

**IDAHO DEPARTMENT OF FISH AND GAME**

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**Statewide Surveys and Inventories**

**Project W-170-R-26**

**Job Progress Report**



**MOUNTAIN LION**

Study I, Job 8

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**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>1-7</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – STATEWIDE**

**ABSTRACT**

The Idaho Department of Fish and Game requires hunters to check their harvested lions at a Department office or checkpoint within 10 days of the kill date so the hide can be tagged and a tooth removed for aging.

In 2001, resident hunters purchased 19,624 mountain lion tags, up 5% from 18,561 purchased in 2000. The majority of those tags were issued as part of the resident Sportsman Package. Additionally, 34 tags valid for a second mountain lion in portions of Units 10 and 16, and all of Units 12, 16A, 17, 19, 20, 20A, 26, and 27 were also sold.

Nonresidents purchased 919 mountain lion tags in 2001, up 3% from 2000. Of these, 311 were regular tags (sold for \$235), 35 tags were for a second mountain lion (\$31.50), valid in only some units, and the majority of tags sold, 573, were reduced price mountain lion tags, available for \$31.50 to nonresident purchasers of a deer or elk tag valid in the Lolo, Selway, or Middle Fork Zones. Sixty-six percent of the nonresident lion hunters hunted in those 3 zones.

A total of 3,020 hound hunter permits were issued, a decline of 8% since 2000. Of these, 2,890 (-9%) were sold to resident hunters and 130 (+13%) to nonresident. Only 75 statewide permits are available for nonresidents. The remainders were for the Lolo, Selway, and Middle Fork Zones.

A total of 584 mountain lions were checked, which was a decrease of 17% from the 701 lions harvested in 2000. Female mountain lions comprised 45% of the harvest. Hunters using guides harvested 123 (21%) of the lions. Hunters using hounds harvested 74% of the lions, still hunters took 5%, 1% were harvested by using predator calls, and 13% of the lions were harvested incidental to some other hunting activity.

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>1</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – PANHANDLE REGION**

**ABSTRACT**

The 2001-2002 mountain lion season produced a regional harvest of 100 mountain lions. Female mountain lion harvest consisted of 47% of the regional harvest. Current data infer this population may have peaked and is currently declining. Additional harvest data and a more complete age data set to utilize population reconstruction methods may be required to determine lion population trends in the area.

**DAU 1-1 (GMUS 1, 2, 3, 4, 4A, 5, 6, 7, 9)**

Lion hunting with the aid of hounds is not allowed during general big game seasons for deer and elk. Deer and elk seasons run almost continuously from October 10 through December 1 in most units. However, there is no deer or elk general season in units 4, 7, or 9 after November 3. Unit 9 is rarely accessible due to deep ridge top snow on the boundary of the unit, thereby limiting access to the area.

**MANAGEMENT DIRECTION**

Management Objectives

Management objectives for this DAU are currently being developed. In the goals of the 1991-1995 Mountain Lion Management Plan, DAU 1-1 was to be managed to provide an increasing population of mountain lions. Available evidence indicates these management objectives were attained within the 1991-1995 period. The current Mountain Lion Management Plan states that initial harvest goals will be based to maintain harvest levels on a 3-year running average that are at or above the 3 year average harvest for the 1990-1992 big game seasons for each DAU, except in areas where other factors or circumstances justify a higher or lower goal (e.g., harvest seasons are deliberately liberalized to reduce the lion population or where the deliberate reduction of a lion population or maintenance at a lower level makes it untenable to continue to reach the harvest levels attained between 1990-1992).

The Department will continue to gather harvest data via the mandatory check. Regulations will allow the use of training dogs and continue to protect young mountain lions and females accompanied by young of the year. Pursuit (no-harvest) seasons are not currently offered because regular hunting seasons were lengthened as the need arose for increased harvest.

## BACKGROUND

### Historical Information

The management of mountain lions has changed dramatically during the past 30 years. Through 1971, it was classified as a predator, with a continuous open season and no bag limit, and in many years a bounty was paid for dead mountain lions. With reclassification as a game animal in 1971, more conservative management was initiated to increase the mountain lion population.

The 1972 season for DAU 1-1 was open only September through December, with one mountain lion allowed per year. During the late 1970s and early 1980s, seasons remained relatively short, with some units virtually closed. Unit 4, for example, was open for only 7 days in 1970, from November 26 through December 2. Seasons have closed generally at the end of December, or in mid-January during most of the 1980s and 1990s. Beginning in 1993 seasons were extended several times, so that DAU 1-1 currently closes March 31.

Prior to the 1995-1996 hunting season, DAU 1-1 was comprised of three separate areas: 1-1 (Units 1, 2, 3, and 5); 1-2 (Units 4 and 4A); and 1-3 (Units 6, 7, and 9). Concurrent with the establishment of DAU 1-1, seasons in some units were extended to establish a single, DAU-wide season framework and to provide a larger annual sample size, although over a broader area.

### Season Structure

The 2001-2002 season was 215 days, opening August 30 and closing March 31 in all game management units. This represents no change from the prior season and an increase over the 1999-2000 season of 16 days in all units except 7 and 9 where the season was already opening on August 30. The use of hounds is not allowed during the general deer and elk rifle seasons.

## HARVEST CHARACTERISTICS

The 2001-2002 mountain lion harvest in DAU 1-1 was 100, 63% below the previous five-year average (Table 1). This represents the fourth year of a declining harvest, which peaked in 1997 at 194. During the 2001-2002 season, no mountain lions were harvested in Unit 9, which is consistent with the past, due to its remote location and poor access.

### Sex Ratio

The percentage of females in the harvest, generally considered an indicator of mortality rates, decreased steadily from the early 1980s through 1993. Since 1993, there has been a generally increasing trend, and the three-year unweighted average is 48% females in the harvest (Table 1).

There is currently no established threshold for this measurement, but the current value is beyond the maximum threshold (40%) in the 1991-1995 Mountain Lion Management Plan. These data are consistent with those expected from a mountain lion population with high adult mortality.

### Age Structure

Prior to 1998, age was indexed by measuring the distance from the jawbone to the dentine/enamel ridge of the top canine (the “tooth drop”). These data were found to be unreliable, and since 1998, premolars have been sectioned and aged. The data set for this measurement is currently not large enough to report even a short-term trend. However, as the data set increases through time, it will be used as another indicator of population health. The age-specific data may also be used to reconstruct the population and may thereby be used to calculate population trend. Current data shows that almost 80% of the females that are harvested are under 5 years of age, and over 90% of the harvested males are younger than 5 (Table 2). In concert with the declining harvest trend, this would indicate a decreasing population.

### Hunting Characteristics

Most successful mountain lion hunters during the 2001-2002 season were unguided (88%), used hounds (75%), and used a rifle (71%) to take a mountain lion (Table 3). The total mountain lion harvest by unguided hunters was 48% females and 52% males. The total mountain lion harvest by guided hunters was similar, with 42% females and 58% males.

### Harvest Distribution by Date

During October and November, general elk and deer hunting seasons preclude mountain lion hunting with hounds. Thirty-six percent of the seasonal harvest of mountain lions occurs during December with an additional 17% during January (Table 4). During December, 36% of the harvest consists of females. This increases to 53% during January, 45% during February, and 62% in March. This pattern is consistent with a population being heavily exploited.

### Incidental Kill

Thirteen of the 100 mountain lions harvested (13%) in this DAU were taken incidentally, primarily by hunters pursuing other big game animals (Table 4). Incidental hunters kill a higher percentage of female mountain lions compared to hunters specifically targeting mountain lions.

## CLIMATIC CONDITIONS

Mountain lion harvest is very dependent on snow conditions: 1) to localize big game animals onto winter range, and 2) to provide adequate tracking conditions. The winter of 2001-2002 was “normal” with an average snow pack of near 100% throughout the DAU during the season.

## DEPREDACTIONS

One mountain lion was killed as a consequence of depredations to domestic stock. The reporting rate of mountain lions killed by Wildlife Services has been highly variable over the years, so year-to-year comparisons have little value.

## MANAGEMENT IMPLICATIONS

Until specific harvest goals for each DAU can be established using the new aging methodology, the current mountain lion plan indicates that initial harvest goals will be based to maintain harvest levels on a 3-year running average that are at or above the 3 year average harvest for 1990-1992, except in areas where other factors or circumstances justify a higher or lower goal (e.g., harvest seasons are deliberately liberalized to reduce the lion population or where the deliberate reduction of a lion population or maintenance at a lower level makes it untenable to continue to reach the harvest levels attained between 1990-1992). The 3-year average for this DAU from 1990-1992 is 61 mountain lions. The current harvest exceeds the 1990-1992 average by 64%. However, the pattern in the percentage of females in the harvest, combined with a young age structure and a four-year decline in total harvest, implies the mountain lion population of DAU 1-1 is likely declining.

Table 1. Mountain lion harvest in DAU 1-1, 1984-2001 seasons.

Harvest Season	Female	Male	Unknown	Total	% Female
1984	18	17	0	35	51
1985	15	18	0	33	45
1986	17	14	0	31	55
1987	21	17	2	40	55
1988	19	26	0	45	42
1989	28	22	0	50	56
1990	19	31	0	50	38
1991	34	39	2	75	47
1992	24	33	1	58	42
1993	20	45	0	65	31
1994	36	58	0	94	38
1995	73	70	1	144	51
1996	52	84	1	137	38
1997	81	112	1	194	42
1998	76	96	0	172	44
1999	78	72	0	150	52
2000	64	74	0	138	46
2001	47	53	0	100	47

Table 2. Values of the 2002-2010 lion management plan age criteria for the Panhandle Region, 1999-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			# Males $\geq 5$
			% K-1	% 2-4	% Males $\geq 5$	
1999	14	52	-	-	-	-
2000	94	46	32	45	6	3
2001	-	47	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	-	-	-	-	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 3. Mountain lion harvest by method in DAU 1-1 during 2001-2002 season.

Method	Males	Females	Total
Weapon			
Rifle	38	33	71
Bow	6	5	11
Muzzleloader	0	0	0
Pistol	9	9	18
Other	0	0	0
Guided			
Yes	7	5	12
No	46	42	88
Method			
Still	1	2	3
Incidental	5	8	13
Predator Call	0	0	0
Hounds	38	37	75
Other	9	0	9

Table 4. Distribution of mountain lion harvest by month, sex, and unit for DAU 1-1 during 2001-2002 season.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
1	M	0	0	1	16	5	5	0	27
	F	0	0	1	4	3	1	3	12
2	M	0	0	1	0	0	0	0	1
	F	0	0	0	1	1	1	0	3
3	M	0	0	0	0	0	1	0	1
	F	0	1	1	1	0	2	1	6
4	M	0	1	0	2	0	0	1	4
	F	0	2	0	3	0	1	1	7
4A	M	0	0	0	0	0	1	0	1
	F	0	0	0	0	0	1	0	1
5	M	0	0	1	1	2	1	1	6
	F	0	1	0	0	2	1	1	5
6	M	0	2	0	3	1	3	3	12
	F	1	1	0	4	2	1	2	11
7	M	0	0	0	1	0	0	0	1
	F	0	0	0	1	1	0	0	2
9	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
Total	M	0	3	3	23	8	11	5	53
	F	1	5	2	13	9	9	8	47
Grand Total		1	8	5	36	17	20	13	100

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>2</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – CLEARWATER REGION**

**ABSTRACT**

During the 2001-2002 hunting season, hunters in the Clearwater Region harvested 169 mountain lions, 45% of which were females. This was lower than the 1998-2000 average of 211 mountain lions harvested. Compared to the 1999-2000 season, DAU 2-1 received a 35% decrease in harvest (64), while DAU 2-2 fell by 18% to 80 lions, and DAU 2-3 declined by 29% to 25 lions in the harvest. During the 2001-2002 season, most mountain lions were harvested using hounds (78%), followed by incidental harvest (14%). Most mountain lions were harvested with a rifle.

**DAU 2-1 (GMUS 8, 8A, 10, 10A, 11, 11A)**

MANAGEMENT DIRECTION

Management Objectives

The 1991-1995 Mountain Lion Management Plan identifies the following statewide management goals: Maintain population levels; reduce harvest rates to 250 animals statewide; reduce the female component of the harvest from the current statewide average of 45% to 25-30%.

In addition, there is a goal to increase population levels in Units 8, 8A, and 10A, and to maintain the population level in Unit 10. These objectives have changed recently, at least temporarily, as we have seen an apparent increase in mountain lion numbers. Consequently, the region has established more liberal seasons to harvest the increasing number of mountain lions and to address some of the current and potential problems associated with high mountain lion numbers.

BACKGROUND

Historical Information

DAU 2-1 units are generally accessible to hunters during winter and support productive mountain lion populations. Healthy white-tailed deer and elk populations, as well as some mule

deer, provide a substantial prey base. Habitats in this area include dense, coniferous forest in Units 10 and 10A; coniferous forests interspersed with farmland in Units 8, 8A, and 11A; and Snake River canyon lands and higher elevation coniferous forests in Unit 11.

### Season Structure

Within most of DAU 2-1, the 2001-2002 mountain lion take season extended from August 30 through March 31. There is no dog-training season for mountain lions.

## HARVEST CHARACTERISTICS

### Sex Ratio

During the 2001-2002 hunting season, DAU 2-1 hunters killed 64 mountain lions, including 29 females and 35 males (Table 1). This was a decline from the previous 3-year average of 98. Females comprised 45% of the harvest, similar to the previous 3-year average.

### Age Structure

The 2000-2001 harvest was dominated by 4- to 7-year age class mountain lions (Table 2). This was relatively consistent with previous years, except that harvest levels declined. Age data was not available for the 2001-2002 season.

### Harvest Trend

During the 2001-2002 hunting season, hunters in DAU 2-1 harvested 64 mountain lions, which is a 35% decline from the previous 3-year average (Tables 1 and 3). This may have been a result of stabilized or declining populations in these units. Many hunters are indicating that mountain lions are becoming harder to find. The longer seasons should have produced a higher harvest unless lions are becoming fewer in number or conditions did not favor hunters during the season.

### Harvest By Method and Weapon

Hound hunting was the most common method used to harvest mountain lions in this DAU, accounting for 51% of the harvest. Incidental harvest accounted for 20% of the mountain lions reported during the 2001-2002 season (Table 4). As in the past, a rifle was the most common weapon used (Table 5).

## CLIMATIC CONDITIONS

The Clearwater Region experienced weather conditions in 2001-2002 that were considered normal. Snow pack in the Clearwater Basin was 117% of average (October through March) while the Salmon River Basin averaged 87% for the same time period. Snowfall was later than usual in the region with no accumulation at the lower elevations until after the first of December.

This allowed big game populations to forage easily until mid-December. However, snow pack that persisted later than normal into the spring, likely had a negative effect on big game survival.

## DEPREDATIONS

Mountain lion depredations are usually very minor in this DAU. However, during the 2001-2002 season, 18 depredation complaints were filed with the Department for this DAU. Most of the reports received were related to concerns with human safety.

## MANAGEMENT IMPLICATIONS

Due to the increase in sightings and reports of encounters during the mid-1990s in this DAU, hunting seasons were liberalized. Harvest continued to increase and, during the 1997-1998 season, harvest reached an all-time high in this DAU. It is likely that due to the dense white-tailed deer populations throughout much of this DAU, the mountain lion population expanded its range into lower elevations and preyed on whitetail. This would account for increased observations of mountain lions in lower elevation whitetail habitat in this DAU during the mid-1990s, particularly in GMUs 8A and 10A. Despite the longer season, harvest remained below the 1997 peak.

Harvest increased 440% from 1991 to 1997 in GMU 10A, where the highest annual harvest for the last 6 years has occurred. During the last few seasons, GMU 10A provided about one-third of the region's total mountain lion harvest, but is down since the peak (Table 6). Continued monitoring is needed to determine if the decrease is due to a population change or the hunting conditions; however, mountain lion hunters are indicating it is becoming more difficult to locate mountain lions.

## **DAU 2-2 (GMUS 12, 13, 14, 15, 16, 18)**

### MANAGEMENT DIRECTION

#### Management Objectives

The 1991-1995 Mountain Lion Management Plan identifies the following statewide management goals: Maintain population levels; reduce harvest rates to 250 animals statewide; reduce the female component of the harvest from the current statewide average of 45% to 25-30%.

These objectives have changed recently as we have seen an apparent increase in mountain lion numbers. The region has established more liberal seasons to harvest the increasing number of mountain lions and to address some of the current and potential problems associated with high mountain lion numbers.

## BACKGROUND

Winter access varies among DAU 2-2 units. Lower elevations of most units are readily accessible to hunters during winter. Parts of all these units can be more difficult to access because of snow, mud, or steep, rugged habitat. Deer and elk populations throughout most of the DAU are thriving, providing a substantial prey base. Habitats range from dense coniferous forest and mountainous terrain with high precipitation, to lower elevations along the Snake and Salmon Rivers where bunch grass communities prevail in a drier climate.

### Season Structure

Within DAU 2-2, the take season was extended by 2 weeks in 1999 to start at the end of August. DAU 2-2 did not have a dog-training season and there were no female harvest quotas.

## HARVEST CHARACTERISTICS

### Sex Ratio

During the 2001-2002 hunting season, DAU 2-2 hunters harvested 80 mountain lions, 45% of which were females (Table 7). The proportion of females in the harvest was slightly lower than the previous 3-year average.

### Age Structure

The 2000-2001 harvest was dominated by 4- to 7-year age class mountain lions (49%), which was a little lower than average (Table 8). This is a common harvest composition. Age data was not available for the 2001-2002 season.

### Harvest Trend

During the 2001-2002 hunting season, Area 2-2 hunters harvested 80 mountain lions, which is lower than the previous 3-year average (Table 7). Harvest in this DAU can vary substantially between years, usually a result of weather conditions. Incidental harvest may be an indicator of random encounters with mountain lions, likely a function of population densities. Incidental harvest is low (Table 9).

### Harvest By Method and Weapon

Hunters in DAU 2-2 used hounds to harvest mountain lions 85% of the time and incidental to other activities 11% of the time (Table 9). The weapon used most often was the rifle, followed by pistol (Table 10).

## CLIMATIC CONDITIONS

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

## DEPREDATIONS

There were 3 reported cases of mountain lion depredations in 2001-2002, which is typical of this DAU.

## MANAGEMENT IMPLICATIONS

There was little change in harvest over the previous 3-year average. The season was again liberalized 2 weeks for the 2000-2001 season to offer sportsmen a greater opportunity to harvest mountain lions. Harvest may be somewhat related to weather conditions.

### **DAU 2-3 (GMUS 16A, 17, 19, 20)**

## MANAGEMENT DIRECTION

### Management Objectives

The 1991-1995 Mountain Lion Management Plan identifies the following statewide management goals: Maintain population levels; reduce harvest rates to 250 animals statewide; reduce the female component of the harvest from the current statewide average of 45% to 25-30%.

These objectives have changed recently, at least temporarily, as we have seen an apparent increase in mountain lion numbers. Consequently the region has established more liberal seasons to harvest the increasing number of mountain lions and to address some of the current and potential problems associated with high mountain lion numbers.

## BACKGROUND

Units within DAU 2-3 occur within wilderness and large roadless areas that afford limited access for hunters during the mountain lion season. Habitats within this DAU include dense, coniferous forests within rugged mountainous terrain, as well as Ponderosa pine savanna habitat with open understory, and steep open bunchgrass hillsides and brush fields along the Selway and Salmon River breaks. Although some white-tailed deer habitat occurs in these units, the predominant ungulates are elk and mule deer.

## Season Structure

Within DAU 2-3, the 2001-2002 mountain lion take season extended from August 30 through March 31. DAU 2-3 does not have a dog-training season, and there were no female harvest quotas.

## HARVEST CHARACTERISTICS

### Sex Ratio

During the 2001-2002 hunting season, DAU 2-3 hunters killed 25 mountain lions, including 11 females (Table 11). This was somewhat higher harvest than during the previous 3-year average. Few mountain lions are typically harvested from these units because of their remote nature and the difficult access facing hunters.

### Age Structure

The numbers of mountain lions harvested is typically too small to reflect accurately the age structure of the population; however, age structure was evenly divided among age groups (Table 12).

### Harvest Trend

Mountain lion harvest has remained higher than during most years in the recent past, likely a result of the increased bag limit and season length, increased nonresident hound permits, outfitter efforts, and low snow pack (Table 11). Because these are such large units with ample prey base, the mountain lion population is clearly much greater than harvest indicates. This suggests an under-harvested population, but evidently self-regulating. The major restriction to harvest in this DAU is hunter access.

### Harvest By Method and Weapon

Harvest of lions with the use of hounds in DAU 2-3 was 87% of the total (20 of 23, Table 13). The most common weapons used were pistol, bow, and rifle, respectively (Table 14).

## CLIMATIC CONDITIONS

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

## DEPREDATIONS

Because units in this DAU are comprised predominately of wilderness, depredations are not usually a concern. No depredations were reported during 2001-2002.

## MANAGEMENT IMPLICATIONS

Because this DAU occupies such a large area and covers high quality big game range, the population of mountain lions can obviously sustain higher levels of harvest than what currently occurs. Incidental harvest has not increased in these units (occurrence of hunters who would shoot a mountain lion if they saw one), which may indicate that the population is remaining stable. The difference may lie within the prey base. Because mountain lions may be exploiting the whitetail prey base in other DAUs, their populations could increase beyond levels possible from preying on just mule deer and elk. However, whitetail are not widespread within these wilderness units and, therefore, mountain lion populations would not be expected to increase as dramatically as they could in those areas with quality whitetail habitat. That may be what has occurred over the last few years in units reflecting those conditions (Table 6).

Table 1. Mountain lion harvest in DAU 2-1, 1992-2001.

Year	Males	Females	Total	% Female
1992	31	27	58	47
1993	46	28	74	38
1994	45	29	74	39
1995	45	61	106	58
1996	59	57	116	49
1997	75	72	147	49
1998	55	66	121	54
1999	45	29	74	39
2000	49	49	98	50
2001	35	29	64	45
1999-2001 Average	43	36	79	45

Table 2. Mountain lion harvest by age class<sup>a</sup>, sex, and year in DAU 2-1, 1992-2001.

Year	Sex	Age Class						Total
		K-3 (%)		4-7 (%)		8+ (%)		
1992	M	6	(12)	19	(37)	2	(4)	27
	F	6	(12)	18	(35)	0	(0)	24
1993	M	4	(7)	29	(50)	3	(5)	36
	F	5	(9)	15	(26)	1	(2)	21
1994	M	2	(10)	9	(45)	1	(5)	12
	F	3	(15)	4	(20)	1	(5)	8
1995	M	6	(6)	32	(32)	4	(4)	42
	F	11	(11)	41	(41)	7	(7)	59
1996	M	7	(6)	42	(36)	9	(8)	58
	F	18	(16)	36	(31)	3	(3)	57
1997	M	16	(11)	39	(28)	19	(14)	74
	F	16	(11)	45	(32)	5	(4)	66
1998	M	14	(13)	25	(24)	10	(9)	49
	F	20	(19)	32	(30)	5	(5)	57
1999	M	9	(13)	25	(35)	5	(7)	39
	F	8	(11)	23	(32)	1	(2)	32
2000	M	6	(8)	27	(35)	8	(10)	41
	F	12	(15)	23	(29)	3	(4)	38
2001	M	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-

<sup>a</sup> Many age classes were improperly recorded and therefore not included. Any age class less than 0 or greater than 15 was considered invalid.

Table 3. Mountain lion harvest by DAU in the Clearwater Region, 1992-2001.

Year	DAU 2-1			DAU 2-2			DAU 2-3			Region		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1992	31	29	60	53	26	79	15	5	20	99	60	159
1993	46	27	73	64	51	115	8	10	18	118	88	206
1994	45	29	74	46	33	79	6	5	11	97	67	164
1995	44	63	107	56	52	108	8	6	14	108	121	229
1996	59	57	116	66	55	121	4	4	8	129	116	245
1997	75	72	147	65	55	120	12	7	19	152	134	286
1998	55	66	121	43	48	91	11	6	17	109	120	229
1999	41	35	76	40	44	84	6	6	12	87	85	172
2000	49	49	98	47	51	98	19	16	35	115	116	231
2001	35	29	64	44	36	80	14	11	25	93	76	169

Table 4. Mountain lion harvest by method and sex in DAU 2-1, 1993-2001.

Method	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hounds	26	17	29	14	33	39	53	44	58	50	31	40	34	25	35	27	25	18
Incidental	14	6	13	10	10	19	6	13	15	21	7	12	4	9	10	18	7	6
Still Hunt	0	0	1	2	2	3	0	0	1	1	3	5	2	0	2	3	1	2
Unknown	6	5	2	3	0	0	0	0	1	0	0	0	1	0	1	0	1	0
Pred. Call	0	0	0	0	0	0	0	0	0	0	0	11	0	0	1	1	0	2
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Totals	46	28	45	29	45	61	59	57	75	72	42	58	41	34	49	49	35	29

Table 5. Mountain lion harvest by weapon and sex in DAU 2-1, 1993-2001.

Weapon	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Bow	8	5	11	1	5	5	9	8	7	9	5	5	7	1	5	3	6	4
Pistol	5	6	9	6	10	16	11	6	20	9	11	17	11	7	14	3	8	5
Rifle	26	13	23	19	30	39	37	32	46	52	26	36	19	25	29	38	20	19
Muzzle	1	0	0	0	0	1	0	0	0	1	0	0	3	0	1	4	1	1
Unknown	6	4	2	3	0	0	2	1	2	1	0	0	1	1	0	1	0	0
Total	46	28	45	29	45	61	59	57	75	72	42	58	41	34	49	49	35	29

Table 6. Mountain lion harvest by Game Management Unit in the Clearwater Region, 1992-2001.

Unit	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
8	3	3	2	1	3	8	5	6	2	4
8A	4	6	13	11	17	15	21	14	12	10
10	23	30	20	16	21	20	19	16	19	15
10A	18	25	29	58	60	87	66	34	51	26
11	8	8	5	14	14	11	3	4	10	7
11A	0	1	5	7	1	6	6	2	4	2
12	18	24	10	16	18	23	21	24	30	16
13	6	10	4	10	9	8	4	4	7	8
14	17	24	10	17	16	16	18	26	13	15
15	21	35	26	41	51	42	17	9	14	12
16	13	12	16	16	18	18	20	13	17	16
16A	3	3	1	3	0	1	1	1	1	1
17	15	11	7	8	5	12	14	7	12	9
18	4	10	13	8	9	13	11	8	17	13
19	1	3	0	1	2	0	1	2	7	2
20	1	1	3	2	1	6	1	2	15	13
Total	155	206	164	229	245	286	228	172	231	169

Table 7. Mountain lion harvest in DAU 2-2, 1992-2001.

Year	Males	Females	Total	% Female
1992	52	26	78	33
1993 <sup>a</sup>	64	51	116	44
1994	46	34	80	43
1995	56	53	109	49
1996	66	55	121	45
1997	65	55	120	46
1998	43	48	91	53
1999	40	44	84	52
2000	47	51	98	52
2001	44	36	80	45
1999-2001 Average	44	44	87	50

<sup>a</sup> In 1993, one mountain lion was checked with sex unknown.

Table 8. Mountain lion harvest by age class<sup>a</sup>, sex, and year in DAU 2-2, 1992-2001.

Year	Sex	Age Class						Total
		K-3 (%)		4-7 (%)		8+ (%)		
1992	M	2	(3)	37	(57)	6	(9)	45
	F	6	(9)	13	(20)	1	(2)	20
1993	M	5	(5)	45	(42)	10	(9)	60
	F	14	(13)	32	(30)	2	(2)	48
1994	M	2	(5)	20	(48)	2	(5)	24
	F	5	(12)	12	(28)	1	(2)	18
1995	M	5	(5)	37	(36)	8	(8)	50
	F	17	(17)	28	(27)	7	(7)	52
1996	M	2	(2)	45	(38)	18	(15)	65
	F	5	(4)	33	(28)	16	(13)	54
1997	M	6	(5)	46	(38)	13	(11)	65
	F	9	(8)	41	(34)	5	(4)	55
1998	M	6	(7)	23	(27)	10	(12)	39
	F	5	(6)	37	(44)	4	(5)	46
1999	M	2	(3)	21	(28)	10	(13)	33
	F	10	(13)	25	(33)	8	(11)	43
2000	M	1	(1)	14	(18)	23	(29)	38
	F	11	(14)	24	(31)	5	(6)	40
2001	M	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-

<sup>a</sup> Many age classes were improperly recorded and therefore not included. Any age class less than 0 or greater than 15 were considered invalid.

Table 9. Mountain lion harvest by method and sex in DAU 2-2, 1993-2001.

Method	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hounds	54	38	35	19	41	40	63	46	55	41	31	31	36	37	40	40	38	30
Incidental	7	11	6	11	15	8	3	6	9	11	11	10	3	6	4	9	6	3
Still Hunt	1	1	1	0	0	5	0	2	0	3	0	3	1	1	2	0	0	2
Unknown	2	1	4	3	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Pred. Call	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Other	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Totals	64	51	46	34	56	53	66	55	65	55	42	45	40	44	47	51	44	36

Table 10. Mountain lion harvest by weapon and sex in DAU 2-2, 1993-2001.

Weapon	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Bow	11	7	3	6	7	67	7	3	6	2	4	4	5	5	5	7	8	4
Pistol	21	21	18	7	13	19	24	22	26	17	12	16	17	8	19	13	12	10
Rifle	30	21	21	18	36	28	34	29	32	36	25	25	15	27	22	31	23	22
Muzzle	0	1	0	0	0	0	1	1	0	0	1	0	1	1	1	0	1	0
Unknown	4	6	0	0	0	0	0	0	1	0	0	0	2	3	0	0	0	0
Total	66	56	42	31	56	53	66	55	65	55	42	45	40	44	47	51	44	36

Table 11. Mountain lion harvest in DAU 2-3, 1992-2001.

Year	Males	Females	Total	% Female
1992	16	5	21	24
1993	8	10	18	56
1994	6	5	11	45
1995	7	6	13	46
1996	4	4	8	50
1997	12	7	19	37
1998	11	6	17	35
1999	6	6	12	50
2000	19	16	35	46
2001	14	11	25	44
1999-2001 Average	13	11	24	47

Table 12. Mountain lion harvest by age class<sup>a</sup>, sex, and year in DAU 2-3, 1992-2001.

Year	Sex	Age Class						Total
		K-3 (%)		4-7 (%)		8+ (%)		
1992	M	0	(0)	6	(32)	8	(42)	14
	F	0	(0)	4	(1)	1	(5)	5
1993	M	2	(14)	4	(29)	1	(7)	7
	F	2	(14)	5	(36)	0	(0)	7
1994	M	0	(0)	2	(40)	2	(40)	4
	F	0	(0)	1	(20)	0	(0)	1
1995	M	1	(9)	4	(36)	1	(9)	6
	F	1	(9)	3	(27)	1	(9)	5
1996	M	0	(0)	4	(50)	0	(0)	4
	F	1	13	3	(37)	0	(0)	4
1997	M	1	(5)	7	(37)	4	(21)	12
	F	2	(11)	5	(26)	0	(0)	7
1998	M	0	(0)	5	(31)	5	(31)	10
	F	0	(0)	5	(31)	1	(4)	6
1999	M	1	(8)	2	(17)	3	(25)	6
	F	1	(8)	5	(42)	0	(0)	6
2000	M	4	(13)	7	(23)	6	(19)	17
	F	5	(16)	4	(13)	5	(11)	14
2001	M	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-

<sup>a</sup> Many age classes were improperly recorded and therefore not included. Any age class less than 0 or greater than 15 were considered invalid.

Table 13. Mountain lion harvest by method and sex in DAU 2-3, 1993-2001.

Method	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hounds	6	7	2	2	7	2	4	2	11	6	7	2	2	7	2	4	12	8
Incidental	1	2	4	2	0	3	0	2	1	1	2	4	2	0	3	0	0	1
Still Hunt	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0
Unknown	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0
Pred. Call	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Totals	8	10	6	5	7	6	4	4	12	8	10	6	5	7	6	4	14	9

Table 14. Mountain lion harvest by weapon and sex in DAU 2-3, 1993-2001.

Weapon	1993		1994		1995		1996		1997		1998		1999		2000		2001	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Bow	2	0	1	1	2	1	4	2	2	0	1	1	2	1	4	2	4	2
Pistol	2	3	1	0	4	1	4	1	2	3	1	0	4	1	4	1	9	6
Muzzle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	0
Rifle	3	6	5	3	1	4	0	1	3	6	5	3	1	4	0	1	0	3
Total	8	10	8	5	7	6	8	4	8	10	8	5	7	6	8	4	14	11

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>3</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – SOUTHWEST REGION**

**ABSTRACT**

Mandatory harvest reports indicated 149 mountain lions (80 male and 69 female) were harvested within the Southwest Region during the 2001-2002 season. The 2001-2002 harvest was 15% less than that reported in 2000-2001. Fifteen units in the Southwest Region have a female harvest quota. Unit 39 closed to female lion harvest because the initial female lion harvest quota was met, but remained open for male lion harvest. Forty-six percent of the harvest was female lions in 2001-2002. Rifles were the most common weapon used to harvest mountain lions. Guides were used by 21% of the successful mountain lion hunters. Incidental and still hunters harvested 21% of the mountain lions.

**DAU 3-1 (GMUS 22, 24, 31, 32, 32A,38)**

**MANAGEMENT DIRECTION**

Management direction listed in the 1991-1995 Mountain Lion Species Management Plan directed the Department to stabilize harvest rates and reduce female harvest rates by use of all or a combination of the following strategies: establishing harvest goals and/or quotas, reducing the number of nonresident hound hunters, establishing a fiscal year limit of 1 mountain lion, initiating a 3-day waiting period for harvesting a lion after buying a tag, encouraging the selective harvest of males, and reducing season lengths or initiating controlled hunts in units subject to overharvest.

**BACKGROUND**

Lions were considered rare in these game management units in the late 1970s and early 1980s. Like lion populations in other parts of the state, those in DAU 3-1 began increasing dramatically in the early 1990s. Subsequently, lion sightings, depredation occurrences, and sportsmen concerns increased. Conservative seasons adopted in the 1980s were modified to the more liberal seasons currently in place (Table 1). Female lion harvest quotas were implemented in these highly accessible units to allow ample sport harvest opportunity yet protect the lion

populations from overharvest. The use of dogs is allowed in mountain lion take seasons provided there is no open firearm season for deer and elk. In game management units with female lion harvest quotas, a male lion only take season begins when the female quota is met.

### HARVEST CHARACTERISTICS

All successful mountain lion hunters must present the hide and skull of harvested mountain lions to a conservation officer or regional office within 10 days of the date of kill for tagging the hide, extracting a premolar, and canine tooth measurement. Information is also recorded on sex, age, weapon type, hunt method, and date of kill.

Harvest was nearly the same from 2000 to 2001 and was 11% above the 5-year average (Table 2). The proportion of females in the harvest also remained constant. The female lion harvest quota was not met in any of these units in 2001. Thirty-one of the 39 harvested mountain lions were taken during December, January, and February (Table 3). No age information was available for the reporting period (Table 4).

Hunters using rifles and hounds harvest the most lions in the Southwest Region (Table 5). Incidental lion kills have increased and comprised 14% of the harvest in 2001. Most hunters that harvest lions were unguided.

### CLIMATIC CONDITIONS

The 2001-2002 winter period provided mixed mountain lion hunting conditions. Precipitation was over 100% of average in most places with above average snow depths in early December.

### DEPREDATIONS

Most lion depredations are handled by USDA-APHIS Wildlife Services in accordance with the interagency MOU between Wildlife Services and the Department. Depredation records were not available for this reporting period. Lion incident reports have been occurring, but record keeping is sporadic.

### MANAGEMENT IMPLICATIONS

Female lion harvest quotas, implemented to skew lion harvest toward the male component, seem to be working in this DAU. Due to the high accessibility to lion habitat in this DAU, harvest restrictions, such as female harvest quotas, are necessary to maintain viable populations and subsequent hunter satisfaction. Population objectives and hunter desires were reviewed, updated, and incorporated into the 2002-2010 Mountain Lion Species Management Plan. These new parameters will take effect during the next reporting period.

## DAU 3-2 (GMUS 19A, 23, 25, 33, 34, 35, 39)

### MANAGEMENT DIRECTION

Management direction listed in the 1991-1995 Mountain Lion Species Management Plan directed the Department to stabilize harvest rates and reduce female harvest rates by use of all or a combination of the following strategies: establishing harvest goals and/or quotas, reducing the number of nonresident hound hunters, establishing a fiscal year limit of 1 mountain lion, initiating a 3-day waiting period for harvesting a lion after buying a tag, encouraging the selective harvest of males, and reducing season lengths or initiating controlled hunts in units subject to overharvest.

### BACKGROUND

Lions occurred in lower densities in these game management units in the late 1970s and early 1980s. Dispersing lions from the more remote wilderness units were thought to supply these units with huntable lion populations. Like lion populations in other parts of the state, those in DAU 3-2 began increasing dramatically in the early 1990s. Subsequently, lion sightings, depredation occurrences, and sportsmen concerns increased. Conservative seasons adopted in the 1980s were modified to the more liberal seasons currently in place (Table 6). Female lion harvest quotas were implemented in the more accessible units of this DAU to allow ample sport harvest opportunity, but ensure the lion populations would not be over harvested. The use of dogs is allowed in mountain lion take seasons provided there is no open firearm season for deer and elk. . In game management units with female lion harvest quotas, a male lion only take season begins when the female quota is met.

### HARVEST CHARACTERISTICS

All successful mountain lion hunters must present the hide and skull of harvested mountain lions to a conservation officer or regional office within 10 days of the date of kill for tagging the hide, extracting a premolar, and canine tooth measurement. Information is also recorded on sex, age, weapon type, hunt method, and date of kill.

Harvest was nearly the same from 2000 to 2001 and was 9% above the 5-year average (Table 6). The proportion of females in the harvest decreased from 48% in 2000 to 44% in 2001. The female lion harvest quota of 10 was met in Unit 39 and the subsequent male only harvest season was employed. Sixty-three of the 84 (75%) harvested mountain lions were taken during December and January (Table 8). No age information was available for the reporting period (Table 9).

### CLIMATIC CONDITIONS

The 2001-2002 winter period provided mixed mountain lion hunting conditions. Precipitation was over 100% of average in most places with above average snow depths in early December.

## DEPREDATIONS

Most lion depredations are handled by USDA-APHIS Wildlife Services in accordance with the interagency MOU between Wildlife Services and the Department. Depredation records were not available for this reporting period. Lion incident reports have been occurring, but record keeping is sporadic.

## MANAGEMENT IMPLICATIONS

Quotas on female lion harvest, implemented to skew lion harvest toward the male component, seem to be working in most of the units in this DAU. Harvest restrictions, such as female harvest quotas, are necessary primarily in Units 23 and 39 to maintain viable populations and subsequent hunter satisfaction. Removal or extension of quotas in these units will allow for short term increases in hunter opportunity, but will most likely result in hunter dissatisfaction if continued for any length of time. Population objectives and hunter desires were reviewed, updated, and incorporated into the 2002-2010 Mountain Lion Species Management Plan. These new parameters will take effect during the next reporting period.

### **DAU 3-3 (GMUS 20A, 26)**

## MANAGEMENT DIRECTION

Management direction listed in the 1991-1995 Mountain Lion Species Management Plan directed the Department to stabilize harvest rates and reduce female harvest rates by use of all or a combination of the following strategies: establishing harvest goals and/or quotas, reducing the number of nonresident hound hunters, establishing a fiscal year limit of 1 mountain lion, initiating a 3-day waiting period for harvesting a lion after buying a tag, encouraging the selective harvest of males, and reducing season lengths or initiating controlled hunts in units subject to overharvest.

## BACKGROUND

DAU 3-3 is characterized by limited access and rugged topography, almost totally within the Frank Church River of No Return Wilderness boundaries. Research data indicate mountain lion populations in this area are self-regulating, contributing emigrating animals to surrounding game management units. Wolves were reintroduced as predators in DAU 3-3 in 1995. The coexistence of these species has not been determined to date. The current structure of long seasons and 2 lion bag limits were implemented in this DAU in response to sportsmen's concerns about declining ungulate recruitment (Table 10). The use of dogs is allowed in mountain lion take seasons after 31 October.

## HARVEST CHARACTERISTICS

All successful mountain lion hunters must present the hide and skull of harvested mountain lions to a conservation officer or regional office within 10 days of the date of kill for tagging the hide,

extracting a premolar, and canine tooth measurement. Information is also recorded on sex, age, weapon type, hunt method, and date of kill.

Harvest decreased 50% from 2000 to 2001 and was 29% above the 5-year average (Table 11). The proportion of females in the harvest was 60% in 2001. Three of the 5 (60%) harvested mountain lions were taken in February (Table 12). No age information was available for the reporting period (Table 13).

#### CLIMATIC CONDITIONS

The 2001-2002 winter period provided mixed mountain lion hunting conditions. Precipitation was over 100% of average in most places with above average snow depths in early December.

#### DEPREDATIONS

Depredations rarely occur in this area due to its remote nature and lack of domestic livestock activities.

#### MANAGEMENT IMPLICATIONS

The remote nature of this DAU makes it unlikely that sport harvest can regulate lion population numbers. The establishment of wolf packs will likely have the greatest effect on lion populations in this area. Monitoring of this effect is needed. Population objectives and hunter desires were reviewed, updated, and incorporated into the 2002-2010 Mountain Lion Species Management Plan. These new parameters will take effect during the next reporting period.

#### **DAU 3-4 (GMUS 40, 41, 42)**

#### MANAGEMENT DIRECTION

Management direction listed in the 1991-1995 Mountain Lion Species Management Plan directed the Department to stabilize harvest rates and reduce female harvest rates by use of all or a combination of the following strategies: establishing harvest goals and/or quotas, reducing the number of nonresident hound hunters, establishing a fiscal year limit of 1 mountain lion, initiating a 3-day waiting period for harvesting a lion after buying a tag, encouraging the selective harvest of males, and reducing season lengths or initiating controlled hunts in units subject to overharvest.

#### BACKGROUND

DAU 3-4 encompasses the southwest portion of Idaho. Habitats are generally dry and range from desert to distinctly dry forest. The general scarcity of trees and presence of cliffs and other rocky features make mountain lions more difficult to capture because they are forced to seek shelter in rocks more often than in other areas of Idaho. Access roads often do not traverse big game winter ranges, and most mountain lion habitat is not close to major human population

centers. Another characteristic that sets DAU 3-4 apart from other areas in the Southwest Region is that elk are either absent or relatively scarce, and deer are the major big game prey species for mountain lions. A spike in female lion harvest in the mid-1990s, due in part to increased success of professionally guided sportsmen, led to the current season framework that includes female lion harvest quotas (Table 14). The use of dogs is allowed in mountain lion take seasons provided there is no open firearm season for deer and elk. In game management units with female lion harvest quotas, a male lion only take season begins when the female quota is met.

## HARVEST CHARACTERISTICS

All successful mountain lion hunters must present the hide and skull of harvested mountain lions to a conservation officer or regional office within 10 days of the date of kill for tagging the hide and canine tooth measurement for age estimation. Information is recorded on sex, age, weapon type, hunt type (guided, unguided, hounds, still, incidental), and date of kill.

Harvest decreased 50% from 2000 to 2001 and was 22% below the 5-year average (Table 15). The proportion of females in the harvest remained nearly the same. The female lion harvest quota of 10 was not met in the 2001-2002 season. Seventeen of the 21 (81%) harvested mountain lions were taken during December and January (Table 16). No age information was available for the reporting period (Table 17).

## CLIMATIC CONDITIONS

The 2001-2002 winter period provided mixed mountain lion hunting conditions. Precipitation was over 100% of average in most places with above average snow depths in early December. These conditions may have contributed to the reduction in lion harvest in the 2001 season.

## DEPREDATIONS

Depredations rarely occur in this area due to its remote nature and lack of domestic sheep grazing activities.

## MANAGEMENT IMPLICATIONS

Quotas on female lion harvest, implemented to skew lion harvest toward the male component, seem to be working in most of the units in this DAU. Harvest restrictions, such as female harvest quotas, are necessary primarily in Unit 40 to maintain viable populations and subsequent hunter satisfaction. Removal or extension of quotas in these unit will allow for short term increases in hunter opportunity, but will most likely result in hunter dissatisfaction if continued for any length of time. Population objectives and hunter desires were reviewed, updated, and incorporated into the 2002-2010 Mountain Lion Species Management Plan. These new parameters will take effect during the next reporting period.

Table 1. Mountain lion season structure for DAU 3-1 during 2001-2002.

Unit	Take Season	Season Length	Harvest Quota
22	30 August – 31 March	214 days	6 Females
24	30 August – 31 March	214 days	5 Females
31, 32	30 August – 31 March	214 days	7 Females
32A	30 August – 31 March	214 days	5 Females
38	30 August – 31 March	214 days	5 Females

Table 2. Mountain lion harvest in DAU 3-1<sup>a</sup>, 1997-2001 in the Southwest Region.

Year	Males	Females	Total	% Female
1997	26	12	38	32
1998	12	16	28	57
1999	20	13	33	39
2000	21	16	37	43
2001	22	17	39	44
1997-2001 Average	20	15	35	43

<sup>a</sup> Game Management Units 22, 24, 31, 32, 32A and 38.

Table 3. Mountain lion harvest by sex and unit in DAU 3-1 for the Southwest Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
22	M	1	0	0	2	1	3	2	9
	F	1	0	0	6	1	0	0	8
24	M	0	0	1	0	0	0	0	1
	F	0	0	0	0	0	1	0	1
31	M	0	0	0	4	2	0	0	6
	F	0	0	0	2	0	0	0	2
32	M	0	1	0	2	1	0	0	4
	F	0	1	0	1	2	1	1	6
32A	M	0	0	0	2	0	0	0	2
	F	0	0	0	0	0	0	0	0
38	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
Total	M	1	1	1	10	4	3	2	22
	F	1	1	0	9	3	2	1	17

Table 4. Values of the 2002-2010 lion management plan age criteria for DAU 3-1<sup>a</sup> for the Southwest Region, 1999-2001.

Year	N <sup>b</sup>	% Females	Cohort Age Structure			% Males $\geq 5$	# Males	N <sup>c</sup>
			% $\leq 1$	% 2-4	% $\geq 5$			
1999	33	39	33	33	33	50	14	9
2000	37	43	11	78	11	0	21	19
2001	39	44	-	-	-	-	22	<sup>d</sup>
1999-2001 avg.	-	42	-	-	-	-	-	-
Desired levels	-	<40	-	-	-	>20	-	-

Table 5. Mountain lion harvest by method in the Southwest Region<sup>a</sup> during 2001-2002.

Method	Males	Females	Total
Weapon			
Rifle	41	43	84
Bow	9	4	13
Muzzleloader	1	1	2
Pistol	23	17	40
Other	6	4	10
Guided			
Yes	18	13	31
No	62	56	118
Method			
Still	3	8	11
Incidental	8	13	21
Predator Call	1	0	1
Hounds	67	47	114
Other	1	1	2

<sup>a</sup> Game Management Units 19A, 22, 23, 24, 25, 26, 31, 32, 32A, 33, 34, 35, 38, 39, 40, 41, and 42.

Table 6. Mountain lion season structure for DAU 3-2 during 2001-2002.

Unit	Take Season	Season Length	Harvest Quota
19A	30 August – 31 March	214 days	None
23	30 August – 31 March	214 days	8 Females
25	30 August – 31 March	214 days	8 Females
33, 34, 35	30 August – 31 March	214 days	15 Females
39	30 August – 31 March	214 days	10 Females

Table 7. Mountain lion harvest in DAU 3-2<sup>a</sup>, 1997-2001 in the Southwest Region.

Year	Males	Females	Total	% Female
1997	49	25	74	34
1998	47	26	73	36
1999	40	24	64	38
2000	45	41	86	48
2001	47	37	84	44
1997-2001 Average	46	31	77	40

<sup>a</sup> Game Management Units 19A, 23, 25, 33, 34, 35, and 39.

Table 8. Mountain lion harvest by sex and unit in DAU 3-2 for the Southwest Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
19A	M	0	0	0	0	1	2	0	3
	F	0	0	0	0	2	0	0	2
23	M	1	1	0	0	2	2	1	7
	F	0	0	1	1	2	2	1	7
25	M	0	1	0	1	2	0	1	5
	F	0	0	0	1	1	1	0	3
33	M	0	0	0	2	1	5	1	9
	F	0	0	0	4	0	1	0	5
34	M	0	0	0	0	0	0	0	0
	F	0	1	0	0	0	0	0	1
35	M	0	0	1	1	1	1	0	4
	F	0	0	0	3	1	0	0	4
39	M	1	3	3	8	2	3	0	20
	F	0	4	0	7	3	0	1	15
Total	M	2	5	4	12	9	13	3	48
	F	0	5	1	16	9	4	2	37

Table 9. Values of the 2002-2010 lion management plan age criteria for DAU 3-2<sup>a</sup> for the Southwest Region, 1999-2001.

Year	N <sup>b</sup>	% Females	Cohort Age Structure			% Males $\geq 5$	# Males	N <sup>c</sup>
			% $\leq 1$	% 2-4	% $\geq 5$			
1999	64	38	18	64	18	9	40	17
2000	86	48	12	59	29	19	45	41
2001	84	44	-	-	-	-	47	<sup>d</sup>
1999-2001 avg.	-	44	-	-	-	-	-	-
Desired levels	-	<40	-	-	-	>20	-	-

<sup>a</sup> Game Management Units 19A, 23, 25, 33, 34, 35, and 39.

<sup>b</sup> Number of lions that were sexed (excluding unknowns).

<sup>c</sup> Number of lions that were aged (excluding unknowns).

<sup>d</sup> Age data not available at time of reporting.

Table 10. Mountain lion season structure for DAU 3-3 during 2001-2002.

Unit	Take Season	Season Length	Harvest Quota
20A <sup>a</sup>	30 August – 30 April	244 days	None
26 <sup>a</sup>	30 August – 30 April	244 days	None

<sup>a</sup> 2 lion bag limit.

Table 11. Mountain lion harvest in Area 3-3<sup>a</sup>, 1997-2001 in the Southwest Region.

Year	Males	Females	Total	% Female
1997	3	3	6	50
1998	0	3	3	100
1999	3	6	9	67
2000	4	6	10	60
2001	2	3	5	60
1997-2001 Average	2	4	6	67

<sup>a</sup> Game Management Units 20A and 26.

Table 12. Mountain lion harvest by sex and unit in Area 3-3 for the Southwest Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
20A	M	1	0	0	0	0	0	0	1
	F	1	0	0	0	0	1	0	2
26	M	0	0	0	0	0	1	0	1
	F	0	0	0	0	0	1	0	1
Total	M	1	0	0	0	0	1	0	2
	F	1	0	0	0	0	2	0	3

Table 13. Values of the 2002-2010 lion management plan age criteria for DAU 3-3<sup>a</sup> for the Southwest Region, 1999-2001

Year	N <sup>b</sup>	% Females	Cohort Age Structure			% Males $\geq 5$	# Males	N <sup>c</sup>
			% $\leq 1$	% 2-4	% $\geq 5$			
1999	9	67	0	50	50	50	3	4
2000	10	60	0	50	50	50	4	8
2001	5	60	-	-	-	-	2	<sup>d</sup>
1999-2001 avg.	-	63	-	-	-	-	-	-
Desired levels	-	<40	-	-	-	>20	-	-

<sup>a</sup> Game Management Units 20A and 26.

<sup>b</sup> Number of lions that were sexed (excluding unknowns).

<sup>c</sup> Number of lions that were aged (excluding unknowns).

<sup>d</sup> Age data not available at time of reporting.

Table 14. Mountain lion season structure for DAU 3-4 during 2001-2002.

Unit	Take Season	Season Length	Harvest Quota
40	30 August – 31 March	214 days	15 Females
41, 42	30 August – 31 March	214 days	10 Females

Table 15. Mountain lion harvest in Area 3-4<sup>a</sup>, 1997-2001 in the Southwest Region.

Year	Males	Females	Total	% Female
1997	4	10	14	71
1998	9	8	17	47
1999	24	15	39	38
2000	19	23	42	55
2001	9	12	21	57
1997-2001 Average	13	14	27	52

<sup>a</sup> Game Management Units 40, 41, and 42.

Table 16. Mountain lion harvest by sex and unit in DAU 3-4 for the Southwest Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
40	M	0	0	0	5	1	1	0	7
	F	0	0	1	2	4	1	1	9
41	M	0	0	0	0	1	0	1	2
	F	0	0	0	1	0	1	0	2
42	M	0	0	0	0	0	0	0	0
	F	1	0	0	0	0	0	0	1
Total	M	0	0	0	5	2	1	1	9
	F	1	0	1	3	4	2	1	12

Table 17. Values of the 2002-2010 lion management plan age criteria for DAU 3-4<sup>a</sup> for the Southwest Region, 1999-2001.

Year	N <sup>b</sup>	% Females	Cohort Age Structure			% Males $\geq 5$	# Males	N <sup>c</sup>
			% $\leq 1$	% 2-4	% $\geq 5$			
1999	39	38	-	-	-	-	24	-
2000	42	55	0	56	44	50	19	16
2001	21	57	-	-	-	-	9	<sup>d</sup>
1999-2001 avg.	-	49	-	-	-	-	-	-
Desired levels	-	<40	-	-	-	>20	-	-

<sup>a</sup> Game Management Units 40, 41, and 42.

<sup>b</sup> Number of lions that were sexed (excluding unknowns).

<sup>c</sup> Number of lions that were aged (excluding unknowns).

<sup>d</sup> Age data not available at time of reporting.

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>4</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – MAGIC VALLEY REGION**

**ABSTRACT**

Mandatory reports indicated a hunter harvest of 43 mountain lions in the Magic Valley Region during the 2001-2002 season, an increase of 23% from the 2000-2001 season when 35 mountain lions were taken in the region. Six mountain lions were hunter harvested in DAU 4-1, 30 in DAU 4-2, 5 in DAU 4-3, and 2 in the Unit 49 portion of DAU 4-4. Two other mountain lions were killed in the region during 2001-2002; 1 was taken in response to a perceived livestock and human threat and 1 was found dead. The female quota was reached in 3 quota areas. Units 43, 44, 48, 49 closed on 10 February 2002, Units 45, 52, 52A, 53 closed on 27 February 2002, and Units 56, 57 closed on 29 December 2001.

The best hunting conditions occurred during December and January during which 65% of the harvest occurred. Twenty of 43 (46%) mountain lions checked in 2001-2002 were females. Hound hunting accounted for 29 (67%) of the hunter-harvested mountain lions in the region.

**DAU 4-1 (GMUS 43, 44, 45, 48)**

**MANAGEMENT DIRECTION**

Management Objectives

1. Stabilize harvest rates.
2. Reduce the female component of the harvest to 25-35%.

**BACKGROUND**

Historical Information

DAU 4-1 units have accounted for only 16% of the mountain lion harvest in the Magic Valley Region over the last 10 years (Table 1). Prior to 1994, most mountain lion depredations on livestock occurred in these units; however, in recent years, depredations have been rare.

## Season Structure

General	9/15-3/31	43, 44, 48, (49) 45, (52, 52A, 53)	3-female quota 3-female quota
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Note: Units in parenthesis are not in the 1991-1995 Mountain Lion Management Plan management area, but are grouped for female quota purposes. Unit 49 data is presented under DAU 4-4.

## HARVEST CHARACTERISTICS

The 2001-2002 harvest in DAU 4-1 equaled the 10-year average (Table 1). Six hunter-harvested mountain lions (3 males and 3 females) were checked from DAU 4-1; 3 from Unit 43, 1 from Unit 44, and 2 from Unit 45. One lion was taken in each of the months October, November, December, and January. February was the only month in mid-winter when 2 or more lions were taken (Table 2). Only 2 years (1999 and 2000) of tooth age data has been compiled since tooth drop indices were discontinued and tooth cementum measurements were begun. Percent females in the harvest for the 2-year period indicate females are being taken at the maximum number desired under the 2002-2010 lion management plan age criteria while percent males in the harvest were well within the desired harvest level (Table 3). Hunting access became very restricted by heavy snow accumulations in late November and early December. Snow levels decreased during late January and February, improving hunter access in late winter. Three of the 6 mountain lions harvested in this area were taken incidental to other hunting activities, 2 with hounds, and 1 other (Table 4).

## DEPREDATIONS

The Department did not receive any official depredation complaints in these units.

## MANAGEMENT IMPLICATIONS

A 3-female quota was implemented for the 3 combined units for the 1994-1995 season to help meet the objective of controlling female harvest. The quota was met for the 1994-1995 season but not for the 1995-1996 season. The grouping of units for female quotas was changed for the 1996-1997 season to help increase mountain lion harvest. Unit 49 was added to Units 43 and 44 while Unit 45 was added to a new group, which included Units 52, 52A, and 53. Three-female quotas were implemented for both harvest groups. Harvest was allowed for the first time in Unit 48 during the 1999-2000 season. Unit 48 was added to the female quota group that includes Units 43, 44, and 49. The female quota for the 2001-2002 season was met in the 43, 44, 48, and 49 group of units on 10 February 2002 and on 27 February 2002 in Units 45, 52, 52A, and 53. Harvest is influenced largely by snow conditions. Units 43, 44, 48, and 49 typically have very limited access after mid-December; however, in 2001-2002, access improved in late winter throughout all of these units. The other four units generally have good access throughout every winter. Once tooth cementum age data is compiled for 2001, harvest levels for this DAU can be

analyzed and evaluated to determine if harvest is meeting the 2002-2010 lion management plan criteria.

## **DAU 4-2 (GMUS 46, 47, 54, 55)**

### MANAGEMENT DIRECTION

#### Management Objectives

1. Decrease or stabilize populations.
2. Reduce the female component of the harvest to 25-35%.

### BACKGROUND

#### Historical Information

Units 46, 47, 54, and 55 have accounted for about 64% of the mountain lion harvest in the Magic Valley Region during the last 10 years (Table 5). Unit 54 has consistently had the highest annual mountain lion harvest of any GMU in the region. Until 1996, when mountain lion seasons were lengthened throughout the Magic Valley Region, Units 46, 47, and 54 had the most liberal seasons, staying open through February.

A 1-female harvest quota was placed on Unit 55 beginning in 1989. The quota was implemented to address concerns raised by Idaho State University's ongoing research project. The quota was filled in 1990-1991 (6 November), 1992-1993 (31 December), and 1993-1994 (18 November) but not in 1989-1990 or 1991-1992. The Unit 55 quota was increased to 3 females in 1994-1995 and the season was closed on 15 January and in 1995-1996 was closed on 6 February. In the 1996-1997 season, Units 55, 56, and 57 were grouped together to increase harvest (7-female quota). The units were regrouped again in 1997-1998 with an increased female quota for additional harvest (Unit 55, 6 females and Units 56 and 57, 3 females). Seasons and quotas have remained the same since the 1997-1998 season.

#### Season Structure

General	9/15-3/31	46, 47	3-female quota
		54	6-female quota
		55	6-female quota

#### Management Studies

Idaho State University personnel continued their research on mountain lions in Units 55, 56, and 57. This study has been ongoing since 1986. Research summaries are presented in annual progress reports from Idaho State University.

## HARVEST CHARACTERISTICS

The reported harvest of 30 mountain lions in 2001-2002 was 100% higher than the previous year and 29% higher than the 10-year average. Unit 54 traditionally accounts for the highest percentage of the harvest in these units, however in 2001-2002, it only accounted for 37% of the harvest while Unit 55 accounted for 40% of the harvest. In 2001-2002, 2 mountain lions were taken in Unit 46, 5 in Unit 47, 11 in Unit 54, and 12 in Unit 55. Females accounted for 40% of the 2001-2002 harvest, which is slightly below the 10-year average of 41% (Table 5). Only two years (1999 and 2000) of tooth age data has been compiled since tooth drop indices were discontinued and tooth cementum measurements were begun. Percent females in the harvest for the 2-year period indicate females are being harvested slightly above the desired harvest level under the 2002-2010 lion management plan age criteria while percent males in the harvest was well below the desired harvest level (Table 6). Sixty-seven percent (20/30) of the harvest occurred during December and January when tracking conditions were best (Table 2). Hound hunting accounted for 22 of the 30 mountain lions (73%) harvested in this area (Table 4).

## DEPREDATIONS

Historically, mountain lion depredations were uncommon in these units compared to the northern Magic Valley Region units. However, following the decline in mule deer numbers in 1993, mountain lion depredations on domestic livestock increased. From 1993-1995, sheepherders or Wildlife Services personnel killed 8 mountain lions. From 1996-1999, 6 problem mountain lions were killed in Unit 54 by Noh Sheep Co. and a claim of \$1,425 was paid in 1996-1997. During the 2001-2002 reporting period, no lion depredation complaints were received.

## MANAGEMENT IMPLICATIONS

Mountain lion populations appear to have increased for the 4 years prior to the 1997-1998 season, as evidenced by increased harvest, increased depredation complaints, and an increase in mountain lion observations by the public. Population levels of mountain lions between 1998 and 2001 appeared to stabilize or slightly decrease based on harvest data and reports from mountain lion hunters. Once tooth cementum age data is compiled for 2001, harvest levels for this DAU can be analyzed and evaluated to determine if harvest is meeting the 2002-2010 lion management plan criteria. In the 2001-2002 season, it appears above normal snow accumulations in December and January improved hunting conditions leading to increased harvest. Liberal harvest strategies will be continued for the 2002-2003 season.

### **DAU 4-3 (GMUS 56, 57)**

## MANAGEMENT DIRECTION

### Management Objectives

1. Reduce or stabilize the mountain lion population.
2. Reduce the female harvest to 25-35% of the total harvest.

## BACKGROUND

### Historical Information

Unit 57 has been open to general mountain lion hunting since 1981. Unit 56 was closed to take seasons in 1981 and 1982 and from 1986-1992. Pursuit seasons were authorized in Unit 56 in 1991 and 1992 at the request of mountain lion hunters to learn more about mountain lion populations in the unit. Based on comments from houndsmen and field personnel, Unit 56 was determined to have an adequate mountain lion population to sustain limited harvest. A 1-female quota was placed on Unit 56 and adjacent Unit 57 for the 1992-1994 seasons to minimize harvest. The quota was raised to 2 females for the 1994-1995 and 1995-1996 seasons based on ongoing research and hunter observations. In 1996-1997, Units 56 and 57 were grouped with Unit 55 for female quota purposes and the female quota was set at 7, a net increase of 2 from the combined unit quotas in 1995-1996. In 1997-1998, Units 56 and 57 were grouped separately from Unit 55 for female quota purposes and the quotas were set at 3 and 6, respectively. No changes have been made to the season length or female quota since that time.

### Season Structure

General	9/15-3/31	56, 57	3-female quota
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## HARVEST CHARACTERISTICS

A harvest of 5 mountain lions was reported for these units in 2001-2002, which is slightly below the 10-year average (Table 7). One hundred percent of reported harvest was females (Table 2). Only two years (1999 and 2000) of tooth age data has been compiled since tooth drop indices were discontinued and tooth cementum measurements were begun. Percent females in the harvest for the 2-year period indicate females are being harvested above the desired harvest level under the 2002-2010 lion management plan age criteria while percent males in the harvest was below the desired harvest level (Table 8). Eighty percent of the mountain lions were taken in December and January (Table 2). Four of the 5 mountain lions harvested were taken with hounds (Table 4). The 3-female quota was met on 29 December 2001.

## DEPREDATIONS

No depredations were reported in these units.

## MANAGEMENT IMPLICATIONS

Once tooth cementum age data is compiled for 2001, harvest levels for this DAU can be analyzed and evaluated to determine if harvest is meeting the 2002-2010 lion management plan criteria. These units will remain grouped together and will maintain a 3-female quota for the 2002-2003 season.

## DAU 4-4 (GMU 49)

### MANAGEMENT DIRECTION

#### Management Objectives

1. Stabilize harvest rates.
2. Reduce the female component of the harvest to 25-35% of the total harvest.

### BACKGROUND

#### Historical Information

Unit 49 was closed to mountain lion hunting from 1976-1988. An increase in mountain lion observations by Department and Wildlife Services field personnel, deer and elk hunters, and bobcat trappers prompted the season to be opened in 1988-1989. Mountain lion depredations on livestock in this unit have been infrequent. For the 1994-1995 and 1995-1996 seasons, Unit 49 was combined with Units 50 and 51 with a 3-female quota. During the 1996-1997 season, Unit 49 was combined with Units 43 and 44 with a 3-female quota. In the 1999-2000 season, Unit 48 was added to this group of units for female quota purposes.

#### Season Structure

General	9/15-3/31	49 (43, 44, 48)	3-female quota
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Note: Units in parenthesis are not grouped with Unit 49 in the 1991-1995 Mountain Lion Management Plan management area, but are grouped for female quota purposes. Data presented are only for units in DAU 4-4.

### HARVEST CHARACTERISTICS

Two mountain lions were harvested in Unit 49 during the 2001-2002 season (Table 9). Only two years (1999 and 2000) of tooth age data has been compiled since tooth drop indices were discontinued and tooth cementum measurements were begun. Percent females in the harvest for the 2-year period indicate females are being harvested below the desired harvest level under the 2002-2010 lion management plan age criteria while percent males in the harvest was within the desired harvest level (Table 10). The 3-female quota was met on 10 February 2002. Units 50 and 51 are managed by the Upper Snake Region and are reported elsewhere in this report.

### DEPREDATIONS

No depredations were reported in this unit.

## MANAGEMENT IMPLICATIONS

Harvest in Unit 49 has typically been light with only 19 mountain lions taken since 1992. Snow conditions and access continue to play a substantial role in mountain lion harvest in this unit. Once tooth cementum age data is compiled for 2001, harvest levels for this DAU can be analyzed and evaluated to determine if harvest is meeting the 2002-2010 lion management plan criteria. Unit 49 will continue to be grouped with Units 43, 44, and 48 for the purpose of establishing female quotas.

Table 1. Mountain lion harvest in DAU 4-1, Magic Valley Region, 1992-2001.

Year	Males	Females	Total	% Female
1992	1	1	2	50
1993	1	1	2	50
1994	2	3	5	60
1995	5	2	7	29
1996	2	1	3	33
1997	3	5	8	63
1998	4	0	4	0
1999	5	2	7	29
2000	8	5	13	38
2001	3	3	6	50
1992-2001 Average	3	2	6	33

Table 2. Mountain lion harvest by sex, unit, and month for the Magic Valley Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
43	M	0	0	0	1	0	0	0	1
	F	0	0	1	0	1	0	0	2
44	M	0	1	0	0	0	0	0	1
	F	0	0	0	0	0	0	0	0
45	M	0	0	0	0	0	1	0	1
	F	0	0	0	0	0	1	0	1
46	M	0	0	0	1	0	0	0	1
	F	0	0	0	0	0	1	0	1
47	M	0	0	0	2	1	0	1	4
	F	0	0	0	0	1	0	0	1
48	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
49	M	0	0	0	1	1	0	0	2
	F	0	0	0	0	0	0	0	0
52	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
52A	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
54	M	0	0	1	3	1	1	0	6
	F	0	0	0	1	1	3	0	5
55	M	0	0	1	3	2	0	1	7
	F	0	1	0	0	4	0	0	5
56	M	0	0	0	0	0	0	0	0
	F	0	1	0	0	2	0	0	3
57	M	0	0	0	0	0	0	0	0
	F	0	0	0	2	0	0	0	2
Total	M	0	1	2	11	5	2	2	23
	F	0	2	1	3	9	5	0	20

Table 3. Values of the 2002-2010 lion management plan age criteria for DAU 4-1, 1999-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			# Males $\geq 5$
			% K-1	% 2-4	% Males $\geq 5$	
1999	4	25	25	75	0	0
2000	7	57	29	43	33	1
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	$\leq 40$	-	-	$> 20$	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 4. Mountain lion harvest by method in the Magic Valley Region during 2001-2002.

Method	Males	Females	Total
Weapon			
Rifle	9	11	20
Bow	5	4	9
Muzzleloader	0	0	0
Pistol	8	5	13
Other	1	0	1
Guided			
Yes	3	1	4
No	20	19	39
Method			
Still	4	0	4
Incidental	3	5	8
Predator Call	0	0	0
Hounds	14	15	29
Other	2	0	2

Table 5. Mountain lion harvest in DAU 4-2, Magic Valley Region, 1992-2001.

Year	Males	Females	Total	% Female
1992	13	8	21	38
1993	10	8	18	44
1994	14	8	22	36
1995	18	9	27	33
1996	20	10	30	33
1997	13	13	26	50
1998	8	10	18	56
1999	14	11	25	44
2000	8	7	15	47
2001	18	12	30	40
1992-2001 Average	14	10	23	43

Table 6. Values of the 2002-2010 lion management plan age criteria for DAU 4-2, 1999-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq$ 5	# Males $\geq$ 5
1999	16	31	12	59	9	1
2000	13	61	15	69	0	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	$\leq$ 40	-	-	$>$ 20	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 7. Mountain lion harvest in DAU 4-3, Magic Valley Region, 1992-2001.

Year	Males	Females	Total	% Female
1992	0	0	0	0
1993	4	0	4	0
1994	4	0	4	0
1995	8	0	8	0
1996	5	5	10	50
1997	2	3	5	60
1998	6	3	9	33
1999	2	2	4	50
2000	2	3	5	60
2001	0	5	5	100
1992-2001 Average	3	2	5	40

Table 8. Values of the 2002-2010 lion management plan age criteria for DAU 4-3, 1999-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq$ 5	# Males $\geq$ 5
1999	2	50	0	100	0	0
2000	5	60	20	60	40	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	$\leq$ 40	-	-	$>$ 20	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 9. Mountain lion harvest in Unit 49 (DAU 4-4), Magic Valley Region, 1992-2001.

Year	Males	Females	Total	% Female
1992	0	0	0	0
1993	1	0	1	0
1994	2	0	2	0
1995	1	0	1	0
1996	2	3	5	60
1997	0	0	0	0
1998	3	1	4	25
1999	2	0	2	0
2000	2	0	2	0
2001	2	0	2	0
1992-2001 Average	2	0	2	0

Table 10. Values of the 2002-2010 lion management plan age criteria for DAU 4-4 (Unit 49 only), 1999-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq 5$	# Males $\geq 5$
1999	2	0	0	50	50	1
2000	2	0	0	100	0	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	$\leq 40$	-	-	$> 20$	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>5</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – SOUTHEAST REGION**

**ABSTRACT**

During the report period, the female harvest quota first initiated in 1991 was again instituted with a region-wide female harvest quota of 20. The west district quota of 15 females was not reached, but the east district quota of 5 females was reached in December 2001.

Twenty-six mountain lions (15 males and 11 females) were reported harvested in the Southeast Region during the report period. Two other mountain lion mortalities were documented, including 1 killed for being near livestock and 1 killed by another lion.

**DAU 5-1 (GMUS 66A, 70, 71, 72, 73, 73A, 74, 75, 76, 77, 78)**

**MANAGEMENT DIRECTION**

From 1991 through 1995, Southeast Region management followed direction from the 1991-1995 Mountain Lion Management Plan: maintain populations and reduce/stabilize the harvest rate, especially on the female component. Specific quantitative statewide objectives are to reduce and stabilize current harvest to within 25% of 250 on a 3-year running average, and to reduce the female component of the harvest to 25-35%. Since 1996, the Idaho Fish and Game Commission, responding to increased mountain lion sightings, increasing livestock depredations, and deer hunter concerns, has set more liberal seasons in southeast Idaho.

**BACKGROUND**

The mountain lion was first classified as a big game species in Idaho in 1972. Mountain lion tags have been required since 1975. Mountain lion numbers are believed to have been low in the Southeast Region during the 1950s and 1960s when annual harvest in eastern Idaho averaged from 2-4 animals. Population information is sparse; however, increased sightings, increased depredations, and increased harvest all suggest that mountain lion populations have increased over recent historic levels. Populations of one prey species, the mule deer, fluctuate widely and are currently at moderate levels. A large livestock industry in southeastern Idaho and the

concern for depredations has and will probably continue to influence mountain lion populations and management.

From 1991-1997 and again in 1999-2000, the region was divided into a west district (Units 70, 71, 73, 73A, 74) and an east district (Units 66A, 72, 75, 76, 77, 78), with a female harvest quota for each district. In 1999, Unit 74 was moved from the western to eastern quota district. Quotas have varied from 2 females per district several years ago to 15 in the west and 5 in the east during the report period. A district remains open until the female quota has been reached or the end of the season, whichever occurs first. If the female quota is reached prior to the closing date, pursuit-only is allowed until the close of the season. It is mandatory that all mountain lions harvested by hunters are checked and pelts tagged by the Department. Harvest data and characteristics are taken from these mandatory checks.

Units 70, 71, 73, and 73A have served as ‘mountain lion harvest treatments’ for the mule deer research project initiated in 1998. Management is intended to maintain relatively higher harvest than in adjacent ‘control’ units with lower harvest levels.

Season Structure

General	9/15-3/31	66A, 72, 74, 75, 76, 77, 78	5-female quota
		70, 71, 73, 73A	15-female quota

HARVEST CHARACTERISTICS

Twenty-six mountain lions comprised of 15 males and 11 females were reported harvested in the Southeast Region during the 2001-2002 season (Table 1). The 42% female harvest was at the 10-year region-wide average of 41%. Slightly higher percentages of males are checked during years with female quotas than during years without, perhaps showing some selection in the harvest by hunters.

Units 73 and 73A accounted for 46% (12 of 26) of the mountain lions taken (Table 2). Most mountain lions taken in the report period (13 of 26) were taken in November or December. The western district quota of 15 females was not reached during the reporting period as only 6 females were taken, whereas the eastern district quota was reached (5 females harvested) in December 2001.

A tooth is pulled from each mountain lion taken and cement annuli is used to determine age. During the 2000-2001 hunting season, teeth were taken from 33 of the 41 mountain lions (Table 3). Females made up 49% of the harvest, males  $\geq 5$ , 11%.

As with most years, most (18 of 26) mountain lions harvested in 2001-2002 were taken by hunters using hounds (Table 4). Only 4 of the mountain lions harvested were taken with the use of paid guides. Two other nonhunting mortalities were recorded. One mountain lion was taken by Wildlife Services because of depredations and 1 was killed by another lion.

## CLIMATIC CONDITIONS

Presence or absence of snow for tracking can have a significant effect on mountain lion harvest in some areas. Lower snow depths can permit access to more areas that can be searched for tracks. Conversely, adequate snow levels make tracking more efficient.

Snow pack measurements taken during 2001-2002 were 70-80% of normal for the 30-year average in both the Snake River (northern portion of the region) and Great Basin (southern portion) watersheds.

## DEPREDATIONS

The Wildlife Services branch of USDA Animal and Plant Health Inspection Service continues to respond to mountain lion depredation issues in concert with the Department. One mountain lion was killed by Wildlife Services for depredations during the reporting period.

## MANAGEMENT IMPLICATIONS

During the period 1981 through 1990, the annual harvest of mountain lions in the region averaged 6.5, ranging between 0 and 17. Seventeen mountain lions were reported harvested in 1990, prompting the establishment of a female quota beginning in 1991. As the quotas were gradually increased during the 1990s, the harvest increased. The 1991 through 1997 average annual harvest was 18.7. A record high harvest of 22 mountain lions occurred in 1996. Concern about impacts to deer herds from predation prompted a conservative increase in the quota the following year and harvest doubled to 44. Following removal of the quota in 1998-1999, harvest increased to 94. Reinstitution of the quota during the reporting period coincided with a nearly two-thirds reduction in overall harvest.

Male/female ratios in the harvest have generally ranged between 2:1 and 1:1. The 42% female harvest during the reporting period is comparable to recent years. Effects to the mountain lion population of recent record-level harvests are unknown. Tracking the age structure within the harvest to identify changes in mountain lion population structure will continue to be important.

Table 1. Mountain lion harvest in DAU 5-1, 2001-2002, in the Southeast Region.

Year	Males	Females	Total	% Female
1992	5	4	9	44
1993 <sup>a</sup>	7	5	12	42
1994	12	4	16	25
1995 <sup>a</sup>	9	6	15	40
1996 <sup>a</sup>	13	9	22	41
1997 <sup>a</sup>	29	15	44	34
1998	51	43	94	46
1999	21	16	37	43
2000	21	20	41	49
2001	15	11	26	42
1992-2001 Average	18	13	32	41

<sup>a</sup> The harvest quota was exceeded when multiple females from the same group of units were reported on the same day.

Table 2. Mountain lion harvest by sex and unit for the Southeast Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
66A	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
70	M	0	0	0	0	0	1	0	1
	F	0	0	0	0	0	0	2	2
71	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
72	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
73	M	0	0	2	0	2	0	1	5
	F	0	2	0	0	1	0	0	3
73A	M	0	0	1	1	0	0	0	2
	F	0	0	0	1	0	0	0	1
74	M	0	1	2	1	0	0	0	4
	F	0	0	1	0	0	0	0	1
75	M	0	0	0	1	0	0	0	1
	F	1	0	0	0	0	0	0	1
76	M	0	0	0	0	0	0	0	0
	F	1	0	0	1	0	0	0	2
77	M	0	1	1	0	0	0	0	2
	F	0	0	1	0	0	0	0	1
78	M	0	2	0	0	0	0	0	2
	F	0	2	0	0	0	0	0	2
Total	M	0	4	6	3	2	1	1	17
	F	2	4	2	2	1	0	2	13

Table 3. Mountain lion harvest by age and sex classes in the Southeast Region 1999-2000.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			# Males $\geq 5$
			% K-1	% 2-4	% Males $\geq 5$	
1999	28	36	20	30	11	2
2000	33	49	1	53	11	2
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	-	-	-	-	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 4. Mountain lion harvest per sex by weapon, guide status, and method in the Southeast Region during 2001-2002.

Method	Males	Females	Total
Weapon			
Rifle	7	4	11
Bow	1	2	3
Muzzleloader	0	0	0
Pistol	7	4	11
Other	0	0	0
Guided			
Yes	2	2	4
No	12	8	20
Method			
Still	0	0	0
Incidental	4	3	7
Predator Call	0	1	1
Hounds	12	6	18
Other	0	0	0

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>6</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION – UPPER SNAKE REGION**

**ABSTRACT**

Forty-five mountain lions were reported harvested in the Upper Snake Region during the 2001-2002 season (Table 1). This exceeded the 3-year average of 30. One additional mountain lion was reported as a road-kill. Harvest was determined from hunter reports as required by Fish and Game Commission regulation. No estimate of hunter effort or hunter participation in the dog training season is available. Officer field contacts have found only light dog training activity in Units 51, 58, 59, and 59A and no known dog training activity in Units 60, 60A, 61, 62, and 62A. The female mountain lion quota was met in DAU 6-3 (Units 64, 65, 66, 67, 69) and the season closed, but later commission action reopened the season by increasing the female quota. The U.S. Department of Agriculture's Wildlife Services reported no verified mountain lion depredations during the reporting period and only one unverified report of a lion taking a cow and 4 calves in Bonneville County in November 2001. The Department received no claims for livestock losses to mountain lions during 2001-2002.

**DAU 6-1 (GMUS 58, 59, 59A)**

**MANAGEMENT DIRECTION**

Management Objectives

1. Provide additional dog training seasons during this planning period.
2. Implement some controlled hunts during this planning period.

**BACKGROUND**

Historical Information

These units have relatively few mountain lions and provide limited hunter and dog training opportunity. The hunting season had traditionally been 15 September through 31 January; however, the 1996-1997 season was extended to 31 March to provide more hunter opportunity

on perceived increased mountain lion numbers. In 2000, the opening date was changed to 30 August to provide archery deer and elk hunters the opportunity to take mountain lion incidental to deer and elk hunting. Occasional livestock depredation is reported. Problems are taken care of by USDA's Wildlife Services.

### Season Structure

General either sex take season<sup>a,b</sup> 30 August 2001 - 31 March 2002

<sup>a</sup> Either sex, except neither spotted mountain lion young nor female mountain lion accompanied by young may be taken.

<sup>b</sup> These units will remain open until a total of 4 female mountain lions have been harvested or 31 March, whichever occurs first.

### Dog Training Season

A dog training season shall open upon the closure of these units to harvest when a harvest quota is met. If opened, the training season in this group of units shall close 31 March.

## HARVEST CHARACTERISTICS

### Sex Ratio

No mountain lions were reported harvested from DAU 6-1 during the 2001-2002 season (Table 2). Harvest from this area has been too light and variable to make meaningful sex ratio comparisons with previous years.

### Age Structure

There was no reported lion harvest from DAU 6-1 during the 2001-2002 season. However, hunter harvested mountain lion from DAU 6-1 tend to be mostly young age ( $\leq 5$  year old) lion (Table 3).

### Harvest Trend

Over the past 3 years, reported mountain lion harvest from DAU 6-1 has ranged from 0 to 3 with an average of 1.7 (Table 2). No mountain lion was harvested from DAU 6-1 during the 2001-2002 hunting season making this the lowest harvest season over the last 3 seasons. Reported female mountain lion harvest has varied from 0 to 67% of the total harvest over the last 3 years.

### Kill Distribution by Date

There was no reported lion was harvest during the 2001-2002 season (Table 4).

## Incidental Kill

There was no other mountain lion kill reported from DAU 6-1.

## CLIMATIC CONDITIONS

Snow started accumulating the latter part of November. Unlike most years, there was not enough wind to blow ridges free of snow and warmer temperatures followed by cold temperatures in January resulted in hard crusted snow making it difficult for big game to move around and hound hunters to pursue lions.

## DEPREDATIONS

There were no mountain lion depredations reported during this reporting period.

## MANAGEMENT IMPLICATIONS

There are relatively few mountain lions in DAU 6-1 and mountain lion hunting activity remains light. The most hunter interest seems to occur after the female quota for more popular hunting units is reached, closing those units to hunting.

No data are collected on dog training seasons. However, local officers and residents feel dog training activity is light. This may be because of low mountain lion numbers or little dog owner/trainer interest.

Management direction for DAU 6-1 has been directed toward minimizing harvest of female mountain lions for the past several years. However, under the new mountain lion plan, harvest criteria have not been determined for this DAU (Table 5).

Unit 59 was opened to hunting and dog training in 1994 because I-15 provides a better hunt area boundary than Medicine Lodge Creek. Very few deer winter in Unit 59 and, consequently, mountain lion numbers in this unit are also very low.

There is no need for a controlled hunt in this area because harvest is light, ranging from 0 to 6 mountain lions per season.

## **DAU 6-2 (GMUS 50, 51)**

## MANAGEMENT DIRECTION

### Management Objectives

1. Provide additional dog training seasons during this planning period.
2. Implement some controlled hunts during this planning period.

## BACKGROUND

Unit 50 supports a moderate number of mountain lions, while Unit 51 has a low mountain lion population. The season was extended from 31 January to 31 March in 1996-1997 to provide more hunter opportunity on perceived increased mountain lion numbers. In 2000, the opening date was changed to 30 August to provide archery deer and elk hunters the opportunity to take mountain lion incidental to deer and elk hunting. A female quota of 3 was implemented for the 1990-1991 season to discourage harvest of female mountain lions; this quota was increased to 4 in 1998, but reduced again to 3 in 1999 because of hunter concerns of overharvest. In 2000, the female quota was increased again to 4.

### Season Structure

General either sex take season<sup>a,b</sup>                      30 August 2001 - 31 March 2002

- <sup>a</sup> Either sex, except neither spotted mountain lion young nor female mountain lion accompanied by young may be taken.
- <sup>b</sup> These units will remain open until a total of 4 female mountain lions have been harvested or 31 March, whichever occurs first.

### Dog Training Season

A dog training season shall open upon the closure of these units to harvest when a harvest quota is met. If opened, the training season in this group of units shall close 31 March.

## HARVEST CHARACTERISTICS

### Sex Ratio

Five male and 1 female mountain lions were harvested in DAU 6-2 during the 2001-2002 season (Table 6). The average female harvest over the last 3 years is 17%.

### Age Structure

Ages for the 2001-2002 season were not available when this report was prepared. However, hunter harvested mountain lion from DAU 6-2 tend to be dominated by 2-4 year old lions (Table 7).

### Harvest Trend

Six mountain lions were reported harvested from DAU 6-2 during the 2001-2002 season. All six of the mountain lions were reported taken from Unit 50 (Table 4). This harvest was the same as the 3-year average harvest (Table 6).

### Kill Distribution by Date

One of the mountain lions was reported taken in November, 3 were harvested in December, 1 in January and 1 in February (Table 4).

### Incidental Kill

There was no other mountain lion harvest reported from DAU 6-2.

### CLIMATIC CONDITIONS

Snow started accumulating the latter part of November. Unlike most years, there was not enough wind to blow ridges free of snow and warmer temperatures followed by cold temperatures in January resulted in hard crusted snow making it difficult for big game to move around and hound hunters to pursue lions.

### DEPREDATIONS

No mountain lion depredations were reported to either Wildlife Services or the Department during this reporting period.

### MANAGEMENT IMPLICATIONS

The take season remained open until 31 March 2001. Unit 50 has probably had the best mountain lion population in the Upper Snake Region and has provided the most consistent hunter opportunity. This is probably because it is the closest unit in the Region to the core of Idaho's mountain lion habitat. Unit 51 has similar habitat and big game numbers as Unit 50, but it is farther from core mountain lion habitat. Consequently, Unit 51 appears to have fewer mountain lions than Unit 50.

Management direction for DAU 6-2 has been directed toward minimizing harvest of female mountain lions for the past several years. However, under the new mountain lion plan, harvest criteria have not been determined for this DAU (Table 8).

### **DAU 6-3 (GMUS 63A, 64, 65, 66, 67, 69)**

### MANAGEMENT DIRECTION

#### Management Objectives

1. Provide additional dog training seasons during this planning period.
2. Implement some controlled hunts during this planning period.



### Kill Distribution by Date

Two mountain lions were harvested in October, 6 in November, 15 in December, 3 in January, 8 in February and 1 in March (Table 4).

### CLIMATIC CONDITIONS

Snow started accumulating the latter part of November. Unlike most years, there was not enough wind to blow ridges free of snow and warmer temperatures followed by cold temperatures in January resulted in hard crusted snow making it difficult for big game to move around and hound hunters to pursue lions.

### DEPREDATIONS

Wildlife Services received a report that a lion had taken a cow and 4 calves in November 2001, but the loss could not be verified. The Department did not receive any depredation reports during the 2001-2002 reporting period.

### MANAGEMENT IMPLICATIONS

With the exception of the 2001-2002 season, management direction for DAU 6-3 has been directed toward minimizing harvest of female mountain lions for the past several years. However, under the new mountain lion plan, harvest criteria have not been determined for this DAU (Table 11).

DAU 6-3 is a relatively small area of mountain lion habitat that is isolated from other mountain lion habitat by agricultural and urban development. Deer herds in the area are migratory. Motorized access is abundant, and snow accumulation does not restrict access most winters. It also lies close to several relatively large urban areas in which reside several houndsmen. These factors make the area potentially vulnerable to overharvest of the mountain lion population. The female quota directs harvest toward male mountain lions, but may not prevent overharvest.

Nineteen male mountain lions and 16 female mountain lions were reported taken from this population during the 2001-2002 season. It is unknown whether this level of harvest can be sustained. Therefore, harvest and houndsmen activity in DAU 6-3 should be monitored closely to see how the mountain lion population and distribution responds.

### **DAU 6-4 (GMUS 60, 60A, 61, 62, 62A)**

### MANAGEMENT DIRECTION

There is very little mountain lion habitat in these units and mountain lion sightings are rare.

## BACKGROUND

Occasionally, mountain lions travel through these units, and it is unknown whether an established population exists. Big game in these units use different winter and summer ranges, possibly making it difficult for a mountain lion population to establish. A dog training season was established in these units in 1996-1997 to provide hound-hunting opportunity and collect information from hound hunters on mountain lion use of the area. A mountain lion take season with a female quota of 5 was established in 2000-2001 because of a perceived mountain lion population in this area by some hunters. No lion harvest was reported for the 2000-2001 season. The closing date of the season was extended until 31 March with the female quota of 5 retained for the 2001-2002 season.

### Season Structure

General either sex take season<sup>a,b</sup>                      30 August 2001 - 31 March 2002

<sup>a</sup> Either sex, except neither spotted mountain lion young nor female mountain lion accompanied by young may be taken.

<sup>b</sup> These units will remain open until a total of 5 female mountain lions have been harvested or 31 March, whichever occurs first.

### Dog Training Season

There is no dog training season for this group of units.

### Season Participation

One male and 3 female mountain lions were reported harvested from DAU 6-4 during the 2001-2002 season (Table 12). Another female lion was killed by a vehicle on the Del Rio bridge in Unit 60.

### Age Structure

Ages for the 2001-2002 season were not available when this report was prepared (Table 13).

### Kill Distribution by date

One mountain lion was harvested in October, 2 in December and 1 in January (Table 4).

## DEPREDACTIONS

No lion depredations were reported to either Wildlife Services of the Department during the 2001-2002 reporting period for DAU 6-4.

## MANAGEMENT IMPLICATIONS

Under the new mountain lion plan, harvest criteria have not been determined for this DAU (Table 14).

It is unknown whether an established mountain lion population exists in this area, although transient mountain lions occasionally migrate through and may temporarily stay in the area for a short time. Big game are migratory in this area using different winter and summer ranges, possibly making it difficult for a mountain lion population to establish.

Table 1. Mountain lion harvest from the Upper Snake Region, 1997-2001.

Year	Males	Females	Total	% Female
1997	16	6	22	27
1998	10	5	15	33
1999	15	7	22	32
2000	14	10	24	42
2001	25	20	45	44
1999-2001 Average	16.0	9.6	25.6	38

Table 2. Mountain lion harvest in DAU 6-1, 1997-2001 in the Upper Snake Region.

Year	Males	Females	Total	% Female
1997	6	0	6	0
1998	0	1	1	100
1999	2	0	2	0
2000	1	2	3	67
2001	0	0	0	0
1999-2001 Average	1.0	0.7	1.7	41

Table 3. Age distribution of mountain lion checked from DAU 6-1 (GMUs 58, 59 and 59A), 1998-2001.

Year	Sex	Age											Unknown	Total	
		Cub	1	2	3	4	5	6	7	8	9	10+			
1998	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1999	M	0	0	1	0	1	0	0	0	0	0	0	0	0	2
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	M	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	F	0	0	0	1	0	0	0	0	0	0	0	0	1	2
2001	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4. Mountain lion harvest by sex and unit for the Upper Snake Region during 2001-2002.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
50	M	0	0	1	3	0	1	0	5
	F	0	0	0	0	1	0	0	1
51	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
58	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
59	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
59A	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
60	M	0	0	0	0	0	0	0	0
	F	0	0	0	1	0	0	0	1
60A	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
61	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
62	M	0	0	0	1	0	0	0	1
	F	0	1	0	0	1	0	0	2
62A	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
63A	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
64	M	0	0	1	2	0	2	0	5
	F	0	0	0	0	0	2	0	2
65	M	0	0	0	0	0	1	0	1
	F	0	0	0	2	0	1	0	3
66	M	0	0	2	1	0	0	0	3
	F	0	0	1	2	0	0	0	3
67	M	0	1	1	1	1	0	0	4
	F	0	0	0	1	0	1	0	2
69	M	0	0	1	3	1	1	0	6
	F	0	1	0	3	1	0	1	6
Total	M	0	1	6	11	2	5	0	25
	F	0	2	1	9	3	4	1	20

Table 5. Values of the 2002-2010 lion management plan age criteria for DAU 6-1 (Units 58, 59 and 59A), 1998-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq$ 5	# Males $\geq$ 5
1999	2	0	0	100	0	0
2000	2	50	0	0	0	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	-	-	-	-	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 6. Mountain lion harvest in DAU 6-2, 1997-2001 in the Upper Snake Region.

Year	Males	Females	Total	% Female
1997	3	3	6	50
1998	1	4	5	80
1999	5	2	7	29
2000	5	0	5	0
2001	5	1	6	17
1999-2001 Average	5.0	1.0	6.0	17

Table 7. Age distribution of mountain lion checked from DAU 6-2 (GMUs 50 and 51), 1998-2001.

Year	Sex	Age											Unknown	Total	
		Cub	1	2	3	4	5	6	7	8	9	10+			
1998	M	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	F	0	0	2	1	0	0	0	0	0	0	0	1	0	4
1999	M	0	0	2	2	1	0	0	0	0	0	0	0	0	5
	F	0	0	1	0	0	0	0	0	0	0	0	0	1	2
2000	M	0	1	3	0	1	0	0	0	0	0	0	0	0	5
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001 <sup>a</sup>	M	-	-	-	-	-	-	-	-	-	-	-	5	5	
	F	-	-	-	-	-	-	-	-	-	-	-	1	1	

<sup>a</sup> Data unavailable for report.

Table 8. Values of the 2002-2010 lion management plan age criteria for DAU 6-2 (Units 50 and 51), 1998-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq 5$	# Males $\geq 5$
1999	6	17	0	100	0	0
2000	5	0	20	80	0	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	-	-	-	-	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 9. Mountain lion harvest in DAU 6-3, 1997-2001 in the Upper Snake Region.

Year	Males	Females	Total	% Female
1997	7	3	10	30
1998	9	0	9	0
1999	8	5	13	38
2000	8	8	16	50
2001	19	16	35	46
1999-2001 Average	11.7	9.7	21.3	46

Table 10. Age distribution of mountain lion checked from DAU 6-3 (GMUs 63A, 64, 65, 66, 67 and 69), 1998-2001.

Year	Sex	Age											Unknown	Total	
		Cub	1	2	3	4	5	6	7	8	9	10+			
1998	M	0	0	2	1	0	0	0	0	0	0	0	0	6	9
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	M	0	1	2	1	1	0	2	1	0	0	0	0	0	8
	F	0	1	0	0	1	0	0	1	2	0	0	0	0	5
2000	M	1	1	1	2	1	0	0	0	0	0	0	2	8	
	F	0	2	0	1	1	0	0	1	1	0	0	2	8	
2001 <sup>a</sup>	M	-	-	-	-	-	-	-	-	-	-	-	19	19	
	F	-	-	-	-	-	-	-	-	-	-	-	16	16	

<sup>a</sup> Data unavailable for report.

Table 11. Values of the 2002-2010 lion management plan age criteria for DAU 6-3 (Units 63A, 64, 65, 66, 67 and 69), 1998-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq$ 5	# Males $\geq$ 5
1999	13	38	15	38	38	3
2000	12	50	33	50	0	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	-	-	-	-	-

<sup>a</sup> Number of mountain lions that were aged (excluding unknown).

Table 12. Mountain lion harvest in DAU 6-4, 2000-2001 in the Upper Snake Region.

Year	Males	Females	Total	% Female
2000	0	0	0	0
2001	1	3	4	75
2000-2001 Average	0.5	1.5	2.0	75

Table 13. Age distribution of mountain lion checked from DAU 6-4 (GMUs 60, 60A, 61, 62 and 62A), 2000-2001.

Year	Sex	Age										Unknown	Total	
		Cub	1	2	3	4	5	6	7	8	9			10+
2000	M	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0	0	0	0	0	0
2001 <sup>a</sup>	M	-	-	-	-	-	-	-	-	-	-	-	1	1
		-	-	-	-	-	-	-	-	-	-	-	3	3

<sup>a</sup> Data unavailable for report.

Table 14. Values of the 2002-2010 lion management plan age criteria for DAU 6-4 (Units 60, 60A, 61, 62 and 62A), 2000-2001.

Year	N <sup>a</sup>	% Females	Cohort Age Structure			
			% K-1	% 2-4	% Males $\geq$ 5	# Males $\geq$ 5
2000	0	0	0	0	0	0
2001	-	-	-	-	-	-
3-yr average	-	-	-	-	-	-
Desired levels	-	-	-	-	-	-

**PROGRESS REPORT  
SURVEYS AND INVENTORIES**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Mountain Lion Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-26</u>		<u>and Inventories</u>
<b>SUBPROJECT:</b>	<u>7</u>	<b>STUDY NAME:</b>	<u>Big Game Population Status,</u>
<b>STUDY:</b>	<u>1</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 2001 to June 30, 2002</u>		

**MOUNTAIN LION - SALMON REGION**

**ABSTRACT**

Hunters have taken 313 mountain lions (191 males, 122 females) in the Salmon Region in the past 5 seasons. Fifty-two mountain lions (42% females) were harvested in 2001-2002. Age data for mountain lions harvested during the 2001-2002 season were not available for this report.

Over the 3 seasons from 1997-1999, December and January accounted for approximately 75% of harvest in accessible areas (DAUs 7-1 and 7-2). Approximately 40-50% of harvest occurred during December and 25-35% in January. In contrast, most backcountry harvest (DAU 3-3) occurred during January; only 10% occurred during September through December. Harvest timing during the 2001-2002 season closely matched the 1997-1999 pattern. In the Salmon Region, 90% of mountain lions were taken using hounds. Only 6% of harvest occurred as incidental take during deer and elk seasons.

Average annual mountain lion harvest from the Salmon Region increased through the late 1990s to slightly >70, more than tripling from 1970s levels. Increased harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases. In contrast, harvest during the 2000 and 2001 seasons dropped to 43 and 52 animals, respectively. Although poor tracking conditions in 2000 probably reduced harvest, conditions during 2001-2002 were generally good. Reevaluation of age composition of harvested animals (based on cementum rather than tooth drop) suggests average age may have decreased. However, 3-5 years of age data based on cementum analysis are needed to encompass wide annual variation and increase sample sizes. In some analysis areas, human harvest may be contributing to changes in population characteristics. Gray wolves, now established in several units, may also be contributing to changes in mountain lion demographics.

**DAU 3-3 (GMU 27)**

**MANAGEMENT DIRECTION**

Follow statewide management direction in the 2002-2010 Mountain Lion Management Plan. Objectives are to maintain distribution of mountain lions and maintain harvest at 1990-1992

levels. Specific objectives regarding sex and age composition of the harvest will be developed in the near future (e.g.,  $\leq 40\%$  females in the harvest,  $\geq 20\%$  of males  $\geq 5$  years old).

## BACKGROUND

### Historical Information

Unit 27 encompasses most drainages of the Middle Fork of the Salmon River. Virtually all of the unit is part of the Frank Church River of No Return Wilderness. Road access is limited and terrain is generally quite rugged. Human use of the area is primarily recreational, including summer river rafting and fall/winter hunting. Elevations range from 3,000 feet to 10,000 feet and include very rugged river breaks and cliffs, sagebrush grasslands, mixed conifer forests, and subalpine habitats.

Unit 27 supports large mountain lion populations that are usually lightly harvested because of limited access and difficult terrain. However, outfitters have increased efforts in backcountry units in recent years. Both deer and elk are abundant prey species with bighorn sheep and mountain goats locally common. During January 1995 and January 1996, wolves were reintroduced into DAU 3-3; packs are now established within the DAU. Depredation problems are insignificant in Unit 27.

### Season Structure

Unit 27 has traditionally had a long (September through March) mountain lion take season but no dog training season. Beginning in 2000, the season was extended to 30 April. The 30 August 2001 through 30 April 2002 season encompassed 244 days. Reduced price tags and second mountain lion tags were authorized in 2000 as well as the ability to use nonresident deer tags to harvest a mountain lion. Dogs may be used after 31 October. Neither spotted young nor female mountain lions accompanied by young may be taken.

## HARVEST CHARACTERISTICS

### Sex Ratio

Females comprised 41% of the 1996-2001 mountain lion harvest (Table 1). However, percent females in the harvest steadily increased over the last 5 seasons to 6 of 9 animals taken last year.

### Age Structure

Subadult mountain lions ( $\leq 4$  years) comprised 70% of known-age harvest during 1999 and 2000 seasons combined (Table 2). Over those same seasons, approximately 44% of females and 18% of males were  $\geq 5$  years. Tooth drop measurements were discontinued in 2001. Age determinations (based on cementum analysis) for mountain lions harvested in 2001-2002 are not yet available.

## Harvest Trend

The 2001-2002 harvest of 9 mountain lions was approximately one-half the harvest levels recorded during 1997-1999, which were the highest in  $\geq 25$  years. Average harvest for Unit 27 has increased from 4-5 mountain lions per year in the 1970s and 1980s to 8 mountain lions per year in the early 1990s and 13 mountain lions per year by 2000. Unit 27 mountain lion harvest can be strongly influenced by activities of a handful of outfitters. At least some outfitters put little or no effort into hunting mountain lions during the 2001-2002 season.

## Kill Distribution By Date

In past years, most Unit 27 harvest (about two-thirds over the long term) occurred during January and <10% of harvest occurred during the 15 September - 18 November deer and elk seasons. In 2001-2002, eight of 9 animals were harvested during January and 1 mountain lion was killed in December (Table 3). During the last 2 seasons, no lions have been harvested during the extended season (April), nor have any hunters taken a second lion during 1 season in Unit 27 (i.e., no one used a second tag).

## Incidental Kill

Eight of 9 mountain lions harvested in Unit 27 were taken with the assistance of hounds; 1 was taken by still hunting in December. These proportions were similar to the rest of the region (Table 4).

## CLIMATIC CONDITIONS

Precipitation during summer and fall 2001 was normal to above normal, producing normal to good forage and ungulate body condition entering the 2001-2002 winter. Winter snowpack was normal to slightly above normal. Therefore, conditions were conducive to hunting mountain lions through much of the season.

## DEPREDATIONS

No mountain lion depredations were reported in 2001-2002.

## MANAGEMENT IMPLICATIONS

Mountain lion harvest increased through the late 1990s, but declined over the last 2 seasons to early 1990s levels. Annual harvest of 17-19 animals during 1997-1999 were the highest in  $\geq 25$  years. However, harvest in 2001-2002 was <50% of peak years. The long-term increase in harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases, but may also reflect increased effort on the part of some outfitters in some years.

Sex and age composition of Unit 27 harvest appears to be shifting toward younger animals and more females. This shift may represent a change in mountain lion population demographics. Increased effort and harvest, perhaps in concert with reintroduction of wolves, may have accomplished the goal of reducing the mountain lion population in Unit 27. However, recent liberalization of harvest regulations did not contribute to increased harvest.

A reliable data set based on tooth cementum analysis will provide additional information by which to evaluate future direction of harvest management. Percent females in the harvest (5-year average) for Unit 27 is currently near the goal of  $\leq 40\%$ , but has increased over the last 5 seasons. Reintroduced wolves may be impacting mountain lion populations, at least on a local level.

### **DAU 7-1 (GMUS 21, 21A, 28, 36, 36B)**

#### **MANAGEMENT DIRECTION**

Follow statewide management direction in the 2002-2010 Mountain Lion Management Plan. Objectives are to maintain distribution of mountain lions and maintain harvest at 1990-1992 levels. Specific objectives regarding sex and age composition of the harvest will be developed in the near future (e.g.,  $\leq 40\%$  females in the harvest,  $\geq 20\%$  of males  $\geq 5$  years old).

#### **BACKGROUND**

##### Historical Information

DAU 7-1 is comprised primarily of drainages west of the upper Salmon River. Elevations vary from 3,000 feet to 11,000 feet and include sagebrush grasslands, river breaks, mixed conifer forests, and subalpine habitats.

The DAU supports large mountain lion populations that are generally accessible during winter. Both deer and elk are abundant prey species with bighorn sheep and mountain goats locally common. DAU 7-1 mountain lion populations are partly sustained by immigration from adjacent, less-hunted wilderness populations (DAU 3-3). "Joint use" outfitter areas in Units 21, 21A, 28, 29, and 30 led to hunter congestion and harvest problems and therefore were eliminated in 1991. The quota on female harvest in Unit 28 was cumbersome to administer and unnecessary, and was therefore eliminated during 1994-1995. During 1995 and 1996, wolves were reintroduced in the adjoining DAU (3-3). Some of these animals have formed packs residing within DAU 7-1. Depredation problems are not a major concern in DAU 7-1.

##### Season Structure

During 1996-1997, the general mountain lion season in DAU 7-1 was extended by 15 days from 31 January to 15 February. During 1999-2000, the season was extended by another 61 days (30 August to 31 March) because of an apparent continued increase in mountain lion populations. With an additional 17 days added to the beginning and 44 days at the end, total season length became 214 days. This season structure remained the same in 2001-2002. In

general, dogs may be used when a firearm season for deer or elk is not open. Neither spotted young nor female mountain lions accompanied by young may be taken. There were no dog training seasons in DAU 7-1 units.

## HARVEST CHARACTERISTICS

### Sex Ratio

During 2001-2002, 36% of mountain lions harvested were females (Table 5), slightly below the 1996-2001 average of 42% (n=167).

### Age Structure

Of known-age animals in the 2000-2001 harvest, 75% were  $\leq 4$  years and 6 (25%) were mature ( $\geq 5$  years). Harvest age structure in 2000 was very similar to that of 1999. Approximately one-third of females harvested were  $\geq 5$  years compared with 17% of males in the oldest age class.

### Harvest Trend

Harvest was stable from 2000 to 2001. Average harvest for these units increased from 11.9 mountain lions per year in the 1970s to 18.3 during the 1980s, 27.4 mountain lions per year in the early 1990s, and 33 mountain lions per year in the last 5 years.

### Kill Distribution By Date

In past years, approximately 75% of DAU 7-1 mountain lion harvest occurred during December and January, 10% occurred from September through November, and approximately 10% in the first half of February. In 2001-2002, 75% of harvest occurred in December and January. One mountain lion was harvested during the first 3 months of the season and 6 were taken from February through March.

### Incidental Kill

Ninety-three percent of mountain lions harvested in DAU 7-1 during 2001-2002 were taken with the assistance of hounds (Table 4); 2 (7%) were taken incidentally to other hunting.

## CLIMATIC CONDITIONS

Precipitation during summer and fall 2001 was normal to above normal, producing normal to good forage and ungulate body condition entering the 2001-2002 winter. Winter snowpack was normal to slightly above normal. Therefore, conditions were conducive to hunting mountain lions through much of the season.

## DEPREDTATIONS

No mountain lion depredations were reported in 2001-2002.

## MANAGEMENT IMPLICATIONS

Mountain lion harvest in DAU 7-1 has been on an increasing trend since the mandatory check was initiated in 1973. Increased harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases. Age composition of DAU 7-1 harvest during 1999 and 2000 seasons was skewed toward younger animals ( $\leq 4$  years); 24% of known-age animals were  $\geq 5$  years. Percent females in the harvest is currently slightly above the goal of  $\leq 40\%$  based on the last 5 years and appears stable. Recently reintroduced wolves will likely have some impact on mountain lion populations, at least on a local level.

### **DAU 7-2 (GMUS 29, 30, 30A, 36A, 37, 37A)**

## MANAGEMENT DIRECTION

Follow statewide management direction in the 2002-2010 Mountain Lion Management Plan. Objectives are to maintain distribution of mountain lions and maintain harvest at 1990-1992 levels. Specific objectives regarding sex and age composition of the harvest will be developed in the near future (e.g.,  $\leq 40\%$  females in the harvest,  $\geq 20\%$  of males  $\geq 5$  years old).

## BACKGROUND

### Historical Information

DAU 7-2 is comprised primarily of drainages east of the upper Salmon River. Elevations vary from 4,000 feet to 12,000 feet and include high desert communities, mixed conifer forests, and subalpine habitats. This DAU receives much less precipitation, and therefore has less forest, than other Salmon Region DAUs.

DAU 7-2 supports mountain lion populations of low to moderate density that are generally readily accessible during winter. Both deer and elk are common prey species with bighorn sheep and mountain goats locally common. Depredation problems are an uncommon concern in DAU 7-2.

### Season Structure

During 1996-1997, the general mountain lion season in DAU 7-2 was extended by 15 days from 31 January to 15 February. During 1999-2000, the season was extended by another 61 days (30 August to 31 March) because of an apparent continued increase in mountain lion populations. With an additional 17 days added to the beginning and 44 days at the end, total season length became 214 days. This season structure remained the same in 2001-2002. In general, dogs may be used when firearm seasons for deer or elk are not open. Neither spotted

young nor female mountain lions accompanied by young may be taken. There were no dog training seasons in DAU 7-2 units.

## HARVEST CHARACTERISTICS

### Sex Ratio

During 2001-2002, 6 of 15 mountain lions harvested were females (Table 6). Over the longer term, females comprised 30% of the harvest from 1996 to 2001 ( $n = 76$ ).

### Age Structure

Seven of 8 mountain lions harvested in DAU 7-2 during 2000-2001 were  $\leq 4$  years; 1 mountain lion was  $>5$  years (Table 2). Over the 2 seasons for which cementum age data is available, there have been few older age animals in the harvest; female harvest included 1 animal  $\geq 5$  years ( $n=7$ ) while 3 of 22 males were in the older age class. Although sample sizes are low, these data could be interpreted as an indication of decreasing population size and age structure. Age data from the 2001-2002 season is not yet available.

### Harvest Trend

The 1999-2000 harvest of 24 mountain lions was the highest in  $\geq 25$  years, almost double the harvest seen in recent years. Harvest during 2001-2002 was similar to the average from 1995 to 1998. Average harvest in these units has increased from about 5 mountain lions per year in the 1970s and 1980s to 9.8 mountain lions per year in the early 1990s and 15 mountain lions per year since 1996.

### Kill Distribution By Date

In past years, approximately three-fourths of DAU 7-2 mountain lion harvest occurred during December and January, 10% occurred from September through November, and approximately 10% in the first half of February. In 2001-2002, 73% of harvest occurred in December and January, 20% between September and November, and 7% in February and March.

### Incidental Kill

Thirteen of 15 mountain lions harvested in DAU 7-2 during 2001-2002 were taken with the assistance of hounds (Table 4). Two mountain lions were taken incidentally to other hunting.

## CLIMATIC CONDITIONS

Precipitation during summer and fall 2001 was normal to above normal, producing normal to good forage and ungulate body condition entering the 2001-2002 winter. Winter snowpack was normal to slightly above normal. Therefore, conditions were conducive hunting mountain lions through much of the season.

## DEPREDATATIONS

No mountain lion depredations were reported in 2001-2002.

## MANAGEMENT IMPLICATIONS

Annual mountain lion harvest in DAU 7-2 essentially tripled from the 1980s to the 1990s and appears stable at approximately 13-15. Increased harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases. Sex composition of harvested animals in DAU 7-2 suggest that harvest rate is still acceptable; however, the proportion of older age mountain lions in the harvest has been low since 1999. Percent females in the harvest for DAU 7-2 is currently within the goal of  $\leq 40\%$ . Monitoring trends in harvest rate and sex/age composition (based on the change to tooth cementum analysis) will be a high priority.

Table 1. Mountain lion harvest in DAU 3-3 (Unit 27), Salmon Region, 1995-2001.

Year	Males	Females	Total	% Female
1995	5	1	6	17
1996	6	6	12	50
1997	13	6	19	32
1998	12	7	19	37
1999	10	7	17	41
2000	3	3	6	50
2001	3	6	9	67
1997-2001 Average	8	6	14	43

Table 2. Mountain lion harvest by age and sex classes, Salmon Region, 2000-2001.

Unit	Sex	Age Class				Unknown		
		K-3 (%)		4-7 (%)			8+ (%)	
27	M	3		0		0		0
	F	1		1		0		1
DAU 3-3	M	3	(100)	0	(0)	0	(0)	0
	F	1	(50)	1	(50)	0	(0)	1
21	M	0		1		1		2
	F	1		0		0		0
21A	M	1		0		0		0
	F	0		0		0		0
28	M	4		2		0		0
	F	1		4		0		0
36	M	0		0		0		0
	F	1		0		0		1
36B	M	5		1		0		0
	F	1		1		0		0
DAU 7-1	M	10	(67)	4	(27)	1	(7)	2
	F	4	(44)	5	(56)	0	(0)	1
29	M	1		0		0		0
	F	0		0		0		0
30	M	0		0		0		1
	F	0		1		0		0
30A	M	1		0		0		0
	F	0		0		0		0
36A	M	0		1		0		0
	F	2		0		0		1
37	M	1		1		0		0
	F	0		0		0		0
37A	M	0		0		0		0
	F	0		0		0		0
DAU 7-2	M	3	(60)	2	(40)	0	(0)	1
	F	2	(67)	1	(33)	0	(0)	1
Total	M	16	(70)	6	(26)	1	(4)	3
	F	7	(50)	7	(50)	0	(0)	3

Table 3. Mountain lion harvest by month (number and %), Salmon Region, 2001-2002.

		Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
3-3	M	0	0	0	1 (33)	2 (67)	0	0	3
	F	0	0	0	0	6 (100)	0	0	6
7-1	M	0	0	0	9 (50)	6 (33)	1 (6)	2 (11)	18
	F	0	1 (10)	0	5 (50)	1 (10)	2 (20)	1 (10)	10
7-2	M	0	1 (11)	1 (11)	5 (56)	1 (11)	0	1 (11)	9
	F	1 (17)	0	0	3 (50)	2 (33)	0	0	6
Total	M	0	1 (3)	1 (3)	15 (50)	9 (30)	1 (3)	3 (10)	30
	F	1 (5)	1 (5)	0	8 (36)	9 (41)	2 (9)	1 (5)	22

Table 4. Mountain lion harvest by method, Salmon Region, 2001-2002.

Method	Males	Females	Total
Weapon			
Rifle	12	12	24
Bow	10	6	16
Muzzleloader	1	0	1
Pistol	6	4	10
Other	1	0	1
Guided			
Yes	14	14	28
No	16	8	24
Method			
Still	0	1	1
Incidental	2	2	4
Predator Call	0	0	0
Hounds	28	19	47
Other	0	0	0

Table 5. Mountain lion harvest in DAU 7-1, Salmon Region, 1995-2001.

Year	Males	Females	Total	% Female
1995	27	11	38	29
1996	28	7	35	20
1997	19	20	39	51
1998	24	17	41	41
1999	19	13	32	41
2000	17	10	27	37
2001	18	10	28	36
1997-2001 Average	19	14	33	42

Table 6. Mountain lion harvest in DAU 7-2, Salmon Region, 1995-2001.

Year	Males	Females	Total	% Female
1995	10	3	13	23
1996	11	2	13	15
1997	9	4	13	31
1998	9	5	14	36
1999	20	4	24	17
2000	6	4	10	40
2001	9	6	15	40
1997-2001 Average	11	5	16	31

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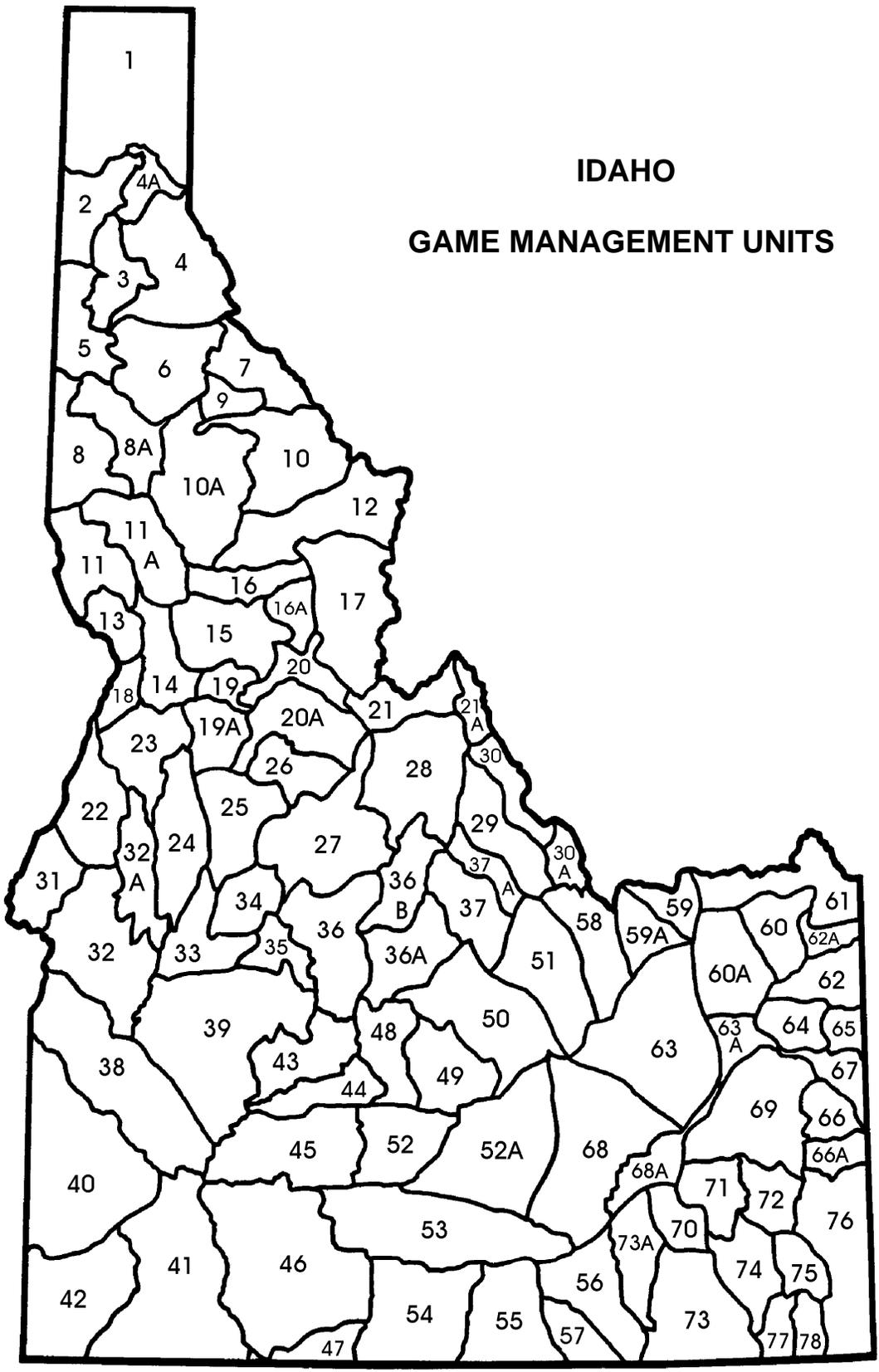
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IDAHO

GAME MANAGEMENT UNITS

## FEDERAL AID IN WILDLIFE RESTORATION

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

