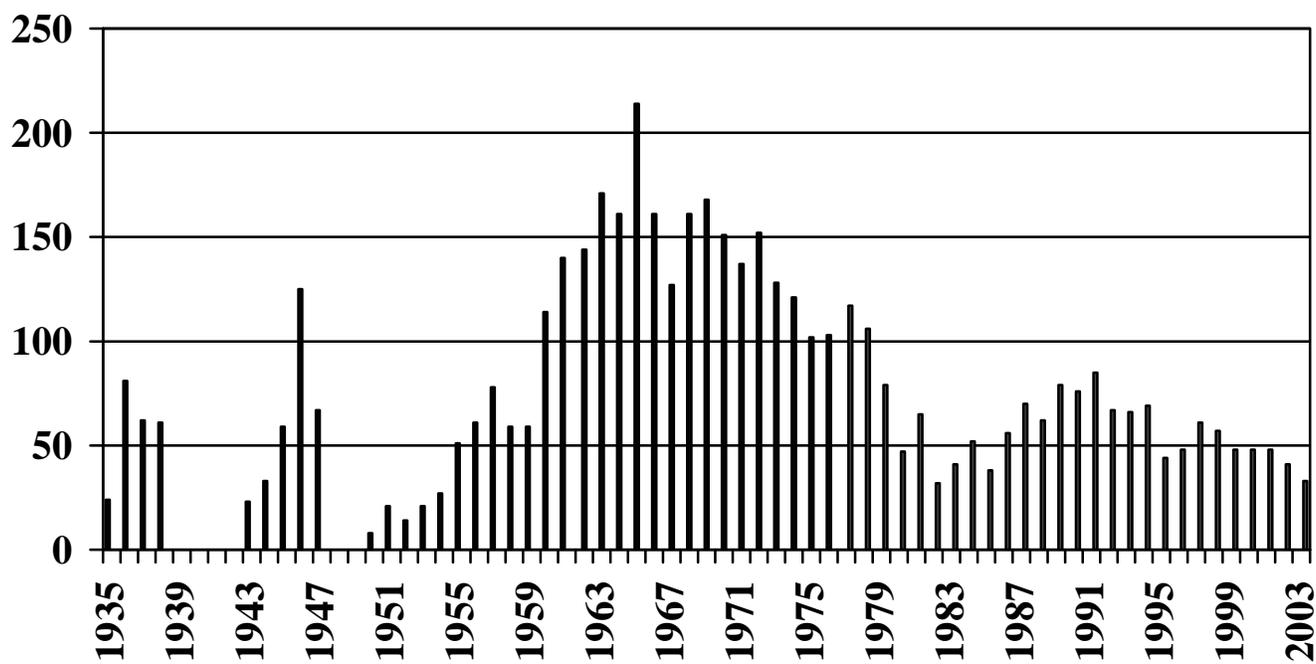


Figure 3. Historic harvest estimates for mountain goats in Idaho, 1935-2003.

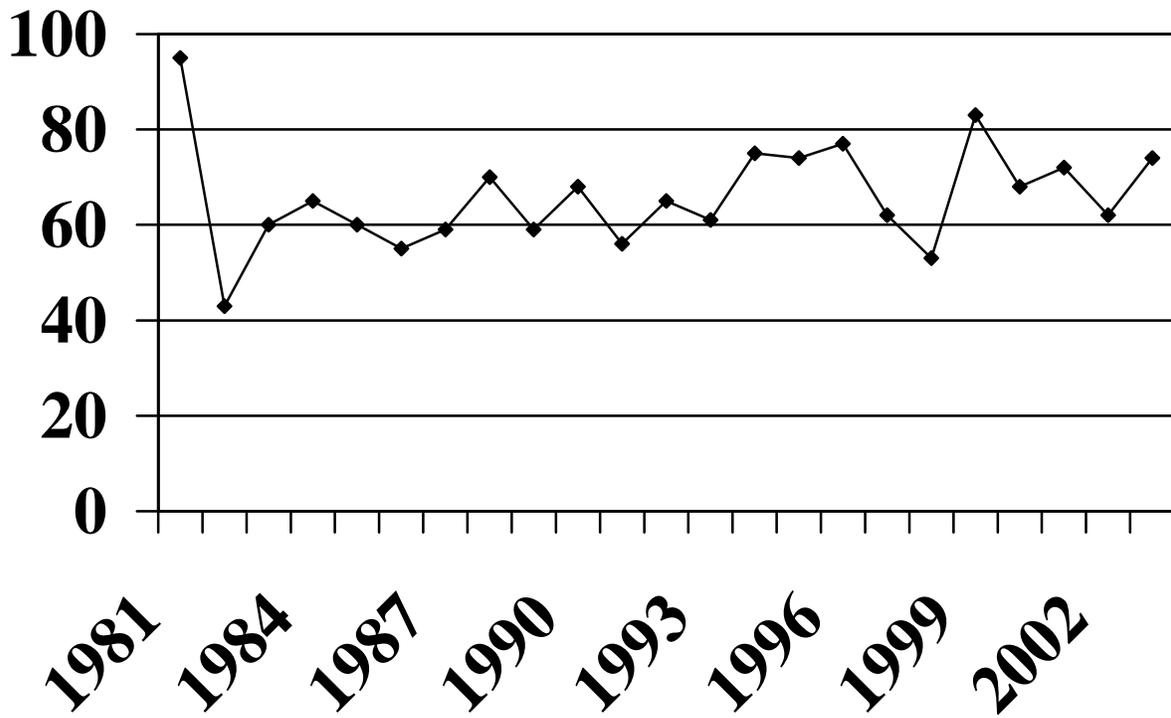


Figure 4. Percentage of the annual mountain goat harvest comprised of males.

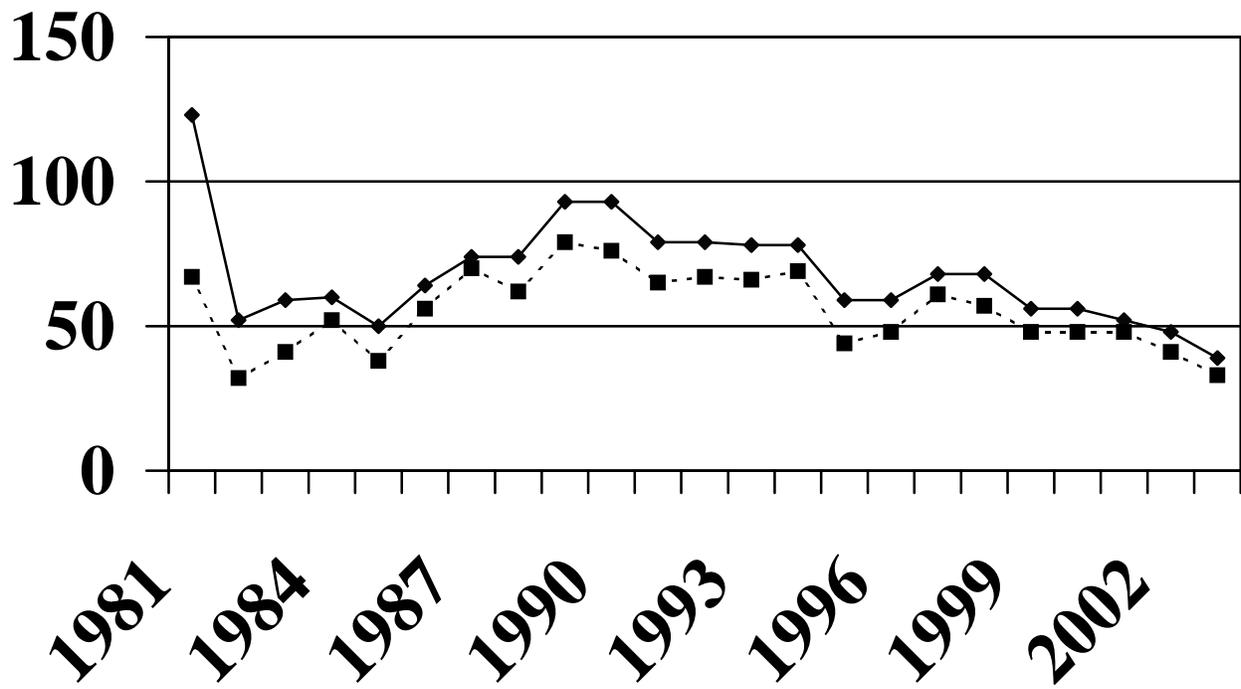


Figure 5. Number of mountain goat harvest permits issued annually (solid line) and actual hunter harvests (dashed line).

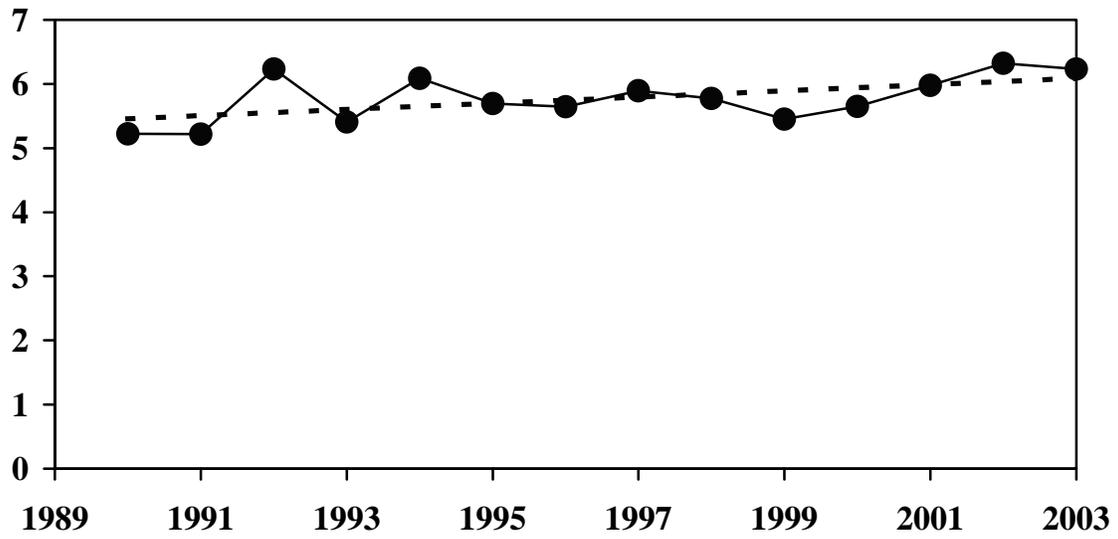


Figure 6. Average age of mountain goats harvested in Idaho, 1990-2003.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>1</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

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 non-consumptive 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 U.S. Forest

Service (USFS) 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 zero to two mountain goats annually. However, 57 mountain goats have been transplanted out of the Panhandle Region since 1961 (Hayden and Spicer 1993).

Population Surveys

No population surveys were conducted on mountain goat populations during this report period.

In 2001, 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 three 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 1).

The Pend Oreille mountain goat population may be experiencing some growth despite low winter recruitment (Table 2). 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 3), 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 translocate 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.

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Table 1. Summary of mountain goat surveys in Unit 1 of the Panhandle Region, 1955-present.

Inclusive location	Year	Adults	Kids	Unknown	Total	Kids/100 adults
Selkirk Range, Unit 1						
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
Total Selkirk population	1955 ^a	0	0	195	195 ^b	-
	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

Table 1. Continued.

Inclusive location	Year	Adults	Kids	Unknown	Total	Kids/100 adults
	1995	30	3	0	33	10.0
	2001	26	8	0	34	30.8
West Cabinet Range, Unit 1						
Wiggletail to W. Fk. Blue Cr.	1971	0	0	0	0	0.0
	1979 ^d	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 ^e	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 ^e	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 ^e	11	1	0	12	9.1
	2001	9	1	0	10	11.1
West Cabinet (Idaho Only)	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 ^e	27	4	0	31	14.8
	2001	14	1	0	15	7.1

^a Summer estimates from ground surveys.

^b Includes 20 mountain goats estimated in the Pack River-Myrtle Creek area and ten 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.

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

^e August survey of summer range.

Table 2. Summary of mountain goat surveys in Unit 4A of the Panhandle Region, 1973-present.

Inclusive location	Year	Adults	Kids	Unknown	Total	Kids/100 adults
Pend Oreille Population, Unit 4A						
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 3. Summary of mountain goat surveys in Unit 9 of the Panhandle Region, 1957-present.

Inclusive location	Year	Adults	Kids	Unknown	Total	Kids/100 adults
Little North Fork of the Clearwater River, Unit 9						
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
	2001	4	2	0	6	50.0
Culdesac to Canyon Creek	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
Fochl 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	-

Table 3. Continued.

Inclusive location	Year	Adults	Kids	Unknown	Total	Kids/100 adults
	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	0.0
	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	12.0
	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.

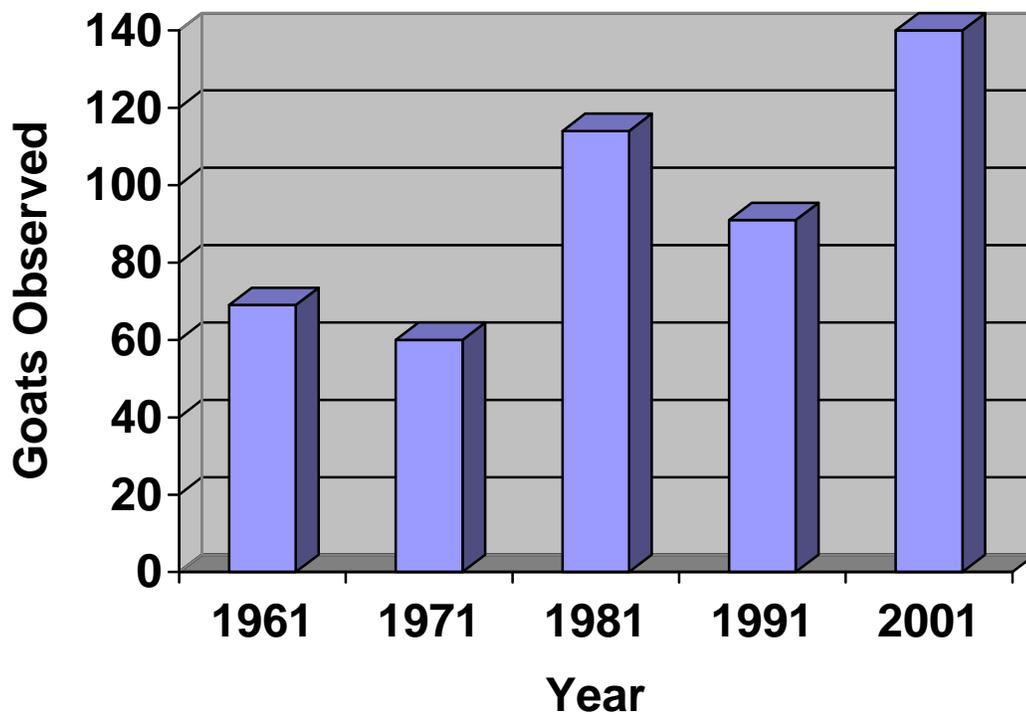


Figure 1. Comparison of aerial surveys for mountain goats in the Panhandle Region, 1961-2001. Note data from 1991 includes only a partial survey of Canyon Creek.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>2</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

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 2003, nine permittees harvested five 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 March 2003, 16 mountain goats were captured in Unit 18 and transplanted into Unit 20 (Sheep Hill).

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 translocation into vacant habitat or to augment existing populations, maintaining harvest and recreational opportunity, emphasizing non-consumptive values, inventorying all mountain goat populations at a maximum interval of five 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 over-hunted 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 three hunts with six permits in 1984, and increased to four hunts with 12 permits in 1989. In 2003, only three hunts with nine 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 (Table 2). During April and May of 2000, we conducted a paintball mark-resight survey of the Black Mountain goat population (10-1 and 10-2). The data suggest a significant decline since the last survey in 1996 (Table 2). 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 four years. Given this trend, the decision was made to continue existing harvest levels, but to suspend transplant removals.

Harvest Characteristics

Harvest levels have changed little during the last ten-year period. During 2003, two of four permittees were successful in hunts 10-1 and 10-2 (Table 3). Drawing odds for the Unit 10 hunts were 1:18 in 2003, up from an average of 1:14 over the previous ten 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 Translocation

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. From 1962 to 2003, 102 mountain goats were transplanted in the Clearwater Region (Table 4). 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 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 2003-2004 that were considered below normal. Snow-pack in the Clearwater Basin was 89% of average (October-March) while the Salmon River Basin averaged 78% for the same time period. Snowfall was earlier than usual in the Region, but most accumulation at the lower elevations did not persist. This allowed big game populations to forage and move easily and probably had a positive effect on big game over-winter 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 (five-year average = 3.6 mountain goats/year) are below the maximum mountain goat management plan level of 5% (five 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 2003 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 translocation into vacant habitat or to augment existing populations, maintaining harvest and recreational opportunity, emphasizing non-consumptive values, inventorying all mountain goat populations at a maximum interval of five 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 over-hunted 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 total included 95 two-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 (seven 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 171 ± 48 (Table 2). However, the 1999 estimate was imprecise, and there was concern over potential bias caused by questionable ability to identify marks. The trend in Hunt Area 18 remains questionable.

Units 19 and 20 have not been surveyed since 1993 (Table 2).

Harvest Characteristics

Many of the mountain goat hunts remained closed in 2003 because of low populations or absence of mountain goats (see the Clearwater Region portion of the Department's 1986-1991 Mountain Goat Management Plan). Five permits have been offered each year in Hunt Area 18 since 1983. Drawing odds for Hunt Area 18 were 1:14; up from an average of 1:11 over the previous ten years. In 2003, the four permittees harvested three mountain goats (Table 3).

Trapping and Translocation

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 4). 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 one mountain goat.

Mountain goats were captured in Unit 18 with darts fired from a helicopter in 1999, 2001, and 2003. Capture efforts were patterned after the protocol at Olympic National Park where over 300 mountain goats have been captured and removed via darting with the drug Carfentanil. Given the mark-resight estimates of population size and a reasonably conservative approach to exploitation rates, up to 12 mountain goats (six nannies) could be removed every other year for transplants.

Eighteen goats were captured and subsequently released along Big Mallard Creek in Unit 20 in 1999 and 2001. Ten of the goats were collared with radio-transmitters. Of these, five have died since release, while five still have active transmitters. Sixteen goats were captured and transplanted in 2003 to Sheep Hill in Unit 20. Six were released with radio-transmitters.

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 2003-2004 that were considered below normal. Snow-pack in the Clearwater Basin was 89% of average (October-March) while the Salmon River Basin averaged 78% for the same time period. Snowfall was earlier than usual in the Region, but most accumulation at the lower elevations did not persist. This allowed big game populations to forage and move easily and probably had a positive effect on big game over-winter 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 (six 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. 2003 season structure for controlled mountain goat hunts in the Clearwater Region.

Season			
Dates	Length	Hunt area	Number of permits
30 August - 12 November	75 days	10-1	2
		10-2	2
		18	4

Table 2. Summary of mountain goat surveys in the Clearwater Region, 1981-present.

Unit	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults	
10	1991	Flat Mtn to Elizabeth Mtn	14	3	0	17	21.4	
		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	
		Isabella Creek	50	13	0	63	26.0	
		Collins to Quartz Creek	73	15	0	88	20.5	
		1991 Total	200	38	0	238	19.0	
	1996	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	
		Isabella Creek	48	13	0	61	27.1	
		Collins to Quartz Creek	61	14	0	75	23.0	
		1996 Total	163	31	0	194	19.0	
	2002 ^a	Isabella Creek	54±12			54±12		
		Collins to Quartz Creek	44±5			44±5		
	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 ^b			-	-	-	-	-	
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	27.3	
		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 ^b	-	-	-	-	-	
		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		

Table 2. Continued.

Unit	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults
		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
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 ^b	0	0	-	-	-
		Grouse Creek/Running Creek	0	0	0	0	0.0
		Stewart Creek	0	0	0	0	0.0
		1991 Total	122	44	0	166	36.1
	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	18.9
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

Table 2. Continued.

Unit	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults
		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 ^c	1999 Total	171±48	61±44	0	237±67	34.5
	2002	2002 Total	196±22				
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 ^b	-	-	-	-	-
		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 ^b	-	-	-	-	-

Table 2. Continued.

Unit	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults
		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 Paintball mark-resight survey (19 April-1 May 2000).

^b Drainage not included in survey.

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

Table 3. Summary of mountain goat harvest and drawing odds by hunt area in the Clearwater Region, 1993-present.

Hunt area	Year	No. of permits	Harvest		% Success	Days/hunter ^a	First-choice applicants	Drawing odds	
			M	F					
10-1	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	
	2002	2	2	0	100	9.0	50	1:25.0	
	2003	2	1	0	50	7.0	42	1:21.0	
	10-2	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	
2002		2	0	1	50	20.0	27	1:13.5	
2003		2	0	1	50	9.0	28	1:14.0	
12 ^b	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	
18	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	
	2002	5	1	3	80	2.5	63	1:12.6	
	2003	4	2	1	75	2.3	55	1:13.8	

^a Prior to 1996, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

^b Unit 12 was closed in 1997.

Table 4. 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
3/03	Seven Devils-18	Sheep Hill-20	5	5	2	4	16

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>3, Nampa</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

SOUTHWEST (NAMPA) REGION

Abstract

Mountain goat surveys were conducted in parts of Units 35 and 39 in February 2004. We observed 99 mountain goats (81 adults and 18 kids) in Unit 35, and 116 mountain goats (92 adults and 24 kids) in Unit 39. No mountain goat hunting has been allowed in Units 35 or 39 since 1981.

Units 33, 34, 35, 39

Management Direction

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

Background

Although historically, Units 35 and 39 had controlled mountain goat hunts, there has been no mountain goat season in either unit since 1981. Unit 35 had three hunt areas with a total of 15 any-weapon permits and 15 archery permits. Average annual harvest for the last five years of these hunts was eight mountain goats. Unit 39 had three hunt areas with a total of 17 any-weapon permits. Average harvest for the last five years of these hunts was seven mountain goats.

Population Surveys

Parts of Units 35 and 39 were surveyed for mountain goats from 10-13 February 2004. The survey was conducted in a Bell 47 Soloy helicopter with the pilot and two observers. Whereas prior surveys in these areas were conducted during spring, when intermixed snow and green-up conditions persisted, survey conditions for this winter count were ideal. Fresh snowfall the day prior to the start of our survey provided ideal tracking conditions. Fresh tracks were easily spotted from the air and could quickly be followed to the mountain goat(s) that made them. Results of this survey suggest that future surveys for mountain goats should be conducted during winter under appropriate weather conditions rather than during spring.

Results of the Unit 35 and Unit 39 surveys are reported in Table 1. The total number of mountain goats observed by area varied widely in comparison to past counts. Counts in the Grandjean and Atlanta hunt areas were the highest in over 20 years; however, populations in other hunt areas appear to have declined or are remaining at very low levels. Higher counts in the 2004 survey may be partly a result of the ideal survey conditions in 2004 compared to prior years, rather than conclusive evidence of a population increase. However, 2004 counts provide strong evidence that other herd units have declined dramatically (e.g., Steel Mountain and North Fork Boise River, Table 1). In summer 2003, wildfire burned through the forested habitat surrounding most mountain goat range and into the grasses and intermittent shrubs and trees throughout cliff areas used by mountain goats in the North Fork Boise River and Steel Mountain areas. Habitat disturbance may have been responsible for the observed declines.

Harvest Characteristics

There has been no mountain goat hunting in Units 35 or 39 since 1981.

Management Implications

We will consider providing mountain goat hunting opportunity in those hunt areas that meet minimum requirements to establish a hunt as defined in the 1991-1995 Mountain Goat Management Plan. All other areas will remain closed.

Table 1. Summary of mountain goat surveys in the Southwest (Nampa) Region, 1976-present.

Unit	Inclusive location	Year	Adults	Kids	Total	Kids/100 adults
35	Grandjean	1976	119	29	148	24.4
		1981	106	23	129	21.7
		1988	61	10	71	16.4
		1994	18	4	22	22.2
		2004	71	16	87	22.5
	Warm Springs Creek	1980	23	10	33	43.5
		1988	32	14	46	43.8
		1994	2	1	3	50.0
		2004	6	2	8	33.3
	Ten Mile Creek	1980	6	1	7	16.7
		1988	11	4	15	36.4
		1994	1	0	1	0.0
		2004	2	0	2	0.0
39	Atlanta	1977	65	14	79	21.5
		1981	47	9	56	19.1
		1988	41	9	50	22.0
		1994	25	1	26	4.0
		2004	75	21	96	28.0
	Steel Mountain	1977	4	1	5	25.0
		1981	12	2	14	16.7
		1988	14	5	19	35.7
		2004	0	0	0	0.0
	N Fork Boise River	1977	17	6	23	35.3
		1981	37	10	47	27.0
		1994	23	4	27	17.4
		2004	16	2	18	12.5

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>3, McCall</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

SOUTHWEST (MCCALL) REGION

Abstract

A new hunt was created with four permits in Unit 22 for the 2003 and 2004 mountain goat hunting seasons. Hunters harvested four goats for a 100% success rate in 2003. No population surveys were conducted during the reporting period.

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.

Background

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

The Unit 22 population had 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. Based on the aerial survey in 2000, which indicated the goat population continued to expand, the Commission approved a separate hunt area for all of Unit 22 with four permits for the 2003 and 2004 hunting seasons (Table 1).

Population Surveys

No population surveys were conducted during the reporting period. The most recent helicopter aerial population survey of mountain goats was conducted between 11 and 17 April 2003 in Units 19A, 20A, 24, 25, and 26. Data indicate these goat populations continue to decline precipitously. Goat observations declined significantly in the 2003 survey (54 goats) when compared to the 1990 survey (108 goats). Units 20A and 25 declined the most (Table 2). A preponderance of the Unit 26 goats was located in the 2000 fire area in lower Big Creek.

Harvest Characteristics

Mountain goats are hunted in a portion of Unit 23 of the Southwest Region and harvest is reported with the Unit 18 harvest in the Clearwater Region. Four permits were issued for a goat hunt in Unit 22 in 2003. A total of four goats were harvested for a 100% success rate (Table 3). The maximum horn length recorded from this harvest was 9.5 inches. No other mountain goat hunting occurred in the Southwest Region during the reporting period.

Management Implications

The McCall sub-region accounted for eight 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. The data collected for Units 20A, 25, and 26 in 2003 do not support any change from this closed status. 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. Based on the aerial survey in 2000, the increase in goat numbers seems to be continuing in these two units. As a result, the Commission approved a separate hunt area for all of Unit 22 with four permits for the 2003 and 2004 hunting seasons.

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. The 2003 aerial survey data indicate there is a paucity of goats in the lower South Fork Salmon River portion of Unit 20A. This area burned in 1994 and should be good habitat for mountain goats. It is speculated that maybe the mortality during the 1994 fire was significant and without a colonizing source of goats, the habitat is now near vacant. This area should be reviewed and considered as one of the top priorities for reintroduction or supplementation in the McCall sub-region, if not in the state.

Table 1. 2003 season structure for controlled mountain goat hunts in the Southwest (McCall) Region.

Season		Length	Hunt area	Number of permits
Dates				
30 August - 12 November		75 days	22	4

Table 2. Summary of mountain goat surveys in the Southwest (McCall) Region, 1982-present.

Unit	Year	Adults	Kids	Total	Kids/100 adults
20A	1982	35	11	46	31.4
	1990	35	5	40	14.3
	2003	9	2	11	22.2
22	1996	44	5	49	11.4
	2002	45	9	54	20.0
25	1982	52	7	59	13.5
	1990	21	6	27	28.6
	2003	7	2	9	28.6
26	1982	34	6	40	17.6
	1990	35	6	41	17.1
	2003	24	10	34	41.7

Table 3. Summary of mountain goat harvest and drawing odds for the Southwest (McCall) Region, 2003.

Unit	Year	No. of permits	Harvest		% Success	Days/hunter	First-choice applicants	Drawing odds
			M	F				
22	2003	4	3	1	100	1.75	51	1:12.8

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>4</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

MAGIC VALLEY REGION

Abstract

Aerial surveys were conducted in Units 43 and 48 during this reporting period. Goat populations remain stable in both units. Both permittees were successful in Hunt Area 48 in 2003.

Units 43, 48, 49

Controlled Hunt Area 48

Management Direction

Follow statewide management direction, encourage the USFS 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, four controlled hunt permits (two hunt areas) were authorized and from 1991-1994, three permits (one hunt area) were authorized. Helicopter surveys conducted in 1994, 1996, 2001, and 2004 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 two 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 was closed in 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 in Hunt Area 50. Controlled hunt permit levels for this hunt area remained

the same as in the previous year at two permits. Information on this hunt is presented under Controlled Hunt Area 50 in the Upper Snake Region section of this report.

From 1981-1986, four permits were issued in two hunt areas for Unit 48 (one 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 two hunts each with two 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, two permits have been authorized annually in one hunt area that includes all of Unit 48 (Table 1).

Population Surveys

An aerial survey of all suitable habitat in Units 43 and 48 was conducted on April 13 and 14, 2004 (Table 2). Good weather conditions allowed completion of the survey on consecutive days. Twenty-seven mountain goats were observed (100 adults:29 juveniles) in Unit 43. Total goats observed during 2004 was similar to the 2001 census; however, juvenile percentages increased to levels not seen since 1990. These numbers are still well below levels that can sustain any hunting harvest unless this unit is combined with adjacent units. A ground survey was also conducted from 23-25 September 2003 in the Big Smoky Creek drainage. Twenty-three goats were observed (100 adults:21 juveniles) during three days of foot and horse travel.

Fifty-six mountain goats were observed (100 adults:27 juveniles) in Unit 48. Total goats observed in 1990, 1994, and 2001 were 59, 65, and 69, respectively. Current goals and population levels will continue to allow minimal harvest opportunity in this unit. 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 2003, both mountain goat permittees in Unit 48 were successful. One hunter harvested an 8½-year-old male mountain goat in two days of hunting, while the other hunter harvested a 2½-year-old male in four days of hunting. Drawing odds in the Unit 48 hunt averaged 13% from 1993-2003. A summary of mountain goat harvest data for the Magic Valley Region is shown in Table 3.

Management Implications

Results of the 2004 aerial survey in Unit 43 suggest that mountain goat numbers have remained stable since the last survey. Production did improve substantially over 2001, but total population levels still remain relatively low and the potential for harvest is limited. Unit 48 remains the most productive mountain goat unit in the Magic Valley Region. Results of the 2004 survey in

Unit 48 indicate mountain goat numbers have decreased somewhat since the 2001 census; however, production remained relatively high. 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 non-consumptive value.

Hunting will remain closed in Unit 43 until aerial survey data indicates population increases in this and adjacent units. Numerous recent observations of goats by the public and Department employees may indicate population levels have increased and some harvest opportunity may be available. In Unit 48, the permit level will remain at two until data becomes available to suggest a change. Because of an increased number of mountain goats observed in 2000 in Unit 49, hunting was authorized starting in 2001. Permit levels remained at two 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. This population has been identified for augmentation releases if and when a source of mountain goats becomes available. Currently, the USFS is attempting to improve mountain goat habitat through improved livestock management and limiting motorized access, which should assist in population recovery.

Table 1. 2003 season structure for controlled mountain goat hunts in the Magic Valley Region.

Season		Length	Hunt area	Number of permits
Dates				
30 August - 12 November	75 days	48	2	

Table 2. Summary of mountain goat surveys in the Magic Valley Region, 1981-present.

Unit	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults
43	1981		69	20	0	89	29.0
	1990		67	21	0	88	31.3
	1994		21	4	0	25	19.0
	1996		25	7	0	32	28.0
	2001		26	2	0	28	7.7
	2004		21	6	0	27	28.6
48	1981	That portion west of N. Fork Big Wood River and north of Hwy 75	18	3	0	21	16.7
		That portion west of Hwy 75 and north of Baker Creek	19	2	0	21	10.5
		That portion east of Hwy 75 and south of Trail Creek Road, and that portion of Unit 49 west of the Little Wood River	21	1	5	27	4.8
	1985	That portion west of N. Fork Big Wood River and north of Hwy 75	26	8	0	34	30.8
	1990		43	16	0	59	37.2
	1994		52	13	0	65	25.0
49	2001		55	14	0	69	25.5
	2004		44	12	0	56	27.3
	1992		8	2	0	10	25.0
	2000		22	1	0	23	4.5

Table 3. Summary of mountain goat harvest and drawing odds by hunt area in the Magic Valley Region, 1983-present.

Hunt area	Year	No. of permits	Harvest		% Success	Days/hunter ^a	First-choice applicants	Drawing odds
			M	F				
43 ^b	1983	4	2	0	50	4.3	51	1:12.8
	1984	4	1	2	75	3.0	46	1:11.5
	1985	4	0	3	75	3.5	72	1:18.0
	1986	4	1	3	100	3.0	24	1:6.0
	1987	4	1	3	100	5.3	15	1:3.8
	1988	4	3	0	75	8.0	16	1:4.0
	1989	4	3	0	75	3.5	19	1:4.8
	1990	4	1	2	75	9.3	14	1:3.5
	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
	48	1983	4	2	1	75	2.0	80
1984		4	3	1	100	4.5	50	1:12.5
1985		4	1	3	100	1.5	92	1:23.0
1986		4	1	3	100	10.3	11	1:2.8
1987		4	4	0	100	7.0	22	1:5.5
1988		4	4	0	100	-	16	1:4.0
1989		4	3	1	100	4.3	21	1:5.3
1990		4	3	1	100	2.5	11	1:2.8
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	
2002	2	1	0	50	3.0	25	1:12.5	
2003	2	2	0	100	3.0	24	1:12.0	

^a Prior to 1996, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

^b Unit 43 has been closed to hunting since 1995.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Mountain Goat Surveys and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>6</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

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 51 and 58), Red Conglomerates (Unit 59), Italian Peaks (Unit 59A), and the Snake River Range (Unit 67).

Two controlled hunts were offered in the Upper Snake Region in 2003. Eight permits were offered, and eight mountain goats were harvested (100% success) as determined by mandatory harvest reports. Drawing odds were 1:17.5 (Hunt Area 50) and 1:13.6 (Hunt Area 51).

Population surveys were flown in Hunt Areas 59 and 59A in early September 2002. Despite good counting conditions, counts were down dramatically in all areas. No goats were observed in Unit 59 (25 goats were counted in 1994) and only 22 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). In 2002, an attempt was made to survey the entire population of goats in both Idaho and Montana. In addition to the traditional area surveyed, the Beaverhead Range from Italian Peak to Ten Mile Creek, Idaho/Morrison Lake, Montana was surveyed. Within this area, an additional six adult goats were observed above Morrison Lake on the Montana side of the range and a nanny and kid observed in upper Clear Creek, Unit 30A on the Idaho side of the range. Kid:100 adult ratio has also declined from 39.1 in 1994 to 22.2 in 2002. Reasons for these declines are poorly understood.

A population survey was also conducted in Unit 67 in mid-August 2002. Forty-two goats (35 adults and 7 kids) were counted from Palisades Creek to the Wyoming border and none north and west of Palisades Creek. This was the fewest goats counted in this area since before 1982. The most disappointing observation was that no goats were observed in the Mt. Baldy area where 106 goats were counted in 1986, and the goat dust beds and trails so obvious ten years ago no longer exist. Kid:100 adult ratios have also declined from over 40 to 20. Goat numbers on the Wyoming side of the area also declined from 76 in 2000 to 55 in 2002. As with the Unit 59 and 59A goats, the reason for this decline is poorly understood.

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

Unit 50

Controlled Hunt Area 50

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 1.

Population Characteristics

A helicopter survey was last conducted in Unit 50 in late August 1999 (Table 2). 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 one kid).

Harvest Characteristics

Two permits were issued in Hunt Area 50 in 2003 (Table 3), resulting in the harvest of two mountain goats (100% hunter success). Both goats harvested in Unit 50 were males. Drawing odds were 1:17.5 in 2003. Mean age of harvested goats was 5.5. Mean horn length was 7.38", and mean circumference was 4.97". Mean days hunted was one. A history of drawing odds for the Region is presented in Table 4.

Climatic Conditions

Spring and summer weather conditions during 2003 were warmer and much drier than normal. Winter precipitation was below normal and temperatures were warmer than normal. The spring of 2004 has seen better 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 Translocation

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

Management Implications

Permits in Hunt Area 50 were reduced from five to two in 1993 based upon results of the 1992 population survey. The 50 mountain goats accounted for on the two most recent population surveys (February 1992 and August 1999) 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.

Units 29, 51, 58, 59, 59A

Controlled Hunt Area 51

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. Hunt Area 59A was closed in 2002 because the population had declined below the minimum number to support a hunt (Table 2).

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.

One controlled hunt (Table 1) with a total of six permits was held in these units in 2003.

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 and again in early September 2002 (Table 2). A Bell G47 helicopter was used to conduct the surveys. No goats were found in Unit 59 in 2001 or 2002 despite good counting conditions; the same areas being surveyed by the same observer 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). No goats could be found on the Montana side of the range (Garfield Peak, Lima Peaks, and upper Shineberger Creek) in 2002.

The 2001 survey of Unit 59A accounted for only 25 mountain goats (Table 2). 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 surveys. 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.

The 2002 survey in Unit 59A found only 22 mountain goats (Table 2). The survey was conducted by the same observer, but a different pilot and aircraft than the 1994 and 2001 surveys. Winds prevented getting close to rocks in some places to get precise GIS locations; however, the area was surveyed adequately to count and classify the goats. In addition to the traditional area surveyed in Idaho, the mountain range from Ten Mile Creek, Idaho, and Morrison Lake, Montana was surveyed. In this additional area, six adult goats were observed above Morrison Lake in Montana and a nanny and kid was observed in upper Clear Creek, Unit 30A in Idaho. The reason for this decline in goats is unknown.

Harvest Characteristics

A total of six permits were issued for Hunt Area 51 in 2003 (Table 3). All six permittees were successful in harvesting mountain goats (100% hunter success), based on mandatory harvest reports. Four goats harvested in Hunt Area 51 were males and two were females. Drawing odds were 1:13.6 for Hunt Area 51 in 2003. Mean age of harvested goats was 6.17. Mean horn length was 8.59” and mean circumference was 4.81”. Mean days hunted was 3.8. A history of drawing odds for the Region is presented in Table 4.

Climatic Conditions

Spring and summer weather conditions during 2003 were much warmer and drier than normal. Winter precipitation was below normal and temperatures were above average. Precipitation has been better in the spring of 2004.

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 Translocation

No trapping and/or translocation 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 the most recent survey data, season framework modifications were implemented beginning in 1995. The permit level in Unit 51 was increased from four to six. 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 unknown.

Unit 67

Controlled Hunt Area 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 four permits in 1986, resulting in a net increase of six 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 to consist of only one hunt with three 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 remained high through 2000, but showed a marked decline in the 2002 count (Table 2).

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 helicopter in early August 2002. A total of 42 mountain goats with a kid:adult ratio of 20:100 was counted in the Mt. Baird portion of Unit 67 (Table 2). The next most recent count in this area was a helicopter count conducted in 2000 that accounted for 90 mountain goats. This population has

shown a steady decline from 217 (the historical high count) down to 42 since 1996. Reasons for this decline are largely unknown.

The 2002 population survey of the Mt. Baldy portion of Unit 67 was disappointing in that no goats could be found (Table 2), which resulted in the closure of this hunt. What was even more disappointing was that the goat dust beds and trails so prominent ten years ago no longer exist, suggesting goats no longer use this area.

Harvest Characteristics

The dramatic decrease in goats counted in the Mt. Baird portion of Unit 67 in 2002, and the absence of goats in the Mt. Baldy portion resulted in the closure of this unit to hunting beginning with the 2003 season. Reasons for these declines are unknown. A history of drawing odds for the Region is presented in Table 4.

Climatic Conditions

Spring and summer weather conditions during 2003 were warmer and significantly drier than normal. Winter precipitation was below normal and temperatures were above average. Weather conditions for the spring of 2004 have been better.

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.

The Bridger-Teton National Forest is currently going through the NEPA process to evaluate the impacts of a proposal for heli-skiing in the area. If approved, this could have huge negative impacts for this goat population.

Trapping and Translocation

Several efforts to translocate mountain goats from the Mt. Baldy and Mt Baird populations were made between 1989 and 1997. Mountain goats were trapped in clover traps using salt as bait and some were net-gunned. A total of 46 mountain goats were removed from the area during six trapping efforts (Table 5).

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 translocation operations, precipitated a reduction in permits and a restructuring of Unit 67 mountain goat hunts in 1991. The two hunts were combined in 2001 and permits were reduced to three.

The largest number of mountain goats (217) counted in the Mt. Baird area of Unit 67 was observed on the 1996 survey flight. Subsequent survey results indicated a decrease to 163 in 1998, 90 in 2000, and 42 in 2002. 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 translocation operations. However, the Mt. Baird goat population has declined more precipitously than management actions would dictate, and the lack of goats found in the Mt. Baldy portion of Unit 67 during the 2002 survey is very disappointing. Reasons for this decline are unknown. The hunt was closed for the 2003 and 2004 seasons and the situation will be monitored closely.

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. 2003 season structure for controlled mountain goat hunts in the Upper Snake Region.

Season			
Dates	Length	Hunt area	Number of permits
30 August - 12 November	75 days	50	2
		51	6

Table 2. Summary of mountain goat surveys in the Upper Snake Region, 1982-present.

Unit	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	That portion south and east of the Trail Creek road and south and west of U.S. Highway 93.	26	4	0	30	15.4
	1982 ^a		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
	1982 ^a		75	22	0	97	29.3
51	1986 ^a	Lemhi Range South of the Big Timber Creek drainage	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
	1982 ^a		Red Conglomerates	32	14	0	46
1994 ^a	14	11		0	25	78.6	
2001 ^a	0	0		0	0	-	
2002 ^a	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
	2002 ^a		18	4	0	22	22.2
67	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
	2000 ^a		61	29	0	90	47.5
	2002 ^a		35	7	0	42	20.0
67	1982 ^a	North of Palisades Creek (Mt. Baldy area)	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
	67		2002 ^a		0	0	0

^a Helicopter count.

^b Ground count.

Table 3. Summary of mountain goat harvest and drawing odds in the Upper Snake Region, 1981-present.

Year	No. of permits	Harvest			% Success	First-choice applicants	Drawing odds
		M	F	Total			
1981	3	1	1	2	67	122	1:40.7
1982	3	1	1	2	67	149	1:49.7
1983	15	7	4	11	73	396	1:26.4
1984	19	11	8	19	100	350	1:18.4
1985	19	10	6	16	84	426	1:22.4
1986	30	21	5	26	87	220	1:7.3
1987	40	25	14	39	98	259	1:6.5
1988	40	25	11	36	90	297	1:7.4
1989	40	20	17	37	93	233	1:5.8
1990	40	25	9	34	85	284	1:7.1
1991	29	17	11	28	97	273	1:9.4
1992	29	16	11	27	93	226	1:7.8
1993	27	18	6	24	89	203	1:7.5
1994	27	15	11	26	96	223	1:8.3
1995	22	6	6	12	55	214	1:9.7
1996	22	14	4	18	82	198	1:9.0
1997	35	17	12	29	83	266	1:7.6
1998	35	15	11	26	74	243	1:6.9
1999	21	11	7	18	86	205	1:9.8
2000	21	12	7	19	90	191	1:9.1
2001	16	11	4	15	94	160	1:10.0
2002	11	8	3	11	100	116	1:10.5
2003	8	6	2	8	100	117	1:14.6

Table 4. Summary of mountain goat harvest and drawing odds by hunt area in the Upper Snake Region, 1994-present.

Hunt area	Year	No. of permits	Harvest		% Success	Days/hunter ^a	First-choice applicants	Drawing odds	
			M	F					
50	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	
	2002	2	2	0	100	7.3	22	1:11.0	
	2003	2	2	0	100	1.0	35	1:17.5	
51	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	
	2002	6	3	3	100	5.3	49	1:8.2	
	2003	6	4	2	100	3.9	82	1:13.6	
59A	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 ^b	5	2	2	80	4.5	34	1:6.8	
	67	1994	13	8	5	100	3.1	119	1:9.2
		1995	11	3	0	27	6.6	129	1:11.7
1996		11	7	2	82	2.9	118	1:10.7	
1997		24	11	9	83	3.0	192	1:8.0	
1998		24	7	9	67	6.2	150	1:6.3	
1999		10	4	5	90	3.0	105	1:10.5	
2000		10	5	4	90	4.1	83	1:8.3	
2001		3	2	1	100	5.7	49	1:16.3	
2002 ^b	3	3	0	100	10.3	45	1:15.0		

^a Prior to 1996, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

^b Unit 59A was closed beginning in 2002 and Unit 67 was closed beginning in 2003.

Table 5. Summary of mountain goat transplants in the Upper Snake Region, 1969-present.

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 and</u>
PROJECT:	<u>W-170-R-28</u>		<u>Inventories</u>
SUBPROJECT:	<u>7</u>	STUDY NAME:	<u>Big Game Population Status,</u>
STUDY:	<u>1</u>		<u>Trends, Use, and Associated</u>
JOB:	<u>5</u>		<u>Habitat Studies</u>
PERIOD COVERED:	<u>July 1, 2003 to June 30, 2004</u>		

SALMON REGION

Abstract

During 2003, 18 permits for mountain goats were available in eight hunt areas. Fourteen (78%) hunters were successful and 10 (71%) of harvested animals were males. Chances of drawing a permit for mountain goats in the Salmon Region were 1:9.5 in 2003.

Aerial surveys specifically for mountain goats were conducted in Units 36, 36A, and part of Unit 27 during January-early April 2004. Surveys yielded 526 individuals, with an additional two observed in other units incidental to elk surveys. Conditions for observing mountain goats were good in Units 36 and 36A. However, early snow melt and warm temperatures hampered observation in Unit 27 and survey work in that area was terminated before completion. Overall, number of goats observed in comparable survey areas was 63% above that of previous surveys. Among subunit areas, change in number of goats observed ranged from +124% to -54%. Overall kid ratio was 26.6 per 100 adults. The Salmon Region has approval for ten mountain goat release sites, five 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 non-consumptive 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 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

Historical survey information indicates relatively wide fluctuations in mountain goat populations (Table 1). During early 2004, 526 mountain goats were observed during aerial surveys of Units 36, 36A, and part of Unit 27. Observed age ratio was 26.8 kids per 100 adults. An additional two adult mountain goats were observed during elk surveys in February 2004.

Mountain goat numbers (170) in the Sawtooth Mountains were the highest recorded, an increase of almost 100% over the last complete survey in 1994. The ratio of kids per 100 adults in the Sawtooths was 25.0. Supplemental survey work in Unit 36A was made possible through financial and other support from The Sawtooth Society, Idaho Conservation League, and Sawtooth National Recreation Area. The additional survey effort (three years ahead of schedule) was conducted to augment surveys conducted under poor conditions in 2002. Unit 36A mountain goat observations were significantly higher than during the previous survey; we counted 269 individuals in Unit 36A compared with 120 in 2002 (124% increase). The ratio of kids per 100 adults nearly doubled over the last survey (29.3 vs. 15.4). Surveys in subunits 27-3 and 27-4 were conducted in sub-optimal conditions and number of mountain goats observed was approximately 37% below the most recent complete survey. However, the kid ratio was

moderate at 22.5 kids per 100 adults. Surveys planned for other parts of Unit 27 were cancelled because of poor survey conditions. Across comparable survey areas, we observed a 63% increase in total mountain goat numbers.

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 ten in 1985 (Tables 2 and 3). 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 two permits. Hunt 27-4 was added in 1999 with two permits. Based on data available at the time, permit levels for 2003 were reduced from four to two in hunts 36A-1 and 36A-4. Permits in area 30 were reduced by one and area 27-2 was closed.

Harvest and hunter information was compiled from Big Game Mortality Reports (BGMRs). Successful hunters must present mountain goat horns to an IDFG representative within ten days of harvest and complete a BGMR. Mountain goat season structure (Table 4) has been unchanged since 1991. Eight controlled hunts with 18 permits were authorized for 2003 in the Salmon Region. Hunters could harvest a mountain goat of either sex, except females accompanied by kids were protected. Success among 18 active hunters was 78% in 2003. Of 14 mountain goats, ten were males. During 75-day seasons (Table 4), region-wide hunter success has averaged 87% since 1995 and males have comprised 67% of the harvest.

Prior to 1986, chances of drawing a Salmon Region mountain goat permit were 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 11% in 2003 because of further reductions in available permits. Drawing odds for individual hunts vary widely from year to year.

Climatic Conditions

Rainfall during summer months in 2003 was below average, with warm, dry weather during early summer. Vegetative growth generally appeared well below average. Winter conditions were generally mild with temperatures above normal and snow accumulation at lower elevations below average. Animals, therefore, likely entered winter in average to below average body condition, then encountered a mild to average winter, which should have produced average over-winter survival. Snow pack (as measured at higher elevations) was approximately 70% of

average by late winter. Onset of spring weather and associated plant phenology was apparently advanced by approximately 3-4 weeks. Water-year precipitation to date has been near average.

Habitat Conditions

Mountain goat herds along Panther Creek, Bitterroot Mountains, 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, subalpine 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. 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 5) with more sites pending. Since 1989, 61 mountain goats have been released within the Region (Table 6).

Management Implications

Most mountain goat herds in the Salmon Region generally 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 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. 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 heli-skiing, have potential to disturb wintering mountain goats in some areas. Regulation of these activities needs to be coordinated with staff of the Sawtooth National Recreation Area.

Table 1. Summary of mountain goat surveys by hunt area in the Salmon Region, 1988-present.

Hunt area	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults
21	1996	Lost Trail - Hughes Cr.	8	2	0	10	25.0
		Hughes Cr. - Horse Cr.	26	4	0	30	15.4
27	2001	Hughes Cr. - Horse Cr.	5	1	0	6	20.0
	1993 ^a	Waterfall Cr. - Goat Cr.	15	1	0	16	6.7
27	1999 ^a	Big Cr. - Soldier Cr.	0	0	0	0	0.0
		Rapid River headwaters	21	3	0	24	14.3
		Waterfall Cr. - Goat Cr.	14	1	0	15	7.1
		Big Cr. - Soldier Cr.	5	1	0	6	20.0
	2002 ^b	Marble Cr. - Indian Cr.	18	2	0	20	11.1
		Marble Cr. - Indian Cr.	6	1	0	7	16.7
	2004	Upper Middle Fork	11	2	0	13	18.2
27-1	2004	Waterfall Cr. - Goat Cr.	15	2	0	17	13.3
		Big Cr. - Soldier Cr.	4	0	0	4	0.0
27-1	1988	E. Fork Mayfield Cr.	17	4	0	21	23.5
	1994	E. Fork Mayfield Cr.	10	1	0	11	10.0
	1995	E. Fork Mayfield Cr.	16	4	0	20	25.0
	1997	E. Fork Mayfield Cr.	17	2	0	19	11.8
	1999 ^a	E. Fork Mayfield Cr.	7	1	0	8	14.3
	2002 ^a	Mayfield Cr. - Yankee Fork	8	2	0	10	25.0
27-2	1988	Trail Cr. - China Cr.	54	11	0	65	20.4
		Trail Cr. - China Cr.	36	5	0	41	13.9
		Trail Cr. - China Cr.	50	6	0	56	12.0
		Trail Cr. - China Cr.	92	10	0	102	10.9
		Trail Cr. - China Cr.	37	4	0	41	10.8
		Trail Cr. - China Cr.	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
	2004	Meyers Cove - Falconberry	16	3	0	19	18.8
27-4	1993 ^a	Yellowjacket Cr. - Waterfall Cr.	49	8	0	57	16.3
		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
		Camas Cr. - Yellowjacket Cr. ^b	6	0	0	6	0.0
	2004	Yellowjacket Cr. - Waterfall Cr.	36	11	0	47	30.6
28	1996	Cobalt - Garden Cr.	10	0	0	10	0.0
		Williams Cr.	2	2	0	4	100.0
		Iron Cr. - Moyer Cr.	11	5	0	16	45.5
	1999 ^a	Upper Camas Cr.	5	0	0	5	0.0
		Iron Cr. - Moyer Cr. ^b	21	2	0	23	9.5
	2001	Cobalt - Garden Cr.	2	0	0	2	0.0
		Iron Cr. - Moyer Cr.	17	3	0	20	17.6
		Napias Cr.	3	1	0	4	33.3
	2002	Williams Cr.	4	1	0	5	25.0
	30	1988	Sheep Cr. - Goat Mt.	116	22	0	138
1996		Sheep Cr. - Goat Mt.	81	4	0	85	4.9
1997		Sheep Cr. - Goat Mt.	73	16	0	89	21.9

Table 1. Continued.

Hunt area	Year	Inclusive location	Adults	Kids	Unknown	Total	Kids/100 adults
36	2002 ^a	Sheep Cr. - Goat Mt.	53	2	0	55	3.8
	1988	Beaver Cr. - Galena	32	7	0	39	21.9
	1994	Beaver Cr. - Galena	27	2	0	29	7.4
	2003	Beaver Cr. - Galena	38	4	0	42	10.5
	2004	Beaver Cr. - Galena	35	10	0	45	28.6
36-1	1988	Elk Cr. - Redfish Lake	27	7	0	34	25.9
	1994	Elk Cr. - Redfish Lake	22	0	0	22	0.0
	2003 ^c	Elk Cr. - Redfish Lake	14	5	0	19	35.7
	2004	Elk Cr. - Redfish Lake	50	13	0	63	26.0
36-2	1988	Redfish Lake - Alturas Cr.	39	7	0	46	17.9
	1994	Redfish Lake - Alturas Cr.	28	7	0	35	25.0
	2003	Redfish Lake - Alturas Cr.	44	5	0	49	11.4
	2004	Redfish Lake - Alturas Cr.	51	11	0	62	21.6
36A-1	1988	E Pass Cr. - W Pass Cr.	37	13	0	50	35.1
	1994	E Pass Cr. - W Pass Cr.	38	10	0	48	26.3
	2002 ^a	E Pass Cr. - W Pass Cr.	28	4	0	32	14.3
	2004	E Pass Cr. - W Pass Cr.	61	16	0	77	29.3
36A-2	1988	Above W Pass Cr.	33	9	0	42	27.3
	1994	Above W Pass Cr.	36	7	0	43	19.4
	2002 ^a	Above W Pass Cr.	21	6	0	27	28.6
	2004	Above W Pass Cr.	33	9	0	42	27.3
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
	2004	Warm Springs Cr. - Wickiup Cr.	49	15	0	64	30.6
36A-4	1988	Germania Cr. - 4 th July Cr.	86	21	0	107	24.4
	1994	Germania Cr. - 4 th July Cr.	65	6	0	71	9.2
	2002 ^a	Germania Cr. - 4 th July Cr.	33	5	0	38	15.2
	2004	Warm Springs Cr. - Wickiup Cr.	65	21	0	86	32.3
36B	1985	Mill Cr. - Ramey Cr.	52	23	0	75	44.2
	1986	Mill Cr. - Ramey Cr.	37	16	0	53	43.2
	1988	Mill Cr. - Ramey Cr.	73	20	0	93	27.4
	1994	Mill Cr. - Ramey Cr.	92	23	2	117	25.0
	2002 ^a	Mill Cr. - Ramey Cr.	24	2	0	26	8.3
29/37A	1988	Above Patterson Cr.	9	1	0	10	11.1
		Mahogany - Patterson	21	3	0	24	14.3
		Morse Cr. - Falls Cr.	12	2	0	14	16.7
		McKim Cr. - Tater Cr.	10	1	0	11	10.0
	2003	Above Patterson Cr. & other	9	0	0	9	0.0
		Mahogany - Patterson	13	2	0	15	15.4
		Morse Cr. - Falls Cr.	7	0	0	7	0.0
		Poison Peak - Tater Cr.	13	3	0	16	23.1

^a Spring green-up count.

^b Incidental to elk survey.

^c Incomplete survey covered Redfish Lake to Fishhook Cr.

Table 2. Summary of mountain goat harvest and drawing odds in the Salmon Region, 1979-present.

Year	No. of 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	1:6.2
2002	25	14	7	21	84	185	1:7.4
2003	18	10	4	14	78	171	1:9.5

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

Table 3. Summary of mountain goat harvest and drawing odds by hunt area in the Salmon Region, 1994-present.

Hunt area	Year	No. of permits	Harvest		% Success	Days/hunter ^a	First-choice applicants	Drawing odds
			M	F				
27-1	1994	3	2	1	100	3.5	8	1:2.7
27-2	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
	2000	2	1	1	100	3.0	16	1:8.0
	2001	2	0	1	50	3.0	14	1:7.0
	2002	2	2	0	100	5.5	10	1:5.0
	2003	Closed						
27-3	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
	2002	2	0	2	100	12.0	11	1:5.5
	2003	2	0	2	100	2.0	10	1:5.0
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
	2002	2	0	2	100	6.0	8	1:4.0
	2003	2	0	1	50	6.0	18	1:9.0
30	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
	2002	3	1	2	100	4.7	23	1:7.7
	2003	2	1	1	100	7.0	14	1:7.0
36A-1	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
	2002	4	2	0	50	8.0	27	1:6.8
	2003	2	2	0	100	5.5	14	1:6.0

Table 3. Continued.

Hunt area	Year	No. of permits	Harvest		% Success	Days/hunter ^a	First-choice applicants	Drawing odds
			M	F				
36A-2	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
	2002	2	2	0	100	3.5	12	1:6.0
	2003	2	1	0	50	14.0	16	1:8.0
36A-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
	2002	2	2	0	100	2.0	15	1:7.5
	2003	2	1	0	50	3.0	15	1:7.5
36A-4	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
	2002	4	2	1	75	3.3	36	1:9.0
	2003	2	2	0	100	1.5	35	1:17.5
36B	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
	2002	4	4	0	100	1.8	43	1:10.8
	2003	4	3	0	75	3.0	49	1:12.3

^a Prior to 1996, data are from a telephone survey of all hunters. Beginning in 1996, data are from mandatory check of successful hunters only.

^b Both permits were deferred until 2001 season.

^c Archery only.

Table 4. 2003 season structure for controlled mountain goat hunts in the Salmon Region.

Season		Hunt area	Number of permits
Dates	Length		
30 August - 12 November	75 days	27-3	2
		27-4	2
		30	2
		36A-1	2
		36A-2	2
		36A-3	2
		36A-4	2
		36B	4

Table 5. Approved release sites for mountain goats in the 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 6. Summary of mountain goat translocation in the 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 Cr.-27	0	1	0	0	1
1989	Black Mtn-10	Jack Cr.-27	2	4	0	0	6
1989	Mt Baldy-67	Williams Cr.-28	1	1	0	0	2
1990	Swan Valley-67	Pine Cr.-28	1	0	0	0	1
1990	Mt Baldy-67	Panther Cr.-28	1	3	0	2	6
1991	Black Mtn-10	Ship Island Cr.-27	4	4	0	0	8
1991	Mt Baldy-67	Panther Cr.-28	1	4	0	1	6
1992	Mt Baldy-67	Panther Cr.-28	2	9	0	0	11
1994	Mt Baird-67	Square Top Mt.-21	4	6	0	0	10
1997	Big Elk Cr.-67	Corn Lake-21	4	6	0	0	10

APPENDIX A
IDAHO
2003 SEASON
MOUNTAIN GOAT RULES

2003 & 2004 MOUNTAIN GOAT HUNTING SEASONS



• Mountain goats of either sex may be taken EXCEPT nannies accompanied by kids.

MANDATORY CHECK AND REPORT REQUIREMENTS

Any hunter killing a mountain goat must present the horns at an IDFG regional office or to a conservation officer within 10 days after the date of kill. **The IDFG headquarters office is not equipped to check in "mandatory check" species.** In the Boise area, these animals can be checked at IDFG's volunteer office at 109 W. 44th St. in Garden City, between 10 a.m. and 3 p.m. weekdays.

Successful hunters must complete a big game mortality report, available at IDFG regional offices or from conservation officers, within 10 days of the date of the kill.

A hunter may authorize another person to comply with the above report requirements if that person complies with those requirements and possesses the necessary information to accurately complete the form.

Unsuccessful permittees must present or mail their unused tags to an IDFG office within 10 days after the close of the season for which the tag was valid. Cancelled tags will be returned to the hunter upon request. Failure to report may result in future ineligibility in mountain goat drawings.

2003 & 2004 MOUNTAIN GOAT CONTROLLED HUNTS - EITHER SEX - 40 PERMITS

Either sex may be taken EXCEPT a nanny accompanied by kids

Hunt No.	Season Dates	Controlled Hunt Area	Permits	Notes
6001	Aug 30 - Nov 12	10-1	2	
6002	Aug 30 - Nov 12	10-2	2	
6003	Aug 30 - Nov 12	18*	4	Boundary change.
6004	Aug 30 - Nov 12	22	4	
6005	Aug 30 - Nov 12	27-3	2	
6006	Aug 30 - Nov 12	27-4	2	
6007	Aug 30 - Nov 12	30*	2	
6008	Aug 30 - Nov 12	36A-1*	2	
6009	Aug 30 - Nov 12	36A-2	2	
6010	Aug 30 - Nov 12	36A-3*	2	
6011	Aug 30 - Nov 12	36A-4*	2	
6012	Aug 30 - Nov 12	36B*	4	
6013	Aug 30 - Nov 12	48	2	
6014	Aug 30 - Nov 12	50*	2	
6015	Aug 30 - Nov 12	51*	6	

**See controlled hunt area description. This hunt includes other units or parts of other units.*

Mountain Goat controlled hunt descriptions begin on page 26.

HUNT AREA DESCRIPTIONS

Hunt Area 10-1—That portion of Unit 10 within the Isabella Creek drainage.

Hunt Area 10-2—That portion of Unit 10 within the Collins Creek drainage.

Hunt Area 18— All of Unit 18 and that portion of Unit 23 within the Rapid River drainage.

Hunt Area 22 — All of Unit 22.

Hunt Area 27-3—That portion of Unit 27 east of the Middle Fork of the Salmon River, south of Camas Creek, northwest of Fly Creek Trail (Forest Service Trail 124) and Mahoney Creek Trail (Forest Service Trail 121), north of Warm Springs Creek and north of Loon Creek.

Hunt Area 27-4— That portion of Unit 27 east of the Middle Fork of the Salmon River and north of Camas Creek to the Waterfall Creek Trail (Forest Service Trail 045) and that portion of Unit 28 within the Yellowjacket Creek drainage.

Hunt Area 30—Those portions of Units 21A and 30 south of and including the Freeman Creek drainage to the Agency Creek-Lemhi Pass Road.

Hunt Area 36A-1— That portion of Unit 50 north of Trail Creek Road and west of U.S. 93, and that portion of Unit 36A south and east of the East Fork of the Salmon River from and including the Herd Creek drainage upstream to and including the West Pass Creek drainage.

Hunt Area 36A-2—That portion of Unit 36A, including all headwaters of the East Fork of the Salmon River upstream from, but excluding, the Germania Creek drainage on the west and upstream from, but excluding, the West Pass Creek drainage on the east.

Hunt Area 36A-3—That portion of Unit 36A north and west of the East Fork of the Salmon River downstream from, but excluding, the Germania Creek drainage, and that portion of Unit 36 on the south and east sides of the main Salmon River downstream from, but excluding, the Fourth of July Creek drainage above Stanley.

Hunt Area 36A-4—That portion of Unit 36A within the Germania Creek drainage, and that portion of Unit 36 within the Salmon River drainage east of State Highway 75 from

and including the Fourth of July Creek drainage upstream to and including the Pole Creek drainage.

Hunt Area 36B—That portion of Unit 36B south of and including the Challis Creek drainage; that portion of Unit 36 east of the Yankee Fork-Mill Creek Summit Road.

Hunt Area 48—That portion of Unit 48 north and east of State Highway 75 and that portion south and west of State Highway 75 upstream from and including the Baker Creek drainage.

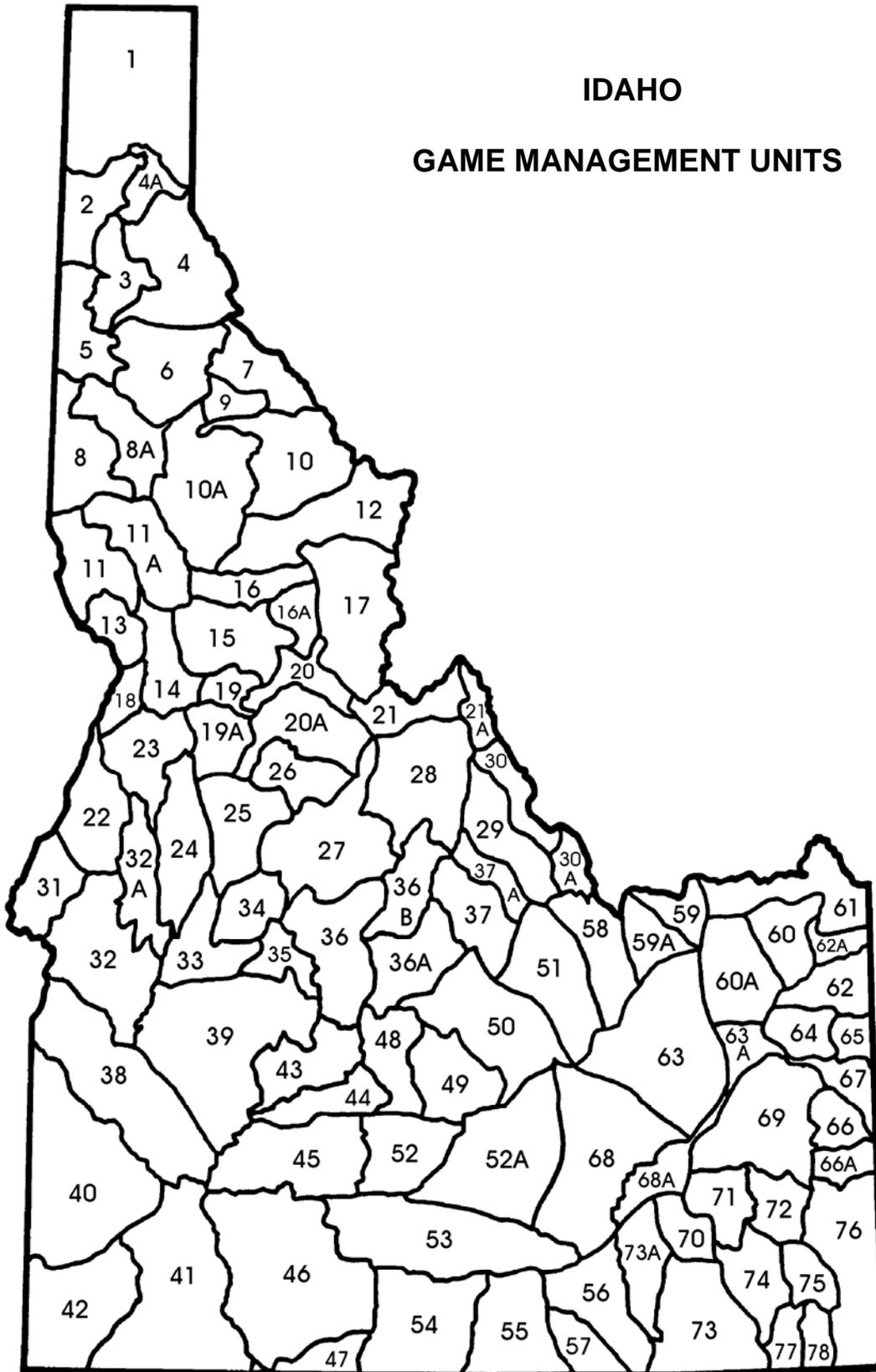
Hunt Area 50—All of Unit 49 and that portion of Unit 50 south and east of the Trail Creek Road and south and west of U.S. Highway 93.

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.



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.

