

**IDAHO DEPARTMENT OF FISH AND GAME**

**Rod Sando, Director**

**Statewide Surveys and Inventories**

**Project W-170-R-24**

**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-24</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>I</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 1999 to June 30, 2000</u>		

**STATEWIDE**

**SUMMARY**

The Idaho Department of Fish and Game uses the Mandatory Check and Report system to collect data on harvested mountain lions. The Mandatory Check program requires successful hunters to check the hide and skull of their mountain lion at a Department office or checkpoint within 5 days of the kill date.

In 1999 resident hunters purchased 17,003 mountain lion tags, including 15,391 mountain lion tags issued with the resident Sportsman's Package. Mountain lion tags purchased by residents included 54 reduced-price tags valid in backcountry game management units (Lolo, Selway, and Middle Fork Zone units) if the hunter also possessed a deer or elk tag valid in those units. Fifteen resident hunters purchased a second mountain lion tag valid for use in Unit 12.

Nonresidents purchased 813 mountain lion tags in 1999, compared to 351 purchased in 1998. The increase in sales can be attributed to the 502 reduced-price nonresident tags sold. Nonresidents who purchased a deer or elk tag valid in the backcountry units could purchase a mountain lion tag valid for only those units at the reduced price of \$21.50 (vs. the regular nonresident price of \$226.50). Three nonresidents purchased a second mountain lion tag valid for Unit 12.

A total of 612 mountain lions were checked at Department regional offices or official checkpoints in 1999, a decrease of 20% compared to 1998. Female mountain lions comprised 45% of the harvest. One hundred fifty-eight (158) mountain lions were taken on guided hunts. Hunters using trailing dogs took 492 mountain lions, 22 were taken by hunters using still hunting or stalking methods, 5 were taken by hunters using a predator call, and 79 mountain lions were taken by hunters incidental to some other activity. Mountain lion hunters killed 355 mountain lions with a rifle, 141 with a handgun, 81 with archery equipment, and 11 with a muzzleloader.

Hound hunter permits were sold to 3,085 resident hunters and 93 nonresident hunters in 1999.

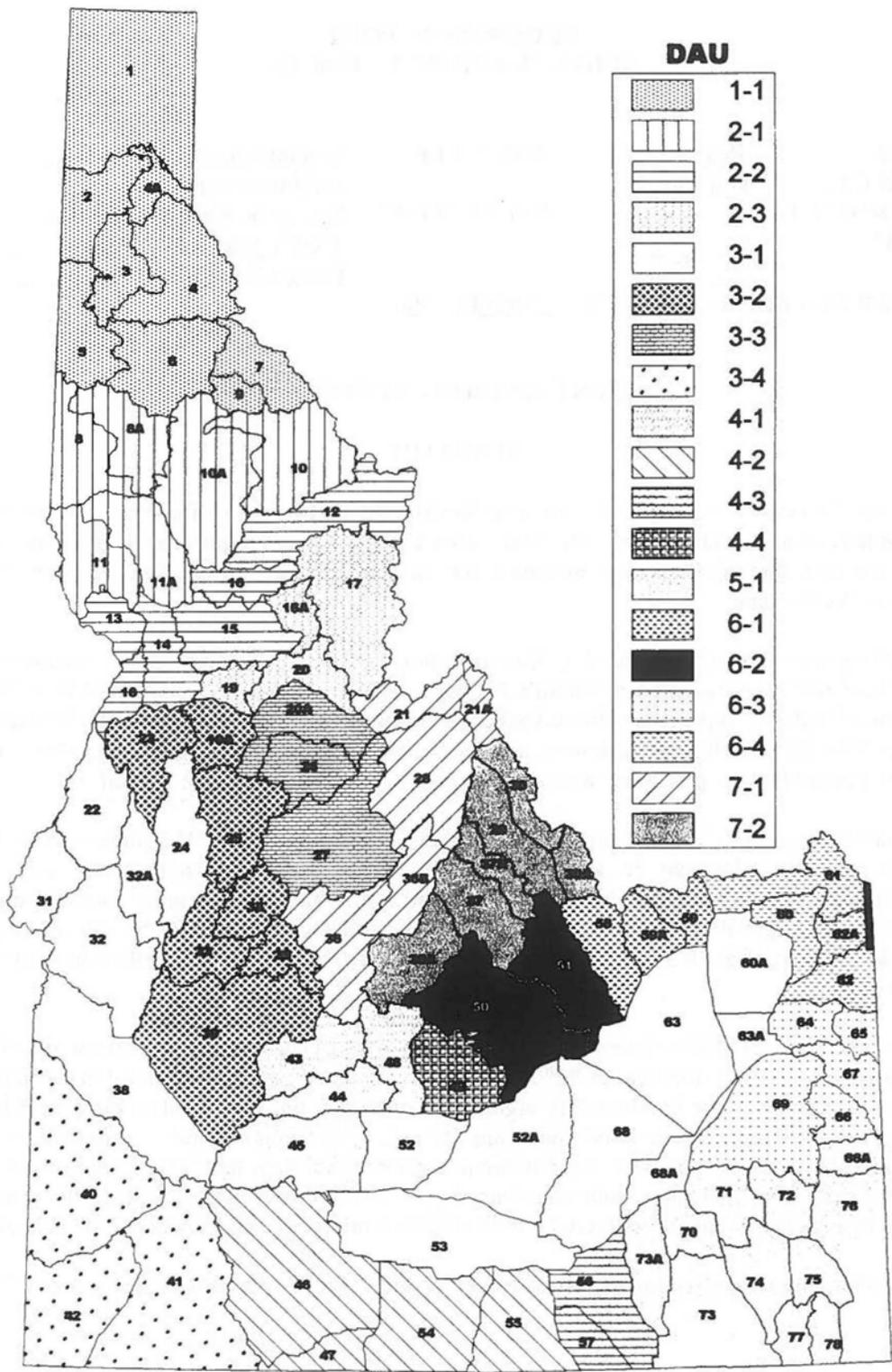


Figure 1. Idaho big game management units and mountain lion data analysis units.

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**PANHANDLE REGION**

**ABSTRACT**

The 1999-2000 mountain lion season produced a regional harvest of 149 mountain lions. Female mountain lion harvest consisted of 52% of the regional harvest. Current data infer this population has peaked and is currently declining. Given the goal of stabilized populations at approximately 2/3 of peak levels, and a 12% mean annual decline in harvest, reductions in mountain lion hunting may be indicated before 2002.

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

Unit 1 produced 50 mountain lions or 33% of the regional harvest, qualifying it as the largest producer of mountain lions in this DAU. Unit 1 is comprised of the Selkirk, Purcell and West Cabinet Ranges, all of which support healthy white-tailed deer populations important to the relatively high apparent density of mountain lions in DAU 1-1.

Twenty-nine percent of the 1999-2000 harvest occurred in Units 2, 3, and 5. This portion of the DAU has considerable urban, rural residential, and agricultural activity. White-tailed deer are common, but only marginal elk populations exist.

Land in Units 4 and 4A is primarily in federal ownership. The early deer season in Unit 4 allows mountain lion hunting with hounds during November, which coincides with a late muzzleloader deer season. Units 4 and 4A accounted for 17% of the 1999-2000 harvest.

Units 6, 7, and 9 contributed 20% to the mountain lion harvest. These units are comprised of the St. Maries, St. Joe, and Little North Fork Clearwater River drainages. Units 7 and 9 are remote, with poor access during the winter.

## MANAGEMENT DIRECTION

### Management Objectives

In the goals of the 1991-1995 Mountain Lion Management Plan, DAU 1-1 is to be managed to provide an increasing population of mountain lions. Available evidence indicates these management objectives were attained, and although no new mountain lion management plan is yet in place, current objectives are to stabilize and, in some areas, slightly decrease the mountain lion populations.

The Department will continue to gather harvest data via the mandatory check. Regulations will allow the use of trailing 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

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 1999-2000 season was 199 days, opening September 15 and closing March 31 in Units 1, 2, 3, 4, 4A, 5, and 6. The season in Units 7 and 9 was 215 days, opening on August 30 and closing on March 31. The use of hounds is not allowed during the general deer and elk rifle seasons.

## HARVEST CHARACTERISTICS

The 1999-2000 mountain lion harvest in DAU 1-1 was 149, 7% below the five-year average (Table 1). The harvest density was 1 mountain lion per 52 square miles, down 21% from the 1998-1999 season. The highest harvest density occurred in Unit 4A with 1 mountain lion per 17 square miles. The lowest harvest density occurred in Unit 4 with 1 mountain lion per 72 square miles. During the 1999-2000 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 the early 1990s. Since 1996 there has been a steadily increasing trend (Table 1). The three-year unweighted average of 46% females is beyond the maximum threshold (40%) in the most recent (1991-1995) Mountain Lion

Management Plan. These data are consistent with those expected from a mountain lion population with high adult mortality.

### Age Structure

Age is indexed by measuring the distance from the jawbone to the dentine/enamel ridge of the top canine (the “tooth drop”). These data indicate a progressively younger population for both females (Table 2) and males (Table 3) beginning in 1998. This shift indicates a change has taken place – either increased juvenile recruitment, or increased adult mortality. Mountain lions harvested in the northern portion of the DAU tend to be younger than mountain lions in the southern part of the DAU (Table 4), indicating change is more evident to the north.

### Hunting Characteristics

The average successful mountain lion hunter during the 1999-2000 season was unguided (81%) and used hounds (73%) and a rifle (76%) to take a mountain lion (Table 5). The total mountain lion harvest by unguided hunters was 53% females and 47% males. The total mountain lion harvest by guided hunters was essentially the same, 52% females and 48% males.

### Harvest Distribution by Date

During October and November, general elk and deer hunting seasons preclude mountain lion hunting with hounds. During this period incidental harvest by deer and elk hunters accounts for 12% of the seasonal harvest. Seventy-nine percent of the seasonal harvest of mountain lions occurs during the months of December, January, and February (Table 6). During this period snow conditions are ideal for the use of tracking hounds. The remaining 7% of the harvest occur in the months of September and March.

### Incidental Kill

Eighteen of the 149 mountain lions harvested (12%) in this DAU were taken incidentally, primarily by hunters pursuing other big game animals. Of this incidental harvest 9 were females and 9 were males (Table 5). The sex ratio of mountain lions killed incidentally is essentially the same as that for hunters specifically targeting mountain lions.

## OTHER MORTALITIES

During this reporting period there were 7 other mortalities in addition to the 149. They were 1 depredation kill, 4 illegal kills, and 2 natural mortalities (Table 5).

## 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 1999-2000 was

normal, with snow accumulation beginning in late November in the higher elevations. Snow accumulation did not begin until the first of January in the lower elevations.

## DEPREDATIONS

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

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.

The Population Direction Goal for this area in the most recent Mountain Lion Management Plan (1991-1995) calls for an "increase." It appears safe to say that the increase envisioned during the 1991 planning process has been realized, and exceeded. At the same time, calf:cow ratios for elk have dropped substantially during the past six to eight years, and the lack of a population increase following reduced elk populations after the severe winter of 1996-1997 has resulted in a general desire by many big game hunters to reduce mountain lion populations.

It is desirable to reduce the mountain lion population of DAU 1-1 to a level somewhere between that of 1991 and 1999. While there are no specific population estimates possible for either time period, harvest data suggests there was substantial growth between those periods and, therefore, ample room for manipulation. A one-third reduction from the existing population should be within this range.

The three-year increasing pattern in the percentage of females in the harvest, combined with a younger age structure, and with a three-year decline in total harvest, implies the mountain lion population of DAU 1-1 is declining. A harvest shift out of traditional mountain lion units supports this conclusion. For the five-year average 1994-1998, 72% of the DAU 1-1 kill came from units 1, 4, and 6. During 1999 this dropped abruptly to just 57%. Total harvest in the three core units dropped 20% while peripheral units increased 51%. Anecdotal reports from mountain lion hunters imply mountain lions were more difficult to find in the three core units during 1999, forcing them to shift to different areas.

The target one-third reduction in mountain lion numbers from peak levels should result in a similar decline in harvest, under the crude assumption that all other factors are equal. If harvest continues to decline at the recent observed rate of 12% annually, the target harvest of 130 mountain lions should be attained during the next two years. Reductions in harvest opportunity will be desirable at that time to stabilize mountain lion populations.

Table 1. Mountain lion harvest in DAU 1-1, 1984-1999 seasons.

Harvest Season	Female	Male	Unknown	Total	Percent 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	71	0	149	52%

Table 2. Index to the age structure of female mountain lion harvest in DAU 1-1, 1985-1999 seasons. Age information was collected beginning 1985.

Harvest Season	Harvest by Age Class				Percent in Each Age Class		
	Unknown	K-3 <sup>a</sup>	4-7 <sup>b</sup>	8+ <sup>c</sup>	K-3	4-7	8+
1985	0	7	6	2	47%	40%	13%
1986	3	7	7	0	50%	50%	0%
1987	0	6	12	3	29%	57%	14%
1988	1	5	11	4	25%	55%	20%
1989	2	11	13	2	42%	50%	8%
1990	0	6	13	0	32%	68%	0%
1991	3	5	25	2	16%	78%	6%
1992	2	8	14	0	36%	64%	0%
1993	2	3	15	0	17%	83%	0%
1994	5	7	21	4	22%	66%	13%
1995	3	20	48	5	27%	66%	7%
1996	6	9	32	4	20%	71%	9%
1997	10	18	49	4	25%	69%	6%
1998	10	17	50	2	25%	72%	3%
1999	12	27	37	2	41%	56%	3%

<sup>a</sup> < than 4 mm from jawbone to first enamel (tooth drop).

<sup>b</sup> 4-7 mm from jawbone to first enamel.

<sup>c</sup> >7 mm from jawbone to first enamel.

Table 3. Index to the age structure of male mountain lion harvest in DAU 1-1, 1985-1999 seasons. Age information was collected beginning 1985.

Harvest Season	Harvest by Age Class				Percent in Each Age Class		
	Unknown	K-3	4-7	8+	K-3	4-7	8+
1985	1	3	10	4	18%	59%	24%
1986	2	3	7	2	25%	58%	17%
1987	1	4	10	2	25%	63%	13%
1988	3	3	19	2	13%	79%	8%
1989	0	3	16	3	14%	73%	14%
1990	2	3	22	4	10%	76%	14%
1991	2	4	24	9	11%	65%	24%
1992	6	3	20	5	11%	71%	18%
1993	2	4	31	8	9%	72%	19%
1994	4	7	39	8	13%	72%	15%
1995	3	5	54	9	7%	79%	13%
1996	2	11	56	14	14%	69%	17%
1997	5	11	83	12	10%	78%	11%
1998	9	17	64	6	20%	74%	7%
1999	12	7	49	3	12%	83%	5%

Table 4. Age classes of 1999-2000 mountain lion harvest by Game Management Unit.

Unit	Sex	Number by Age Class				Percentage by Age Class		
		Unknown	K-3	4-7	8+	K-3	4-7	8+
1	F		7	13	0	35%	65%	0%
	M		5	19	2	19%	73%	8%
2	F		4	2	0	67%	33%	0%
	M		0	5	0	0%	100%	0%
3	F		7	1	0	88%	13%	0%
	M		0	5	0	0%	100%	0%
4	F		2	5	0	29%	71%	0%
	M		1	4	0	20%	80%	0%
4A	F		3	4	0	43%	57%	0%
	M		0	1	0	0%	100%	0%
5	F		3	3	0	50%	50%	0%
	M		0	5	0	0%	100%	0%
6	F		0	5	2	0%	71%	29%
	M		0	6	0	0%	100%	0%
7	F		1	4	0	20%	80%	0%
	M		1	4	1	17%	67%	7%
9	F		0	0	0			
	M		0	0	0			
DAU 1-1	F		27	37	2	41%	56%	3%
	M		7	49	3	12%	83%	5%

Table 5. Mountain lion harvest by method in DAU 1-1 during 1999-2000 season.

Method	Males	Females	Unknown	Total
Weapon				
Rifle	52	61	0	113
Bow	5	3	0	8
Muzzleloader	2	0	0	2
Pistol	13	6	0	19
Unknown	1	6	0	7
Guided				
Yes	14	15	0	29
No	57	63	0	120
Method				
Still	6	7	0	13
Incidental	9	9	0	18
Predator Call	1	0	0	1
Hounds	49	60	0	109
Other/Unknown	6	2	0	8

Table 6. Distribution of mountain lion harvest by month, sex, and unit for DAU 1-1 during 1999-2000 season.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
1	M	1	1	1	9	12	4	0	28
	F	0	0	1	9	11	1	0	22
2	M	0	1	0	1	4	0	0	6
	F	0	0	0	2	3	0	1	6
3	M	0	0	2	2	1	1	1	7
	F	0	0	1	2	2	4	0	9
4	M	0	0	1	2	2	0	0	5
	F	0	1	2	3	5	0	0	11
4A	M	0	0	0	0	1	0	1	2
	F	0	0	0	1	6	0	0	7
5	M	1	0	1	1	4	0	0	7
	F	0	3	1	0	3	1	0	8
6	M	1	1	1	2	2	3	0	10
	F	1	0	0	2	3	2	1	9
7	M	1	1	1	1	2	0	0	6
	F	1	0	1	2	2	0	0	6
9	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
Total	M	4	4	7	18	28	8	2	71
	F	2	4	6	21	35	8	2	78
	Total	6	8	14	39	63	16	4	149

**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-24</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>I</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 1999 to June 30, 2000</u>		

**CLEARWATER REGION**

**ABSTRACT**

During the 1999-2000 hunting season, hunters in the Clearwater Region harvested 172 mountain lions, 49% of which were females. This was a decrease in harvest of 32% from the 1996-1998 average of 253 mountain lions harvested annually. DAU 2-1 received a 44% decrease in harvest (74), while DAU 2-2 received a decrease of 24% in harvest (84), and DAU 2-3 decreased slightly in harvest (12). The most common age class harvested in all DAUs was the 4-7 age class, accounting for 67% of the mountain lions harvested in DAU 2-1, 61% in DAU 2-2, and 59% in DAU 2-3. During the 1999-2000 season, most mountain lions were harvested using hounds (83%), followed by incidental harvest (13%). Most mountain lions were harvested with a rifle. The decrease in overall harvest may indicate a decrease in population size, or merely reflect the snow conditions. This is the second consecutive year the harvest has declined.

**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. In 1999, 172 mountain lions were harvested in the Clearwater Region.

## 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 DAU 2-1 the 1999-2000 mountain lion take season extended from September 15 through March 31. There is no dog-training season for mountain lions.

## HARVEST CHARACTERISTICS

### Sex Ratio

During the 1999-2000 hunting season, DAU 2-1 hunters killed 74 mountain lions, including 29 females and 45 males (Table 1). This was 44% less than the previous 3-year average of 132. Females comprised 39% of the harvest, less than the previous 3-year average.

### Age Structure

The 1999-2000 harvest was dominated by 4-7 year age class mountain lions (67%), with 24% k-3, and 9% in the 8+ year age class (Table 2). This is relatively consistent with previous years, except that harvest levels have declined. This is consistent with the prognosis that the population levels may be declining.

### Harvest Trend

During the 1999-2000 hunting season, hunters in DAU 2-1 harvested 74 mountain lions, which is 44% less than the previous 3-year average (Tables 1 and 13). 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.

### Harvest By Method and Weapon

Hound hunting was the most common method used to harvest mountain lions in this DAU, accounting for 79% of the harvest. Incidental harvest accounted for 18% of the mountain lions reported during the 1999-2000 season, a decrease for the first time in many years - possibly a

result of stabilized or decreasing mountain lion numbers (Table 3). As in the past, a rifle was the most common weapon used (Table 4).

### CLIMATIC CONDITIONS

The Clearwater Region received average precipitation at higher elevations during the winter of 1999-2000, but below average at lower elevations. Snowpack was 102% of average, while dry snow conditions resulted in 82% of average snow water equivalent. Winter conditions for big game were favorable throughout the region. Snow conditions provided average-to-poor tracking conditions throughout the region, and hunting continued all winter and spring due to low snow accumulations at lower elevations.

### DEPREDATIONS

Mountain lion depredations are usually very minor in this DAU. However, during the 1999-2000 season, 14 depredation complaints were filed with the Department for this DAU. In GMUs 8 and 14 in particular, the Department has recently been receiving more reports (9) of problems associated with livestock, some of which are human safety concerns.

### 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. The last 2 seasons incurred a decrease in harvest despite lengthened seasons, possibly an indication of declining populations.

Harvest increased 440% from 1991-1997 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 decreased this year (48%) for the second consecutive year this decade (Table 14). 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 1999-2000 take season was not changed from last year. DAU 2-2 did not have a dog-training season and there were no female harvest quotas.

## HARVEST CHARACTERISTICS

### Sex Ratio

During the 1999-2000 hunting season, DAU 2-2 hunters harvested 84 mountain lions, 52% of which were females (Table 5). The proportion of females was higher than the previous 3-year average.

### Age Structure

The 1999-2000 harvest was dominated by 4-7 year age class mountain lions (61%), which was about average. Sixteen percent of the harvest was in the k-3 age class, and 24% was in the 8+ age class (Table 6). This is a common harvest composition.

### Harvest Trend

During the 1999-2000 hunting season, Area 2-2 hunters harvested 84 mountain lions, which represents a decrease of 24% over the previous 3-year average (Table 5). Harvest in this DAU varies dramatically between years, usually a result of weather conditions. However this year's harvest was the lowest since 1992. Incidental harvest may be an indicator of random encounters

with mountain lions, likely a function of population densities. Incidental harvest is declining (Table 14).

#### Harvest By Method and Weapon

Hunters in DAU 2-2 used hounds to harvest mountain lions 87% of the time and incidental to other activities 11% of the time (Table 7). The weapon used most often was the rifle (Table 8).

### CLIMATIC CONDITIONS

The Clearwater Region received average precipitation at higher elevations during the winter of 1999-2000, but below average at lower elevations. Snowpack was 102% of average, while dry snow conditions resulted in 82% of average snow water equivalent. Winter conditions for big game were favorable throughout the region. Snow conditions provided average to poor tracking conditions throughout the region, and hunting continued all winter and spring due to low snow accumulations at lower elevations.

### DEPREDACTIONS

There were 5 reported cases of mountain lion depredations, which is typical of this DAU.

### MANAGEMENT IMPLICATIONS

There was a 24% decrease in harvest over the previous 3-year average, and harvest levels were about the same as 1992. The season was again liberalized 2 weeks for the 1999-2000 season to offer sportsmen a greater opportunity to harvest mountain lions. Incidental harvest increased during 1998, but decreased during 1999. Harvest may be somewhat weather related.

### **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 1999-2000 mountain lion take season extended from September 15 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 1999-2000 hunting season, DAU 2-3 hunters killed 12 mountain lions, including 6 females (Table 9). This was a decrease in harvest from 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. Therefore, because of low harvest numbers, sex ratios are not clearly trend sensitive.

### Age Structure

The numbers of mountain lions harvested is typically too small to reflect accurately the age structure of the population; however, 7 of 12 mountain lions harvested were in the 4-7 year age class, 2 in the K-3, and 3 in the 8+ age class (Table 10).

### Harvest Trend

Mountain lion harvest continues to remain stable and fluctuates about 3-10 animals per year, probably a result of different weather conditions during the hunting season (Table 9). Because these are such large units with ample prey base, the mountain lion population is clearly much greater than harvest indicates. This suggests an underharvested population, but evidently self-regulating. The major restriction to harvest in this DAU is hunter access.

### Harvest By Method and Weapon

Harvest in DAU 2-3 was 83% (10 of 12) by the use of hounds, the remainder incidental (1) and predator call (1) (Table 11). The most common weapons used were rifle, pistol, and bow (Table 12).

### CLIMATIC CONDITIONS

The Clearwater Region received average precipitation at higher elevations during the winter of 1999-2000, but below average at lower elevations. Snowpack was 102% of average, while dry snow conditions resulted in 82% of average snow water equivalent. Winter conditions for big game were favorable throughout the region. Snow conditions provided average to poor tracking conditions throughout the region, and hunting continued all winter and spring due to low snow accumulations at lower elevations.

### DEPREDATIONS

Because units in this DAU are comprised predominately of wilderness, depredations are not usually a concern. One depredation occurred during 1999-2000.

### 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. Because whitetail are not widespread within these wilderness units, mountain lion populations could not increase as dramatically as they could in areas that had increasing whitetail populations. This theory suggests that encounters with mountain lions would occur more frequently in whitetail habitat because more people also recreate and work in those habitats. This may be what has occurred over the last few years in those units with high numbers of whitetail and easy hunter access (Table 14).

Table 1. Mountain lion harvest in Area 2-1<sup>a</sup>, in the Clearwater Region, 1990-1999.

Year	Males	Females	Total	Percent Female
1990	25	17	42	40
1991	25	18	43	42
1992	31	27	58	47
1993	46	28	74 <sup>a</sup>	38
1994	45	29	74 <sup>b</sup>	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
1995-1998 Average	63	65	128	52

<sup>a</sup>GMUs 8, 8A, 10, 10A, 11, 11A.

Table 2. Mountain lion harvest by age class<sup>a</sup>, sex, and year in DAU 2-1<sup>b</sup>, 1990-1999.

Year	Sex	Age Class						Total
		K-3 (%)		4-7 (%)		8+ (%)		
1990	M	3	(7)	20	(49)	1	(2)	24
	F	6	(15)	11	(27)	0	(0)	17
1991	M	5	(13)	16	(41)	3	(8)	24
	F	6	(15)	9	(23)	0	(0)	15
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

<sup>a</sup> GMUs 8, 8A, 10, 10A, 11, 11A.

<sup>b</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 method and sex in DAU 2-1<sup>a</sup>, 1990-1999.

Method	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hounds	18	14	24	19	26	17	29	14	33	39	53	44	58	50	31	40	34	25
Incidental	5	2	3	5	14	6	13	10	10	19	6	13	15	21	7	12	4	9
Still Hunt	0	1	1	0	0	0	1	2	2	3	0	0	1	1	3	5	2	0
Unknown	2	0	3	3	6	5	2	3	0	0	0	0	1	0	0	0	1	0
Pred. Call	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0
Other	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	18	31	27	46	28	45	29	45	61	59	57	75	72	42	58	41	34

<sup>a</sup> GMUs 8, 8A, 10, 10A, 11, 11A.

Table 4. Mountain lion harvest by weapon and sex in DAU 2-1<sup>a</sup>, 1991-1999.

Weapon	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Bow	8	4	6	12	8	5	11	1	5	5	9	8	7	9	5	5	7	1
Pistol	4	4	6	4	5	6	9	6	10	16	11	6	20	9	11	17	11	7
Rifle	9	10	16	8	26	13	23	19	30	39	37	32	46	52	26	36	19	25
Muzzle	2	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	3	0
Unknown	2	0	3	3	6	4	2	3	0	0	2	1	2	1	0	0	1	1
Total	25	18	31	27	46	28/	45	29	45	61	59	57	75	72	42	58	41	34

<sup>a</sup> GMUs 8, 8A, 10, 10A, 11, 11A

Table 5. Mountain lion harvest in Area 2-2<sup>a</sup>, in the Clearwater Region, 1990-1999.

Year	Males	Females	Total	Percent Female
1990	24	18	42	43
1991	41	28	70 <sup>b</sup>	40
1992	52	26	78	33
1993	64	51	116 <sup>c</sup>	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
1996-1998 Average	58	53	111	48

<sup>a</sup> GMUs 8, 8A, 10, 10A, 11, 11A.

<sup>b</sup> In 1991, one mountain lion was checked with sex unknown.

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

Table 6. Mountain lion harvest by age class<sup>a</sup>, sex, and year in DAU 2-2<sup>b</sup>, 1990-1999.

Year	Sex	K-3 (%)		4-7 (%)		8+ (%)		Total
1990	M	3	(8)	17	(46)	2	(5)	22
	F	2	(5)	12	(320)	1	(3)	15
1991	M	3	(4)	26	(39)	11	(16)	40
	F	9	(13)	18	(27)	0	(0)	27
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

<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.

<sup>b</sup> GMUs 12, 13, 14, 15, 16, 18.

Table 7. Mountain lion harvest by method and sex in DAU 2-2<sup>a</sup>, 1991-1999.

Method	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hounds	35	18	40	13	54	38	35	19	41	40	63	46	55	41	31	31	36	37
Incidental	4	4	4	5	7	11	6	11	15	8	3	6	9	11	11	10	3	6
Still Hunt	1	5	0	1	1	1	1	0	0	5	0	2	0	3	0	3	1	1
Unknown	1	1	7	7	2	1	4	3	0	0	0	0	1	0	0	1	0	0
Pred. Call	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Other	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Totals	41	28	52	26	64	51	46	34	56	53	66	55	65	55	42	45	40	44

<sup>a</sup> GMUs 12, 13, 14, 15, 16, 18.

Table 8. Mountain lion harvest by weapon and sex in DAU 2-2<sup>a</sup>, 1991-1999.

Weapon	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Bow	12	1	6	2	11	7	3	6	7	67	7	3	6	2	4	4	5	5
Pistol	6	7	22	6	21	21	18	7	13	19	24	22	26	17	12	16	17	8
Rifle	21	19	17	11	30	21	21	18	36	28	34	29	32	36	25	25	15	27
Muzzle	1	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	1	1
Unknown	1	1	7	7	4	6	0	0	0	0	0	0	1	0	0	0	2	3
Total	41	28	52	32	66	56	42	31	56	53	66	55	65	55	42	45	40	44

<sup>a</sup> GMUs 12,13,14,15,16,18.

Table 9. Mountain lion harvest in Area 2-3<sup>a</sup>, in the Clearwater Region, 1990-1999.

Year	Males	Females	Total	Percent Female
1990	10	6	16	38
1991	10	4	14	29
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
1996-1998 Average	9	5.7	14.7	40.7

<sup>a</sup> GMUs 16A, 17, 19, 20.

Table 10. Mountain lion harvest by age class<sup>a</sup>, sex, and year in DAU 2-3<sup>b</sup>, 1990-1999.

Year	Sex	K-3 (%)		4-7 (%)		8+ (%)		Total
1990	M	4	(25)	6	(38)	0	(0)	10
	F	1	(6)	5	(31)	0	(0)	6
1991	M	1	(7)	4	(28)	5	(36)	10
	F	2	(14)	2	(14)	0	(0)	4
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

<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.

<sup>b</sup> GMUs 16A, 17, 19, 20.

Table 11. Mountain lion harvest by method and sex in DAU 2-3<sup>a</sup>, 1991-1999.

Method	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hounds	6	3	11	5	6	7	2	2	7	2	4	2	11	4	9	5	6	4
Incidental	1	1	2	0	1	2	4	2	0	3	0	2	1	2	3	0	0	1
Still Hunt	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Unknown	3	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Pred. Call	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0
Totals	10	4	16	5	8	10	6	5	7	6	4	4	12	7	13	5	6	6

<sup>a</sup> GMUs 16A, 17, 19, 20.

Table 12. Mountain lion harvest by weapon and sex in DAU 2-3<sup>a</sup>, 1991-1999.

Weapon	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Bow	1	1	0	1	2	0	1	1	2	1	4	2	4	1	4	0	1	0
Pistol	1	2	9	3	2	3	1	0	4	1	4	1	7	2	1	2	2	2
Muzzle	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	3	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	2	0
Rifle	4	1	6	1	3	6	5	3	1	4	0	1	1	4	5	3	1	4
Total	10	4	16	5	8	10	8	5	7	6	8	4	12	7	10	5	6	6

<sup>a</sup> GMUs 16A, 17, 19, 20.

Table 13. Mountain lion harvest in the Clearwater Region by DAU for 1991-1999.

Year	DAU 2-1			DAU 2-2			DAU 2-3			Region		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1991	25	18	43	42	28	70	10	4	14	77	50	127
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 <sup>a</sup>	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

Table 14. Mountain lion harvest by Game Management Unit in the Clearwater Region from 1991-1999.

Unit	1991	1992	1993	1994	1995	1996	1997	1998	1999
8	1	3	3	2	1	3	8	5	6
8A	9	4	6	13	11	17	15	21	14
10	13	23	30	20	16	21	20	19	16
10A	16	18	25	29	58	60	87	66	34
11	4	8	8	5	14	14	11	3	4
11A	0	0	1	5	7	1	6	6	2
12	18	18	24	10	16	18	23	21	24
13	2	6	10	4	10	9	8	4	4
14	12	17	24	10	17	16	16	18	26
15	24	21	35	26	41	51	42	17	9
16	9	13	12	16	16	18	18	20	13
16A	2	3	3	1	3	0	1	1	1
17	5	15	11	7	8	5	12	14	7
18	5	4	10	13	8	9	13	11	8
19	3	1	3	0	1	2	0	1	2
20	3	1	1	3	2	1	6	1	2
Total	126	155	206	164	229	245	286	228	172

**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-24</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, 1999 to June 30, 2000</u>			

**SOUTHWEST REGION**

**ABSTRACT**

Mandatory check reports during the 1999-2000 mountain lion season indicated a harvest of 120 mountain lions (67 male and 53 female) within the Southwest Region. Four units (Units 25, 31, 32, and 39) in the Southwest Region closed before March 31 because the female harvest quota was met.

**SOUTHWEST REGIONAL STATUS**

Mandatory check reports during the 1999-2000 mountain lion season indicated a harvest of 120 mountain lions (67 male and 53 female) within the Southwest Region. This is lower than the harvest in 1998-1999. Fourteen units in the Southwest Region have a female harvest quota. Forty-nine units in the state use a quota system as a mountain lion management strategy. Four units (25, 31, 32, and 39) in the Southwest Region closed because the female quota was met.

Several incidents with mountain lions were reported in 1999-2000 in residential areas of Boise, the foothills near Boise, and near Lake Lowell (Nampa area).

Mountain lion harvest in the Southwest Region decreased from 127 to 120 mountain lions from the 1998-1999 to the 1999-2000 season. Rifles were the most common weapon used to harvest mountain lions (Table 1). Guides were used by 27% of the successful mountain lion hunters (Table 1). Incidental and still hunters harvested 21% of the mountain lions (Table 1).

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

**HARVEST CHARACTERISTICS**

Season Structure

General season length for the Southwest Region units within Areas 3-1 is 198 days (Table 2).

## MANDATORY CHECK

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 increased from 1998 to 1999 (Table 3). The proportion of females in the harvest decreased to 39%. Twenty-two of the 30 harvested mountain lions were taken during December, January, and February (Table 4). The largest portion of harvested mountain lions are in the 4- to 6-year-old age class (Table 5).

All units in this DAU are under a quota system. The quota was met in Units 31 and 32. The female quota system appears to have been successful during the past two seasons in reducing female harvest and shifting more harvest to the male segment of the population while still allowing for adequate sport hunting opportunity.

## CLIMATIC CONDITIONS

The 1999-2000 winter period provided mixed mountain lion hunting conditions. Precipitation was average, and snow depths did not restrict access for significant parts of the season.

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

## HARVEST CHARACTERISTICS

### Season Structure

General season length for the Southwest Region units within Area 3-2 is 198 days (Table 6).

### Mandatory Check

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 slightly, from 73 in 1998 to 64 in 1999 (Table 7). The number of females in the harvest decreased only slightly, from 26 to 24, and the proportion of females in the harvest remained about one-third. Forty-six of the 64 harvested mountain lions were taken during December, January, and February (Table 8). Most harvested mountain lions were in the 4- to 6-year-old age class (Table 9).

All units except 19A are under a female quota management system. The quota was met in Units 25 and 39. The female quota system appears to have been successful in reducing female

harvest and shifting more harvest to the male segment of the population while still allowing for adequate sport hunting opportunity.

## DEPREDATIONS

There were several reports of mountain lions in residential areas in and around Boise

## CLIMATIC CONDITIONS

The 1999-2000 winter period provided average mountain lion hunting conditions. Precipitation was average, and snow depths did not restrict access for significant parts of the season.

## AREA 3-3 (GMUS 20A, 26)

### BACKGROUND

Area 3-3 contains good mountain lion populations that are not heavily harvested because of limited access.

Research data suggests that mountain lion populations in Area 3-3 are stable and self-regulating, and could withstand higher harvest. Because of limited access and rugged topography, long seasons can be allowed without reducing the population. However, Area 3-3 serves as a security area and population reservoir for emigration to surrounding areas to maintain mountain lion numbers in some heavily harvested populations in Area 3-2.

### POPULATION SURVEY

Due to the difficulty in estimating mountain lion population size, population trend and condition are inferred from age data collected through the mandatory check and report of all hunters killing a mountain lion.

## HARVEST CHARACTERISTICS

### Season Structure

The season structure for Area 3-3 is given in Table 10.

### Mandatory Check

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.

The total harvest in Area 3-3 increased from 3 to 9 from 1998 to 1999 (Table 11). The month of harvest, sex, and age of the harvested mountain lions is listed in Tables 12-13.

## CLIMATIC CONDITIONS

The 1999-2000 winter period provided good mountain lion hunting conditions. Snow depths did restrict access for part of the season.

## AREA 3-4 (GMUS 40, 41, 42)

### BACKGROUND

Area 3-4 encompasses the southwestern and south-central parts of Idaho. Habitats are generally dry and range from desert to distinctly dry forest. The common characteristic of Area 3-4 is that elk are either absent or very scarce, and deer are the major big game prey species for mountain lions.

Access to mountain lions in winter is intermediate between that in Areas 3-2 and 3-3. 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. Weather conditions, especially wind-blown snow, are not as conducive to good trailing as they are in other parts 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. All of these factors make mountain lion hunting less productive and less popular in Area 3-4 than in Area 3-2.

### POPULATION SURVEYS

Due to the difficulty in estimating mountain lion population size, population trend and condition are inferred from age data collected through the mandatory check and report of all hunters killing a mountain lion.

### HARVEST CHARACTERISTICS

#### Season Structure

The season structure for Area 3-4 is given in Table 14.

#### Mandatory Check

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.

The total harvest increased in 1999-2000 (Table 15). The harvest in 1999 more than doubled the five-year average of 14 lions to 39. The increased quota allowed the harvest to increase. The month of harvest, sex, and age of the harvested mountain lions is listed in Tables 16-17.

#### CLIMATIC CONDITIONS

The 1999-2000 winter period provided good mountain lion hunting conditions. Snow depths did not restrict access.

Table 1. Mountain lion harvest by method in the Southwest Region during 1999-2000.

Method	Males	Females	Total
Weapon			
Rifle	39	33	72
Bow	10	5	15
Mzldr.	3	0	3
Pistol	13	12	25
Other	2	3	5
Guided			
Yes	18	14	32
No	48	43	91
Method			
Still	1	0	1
Incid.	10	14	24
Pred. Call	0	1	1
Hounds	55	37	92
Other	1	0	1

Table 2. Season structure for mountain lion in Area 3-1 in the Southwest Region.

Season Type	Units	Season		Open for
		Dates	Length (Days)	
General <sup>a</sup>	22	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup> (This unit will remain open until a total of 6 females has been harvested or March 31, whichever occurs first.)
	24	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup> (This unit will remain open until a total of 5 females has been harvested or March 31, whichever occurs first.)
	31, 32	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup> (These units will remain open until a total of 5 females has been harvested in this group of units or March 31, whichever occurs first.)
	32A	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup> (This unit will remain open until a total of 5 females has been harvested or March 31, whichever occurs first.)

<sup>a</sup> Dogs may be used during these seasons when no firearm season (excluding muzzleloader and controlled hunts during September and from November 24-December 31) for deer or elk is open in the area to be hunted.

<sup>b</sup> Neither spotted mountain lion young nor female mountain lions accompanied by young may be taken.

Table 3. Mountain lion harvest in Area 3-1, 1995-1999 in the Southwest Region.

Year	Males	Females	Total	Percent Female
1995	15	14	29	48
1996	15	8	23	35
1997	26	12	38	32
1998	12	16	28	57
1999	20	13	33	39
1995-1999 Average	18	13	31	42

Table 4. Mountain lion harvest by sex and unit in Area 3-1 for the Southwest Region during 1999-2000.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
22	M	0	0	0	1	0	0	1	2
	F	0	0	1	1	0	1	1	4
24	M	0	0	0	1	1	2	0	4
	F	0	1	0	0	1	1	1	4
31	M	0	0	2	0	0	0	0	2
	F	0	0	0	3	2	0	0	5
32	M	0	1	0	0	1	0	0	2
	F	0	0	0	0	0	0	0	0
32A	M	0	0	0	1	2	1	1	5
	F	0	0	1	0	1	0	0	2
Total	M	0	1	2	3	4	3	2	15
	F	0	1	2	4	4	2	2	15

Table 5. Mountain lion harvest by age and sex classes by unit in Area 3-1 for the Southwest Region during 1999-2000. The percentage figures in this table are based on extremely small sample sizes and must be interpreted with caution.

Unit	Sex	Age Class		
		K-3 (%)	4-7 (%)	8+ (%)
22	M	1 (50)	0	1 (50)
	F	0	1 (50)	1 (50)
24	M	0	0	4 (100)
	F	0	2 (67)	1 (33)
31	M	1 (50)	1 (50)	0
	F	1 (20)	4 (80)	0
32	M	1 (50)	1 (50)	0
	F	0	0	0
32A	M	2 (50)	1 (25)	1 (25)
	F	0	2 (100)	0
Total	M	5 (36)	3 (21)	6 (43)
	F	1 (8)	9 (75)	2 (17)

Table 6. Season structure for mountain lion in Area 3-2 in the Southwest Region.

Season Type	Units	Season		Open for
		Dates	Length (Days)	
General <sup>a</sup>	19A	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>
General <sup>a</sup>	23 (This unit will remain open until a total of 8 females has been harvested or March 31, whichever occurs first.)	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>
	33, 34, 35 (These units will remain open until a total of 10 females has been harvested in this group of units or March 31, whichever occurs first.)	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>
	25 (This unit will remain open until a total of 5 females has been harvested or March 31, whichever occurs first.)	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>
	39 (This unit will remain open until 10 females have been harvested or March 31, whichever occurs first.)	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>

<sup>a</sup> Dogs may be used during these seasons when no firearm season (excluding muzzleloader and controlled hunts during September and from November 24-December 31) for deer or elk is open in the area to be hunted.

<sup>b</sup> Neither spotted mountain lion young nor female mountain lions accompanied by young may be taken.

Table 7. Mountain lion harvest in Area 3-2, 1995-1999 in the Southwest Region.

Year	Males	Females	Total	Percent Female
1995	39	20	59	34
1996	17	9	26	35
1997	49	25	74	34
1998	47	26	73	36
1999	40	24	64	38
1995-1999 Average	38	21	59	36

Table 8. Mountain lion harvest by sex and unit in Area 3-2 for the Southwest Region during 1999-2000.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
19A	M	0	0	0	1	0	0	0	1
	F	0	2	0	0	1	0	0	3
23	M	0	0	3	1	4	1	1	10
	F	0	0	0	0	1	0	0	1
25	M	0	0	0	2	2	1	0	5
	F	1	0	0	0	2	1	1	5
33	M	1	0	0	3	2	1	0	7
	F	0	0	0	1	2	1	1	5
34	M	0	0	0	0	0	0	1	1
	F	0	0	0	0	0	0	0	0
35	M	0	0	0	1	2	0	0	3
	F	0	0	0	1	0	0	0	1
39	M	1	1	0	4	3	3	1	13
	F	0	3	1	1	3	1	0	9
Total	M	2	1	3	12	13	6	3	40
	F	1	5	1	3	9	3	2	24

Table 9. Mountain lion harvest by age and sex classes by unit in Area 3-2 for the Southwest Region during 1999-2000. The percentage figures in this table are based on extremely small sample sizes and must be interpreted with caution.

Unit	Sex	Age Class		
		K-3 (%)	4-7 (%)	8+ (%)
19A	M	0	0	1 (100)
	F	1 (33)	1 (33)	1 (34)
23	M	0	7 (88)	1 (12)
	F	0	1 (100)	0
25	M	0	4 (100)	0
	F	2 (40)	3 (60)	0
33	M	3 (38)	4 (50)	1 (12)
	F	2 (50)	2 (50)	0
34	M	0	1 (100)	0
	F	0	0	0
35	M	0	2 (67)	1 (33)
	F	1 (100)	0	0
39	M	4 (33)	3 (25)	5 (42)
	F	4 (50)	4 (50)	0
Total	M	7 (19)	21 (57)	9 (24)
	F	10 (45)	11 (50)	1 (5)

Table 10. Season structure for mountain lion in Area 3-3 in the Southwest Region.

Season Type	Units	Season		Open for
		Dates	Length (Days)	
General <sup>a</sup>	20A, 26	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>

<sup>a</sup> Dogs may be used during these seasons when no firearm season (excluding muzzleloader and controlled hunts during September and from November 24-December 31) for deer or elk is open in the area to be hunted.

<sup>b</sup> Neither spotted mountain lion young nor female mountain lions accompanied by young may be taken.

Table 11. Mountain lion harvest in Area 3-3, 1995-1999 in the Southwest Region.

Year	Males	Females	Total	Percent Female
1995	6	4	10	40
1996	2	1	3	33
1997	3	3	6	50
1998	0	3	3	100
1999	3	6	9	67
1994-1998 Average	3	3	6	50

Table 12. Mountain lion harvest by sex and unit in Area 3-3 for the Southwest Region during 1999-2000.

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

Table 13. Mountain lion harvest by age and sex classes by unit in Area 3-3 for the Southwest Region during 1999-2000. The percentage figures in this table are based on extremely small sample sizes and must be interpreted with caution.

Unit	Sex	Age Class		
		K-3 (%)	4-7 (%)	8+ (%)
20A	M	0	0	0
	F	0	0	0
26	M	0	1 (33)	2 (67)
	F	0	1 (50)	1 (50)
Total	M	0	1 (33)	2 (67)
	F	0	1 (50)	1 (50)

Table 14. Season structure for mountain lion in Area 3-4 in the Southwest Region.

Season Type	Units	Season		Open for
		Dates	Length (Days)	
General <sup>a</sup>	40 (This unit will remain open until a total of 10 females has been harvested in this unit or March 31, whichever occurs first.)	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>
General <sup>a</sup>	41, 42 (These units will remain open until a total of 10 females has been harvested in this group of units or March 31, whichever occurs first.)	9/15/99-3/31/00	198	Any mountain lion <sup>b</sup>

<sup>a</sup> Dogs may be used during these seasons when no firearm season (excluding muzzleloader and controlled hunts during September and from November 24-December 31) for deer or elk is open in the area to be hunted.

<sup>b</sup> Neither spotted mountain lion young nor female mountain lions accompanied by young may be taken.

Table 15. Mountain lion harvest in Area 3-4, 1995-1999 in the Southwest Region.

Year	Males	Females	Total	Percent Female
1995	8	2	10	20
1996	10	10	20	50
1997	4	10	14	71
1998	9	8	17	47
1999	24	15	39	38
1995-1999 Average	11	9	20	45

Table 16. Mountain lion harvest by sex and unit in Area 3-4 for the Southwest Region during 1999-2000.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
40	M	1	0	0	2	3	1	0	7
	F	0	0	0	2	3	1	0	6
41	M	0	0	0	0	1	0	1	2
	F	0	1	0	0	0	0	0	1
42	M	0	0	0	0	1	0	0	1
	F	0	0	0	0	1	0	0	1
Total	M	1	0	0	2	5	1	1	10
	F	0	1	0	2	4	1	0	8

Table 17. Mountain lion harvest by age and sex classes by unit in Area 3-4 in the Southwest Region during 1999-2000. The percentage figures in this table are based on extremely small sample sizes and must be interpreted with caution.

Unit	Sex	Age Class		
		K-3 (%)	4-7 (%)	8+ (%)
40	M	2 (29)	3 (42)	2 (29)
	F	2 (33)	2 (33)	2 (34)
41	M	0	2 (100)	0
	F	0	0	0
42	M	0	0	1 (100)
	F	0	1 (100)	0
Total	M	2 (20)	5 (50)	3 (30)
	F	2 (29)	3 (42)	2 (29)

**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-24</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>I</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 1999 to June 30, 2000</u>		

**MAGIC VALLEY REGION**

**ABSTRACT**

Mandatory reports indicated a hunter harvest of 38 mountain lions in the Magic Valley Region during the 1999-2000 season, an increase of 111% from 1991 when only 18 mountain lions were taken in the region. Seven mountain lions were hunter harvested in Area 4-1, 25 in Area 4-2, 4 in Area 4-3, and 2 in the Unit 49 portion of Area 4-4. Five other mountain lions were killed in the region during 1999-2000; 3 were taken in response to depredation problems, local police killed 1 in the city of Ketchum, and Department personnel euthanized 1 kitten. The female quota was reached in only one unit (54) on January 25, 2000.

The best hunting conditions occurred during December and January during which 66% of the harvest occurred. Fifteen of 38 (39%) mountain lions checked in 1999-2000 were females. Hound hunting accounted for 31 (82%) of the hunter-harvested mountain lions in the region.

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

**MANAGEMENT DIRECTION**

Management Objectives

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

**BACKGROUND**

Historical Information

Units 43, 44, and 45 have accounted for 14% of the mountain lion harvest in the Magic Valley Region over the last 9 years (Table 1). Prior to 1994 most of the mountain lion depredations on livestock occurred in these units.

## 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 Area 4-4.

## HARVEST CHARACTERISTICS

Seven hunter-harvested mountain lions (5 males and 2 females) were checked from area 4-1; 2 from Unit 43, 2 from Unit 45, 1 from Unit 48, and 2 from Unit 52 (Table 5). The 1999-2000 season was the first year for a mountain lion hunt in Unit 48. The 1999-2000 harvest in Area 4-1 was slightly above the 9-year average (Table 1). None of the mountain lions were in the young age class, 5 were in the mid age class, and 2 were in the unknown age class (Table 6). Mountain lions were harvested in November, December, January, and February (Table 5). Access to most low elevation areas was not restricted by snow throughout the winter. Four of the 7 mountain lions harvested in this area were taken with hounds (Table 7). The remaining 3 were taken either with a predator call or incidental to other hunting activities.

## DEPREDATIONS

The Department did not receive any official depredation complaints but Wildlife Services took 2 mountain lions in response to depredation reports.

## 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 1999-2000 season was not met in any of the groups of units in this harvest area. Harvest is influenced largely by snow conditions. Units 43, 44, 48, and 49 typically have very limited access after mid-December. The other four units generally have good access throughout the winter.

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

### MANAGEMENT DIRECTION

#### Management Objectives

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

### BACKGROUND

#### Historical Information

Units 46, 47, 54, and 55 have accounted for about 65% of the mountain lion harvest in the Magic Valley Region during the last 9 years (Table 2). 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 (November 6), 1992-1993 (December 31), and 1993-1994 (November 18) 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 January 15 and in 1995-1996 was closed on February 6. In the 1996-1997 season, Units 55, 56, and 57 were grouped together to increase harvest (7-female quota). The 1997-1998 season again regrouped and increased the 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 25 mountain lions in 1999-2000 was 39% higher than the previous year and 14% above the 9-year average. Unit 54 traditionally accounts for the highest percentage of the harvest in these units, and in 1999-2000 accounted for 52% of the harvest. In 1999-2000, 5 mountain lions were taken in Unit 47, 13 in Unit 54, and 7 in Unit 55. Females accounted for 44% of the 1999-2000 harvest, which is above the 9-year average of 41% (Table 2). Of the 25 mountain lions harvested in these units, 20%, 56%, and 8% were in the K-3 years, 4-7 years, and 8+ years age classes, respectively (Table 6). Sixty-eight percent (17/25) of the harvest occurred during December and January when tracking conditions were best (Table 5). Hound hunting accounted for 20 of the 25 mountain lions (80%) harvested in this area (Table 7).

## DEPREDATIONS

Historically mountain lion depredations had been 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, 5 mountain lions depredating on domestic sheep were killed in Unit 54 by Noh Sheep Co. and resulted in a claim settlement of \$1,425 in 1996-1997. During the 1999-2000 reporting period, Laird Noh's sheepherder killed 1 female mountain lion and no damage claim was filed.

## MANAGEMENT IMPLICATIONS

Mountain lion populations appears 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. However, since 1998 mountain lion populations appear to have stabilized or declined based on harvest data and reports from mountain lion hunters. Liberal harvest strategies will be continued for the 2000-2001 season.

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

## MANAGEMENT DIRECTION

### Management Objectives

- Reduce or stabilize the mountain lion population.
- 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 4 mountain lions was reported for these units in 1999-2000, the lowest harvest since 1994 (Table 3). Fifty percent of reported harvest was females (Table 5). Of the 4 mountain lions harvested, 2 were in the 4-7 year age class, and 2 were in the 8+ age class (Table 6). Fifty percent of the mountain lions were taken in December (Table 5). All 4 of the mountain lions harvested were taken with hounds (Table 7). The 3-female quota was not met during the 1999-2000 season.

### DEPREDATIONS

No depredations were reported in these units.

### MANAGEMENT IMPLICATIONS

Mountain lion numbers appear to have stabilized in 1999-2000. These units will remain grouped together and will maintain a 3-female quota for the 2000-2001 season.

### **AREA 4-4 (GMU 49)**

### MANAGEMENT DIRECTION

#### Management Objectives

- Stabilize harvest rates.
- 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 ADC 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 management area 4-4.

## HARVEST CHARACTERISTICS

Two mountain lions were harvested in Unit 49 during the 1999-2000 season (Tables 4 and 5). Both of the mountain lions harvested were in the 8+ age class. The 3-female quota was never reached in this group of units in the 1999-2000 season. Units 50 and 51 are managed by the Upper Snake Region and are reported on elsewhere in this report.

## DEPREDATIONS

No depredations were reported in this unit; however, 1 mountain lion was shot and killed by the Ketchum Police Department after a call from a concerned citizen.

## MANAGEMENT IMPLICATIONS

Harvest in Unit 49 has typically been light with only 15 mountain lions taken since 1991. Snow conditions and access continue to play a substantial roll in mountain lion harvest in this unit. 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 Area 4-1, Magic Valley Region, 1991-1999.

Year	Males	Females	Total	Percent Female
1991	3	4	7	57
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	62
1998	4	0	4	0
1999 <sup>a</sup>	5	2	7	29
1991-1999 Average	2.9	2.1	5.0	42

<sup>a</sup> Doesn't include a male and female mountain lion harvested by Wildlife Services in response to 2 livestock deprecations.

Table 2. Mountain lion harvest in Area 4-2, Magic Valley Region, 1991-1999.

Year	Males	Females	Total	Percent Female
1991	6	4	10	40
1992	13	8	21	38
1993	10	8	18	44
1994	14	8	22	36
1995 <sup>a</sup>	18	9	27	33
1996	20	10	30	33
1997 <sup>b</sup>	13	13	26	46
1998 <sup>c</sup>	8	10	18	55
1999 <sup>d</sup>	14	11	25	44
1991-1999 Average	12.9	9.0	21.9	41

<sup>a</sup> Does not include a male harvested in July by WS in response to livestock depredation.

<sup>b</sup> Does not include a female harvested in June by a sheepherder in response to a livestock depredation.

<sup>c</sup> Does not include 2 males harvested by a sheepherder and WS in response to a livestock depredation.

<sup>d</sup> Does not include a female harvested by a sheepherder in response to a livestock depredation.

Table 3. Mountain lion harvest in Area 4-3, Magic Valley Region, 1991-1999.

Year	Males	Females	Total	Percent Female
1991	1	0	1	0
1992	0	0	0	0
1993	4	0	4	0
1994	4	0	4	0
1995	8	0	8	0
1996 <sup>a</sup>	5	5	10	50
1997	2	3	5	60
1998	6	3	9	33
1999 <sup>b</sup>	2	2	4	50
1991-1999 Average	3.5	1.4	5.0	29

<sup>a</sup> Does not include a female harvested in September by WS in response to a livestock depredation.

<sup>b</sup> Does not include a male kitten euthanized by IDFG personnel.

Table 4. Mountain lion harvest in Unit 49 (Area 4-4), Magic Valley Region, 1991-1999.

Year	Males	Females	Total	Percent Female
1991	0	0	0	0
1992	0	0	0	0
1993	1	0	1	0
1994	2	0	2	0
1995 <sup>a</sup>	1	0	1	0
1996	2	3	5	60
1997	0	0	0	0
1998	3	1	4	25
1999 <sup>b</sup>	2	0	2	0
1991-1999 Average	1.2	0.4	1.7	27

<sup>a</sup> Includes illegally taken male in Unit 49.

<sup>b</sup> Doesn't include a male harvested by Ketchum Police Dept. in response to an alleged threat to a human.

Table 5. Mountain lion harvest by sex, unit and month for the Magic Valley Region during 1999-2000.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
43	M	0	0	0	0	0	1	0	1
	F	0	0	0	0	1	0	0	1
44	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
45	M	0	0	0	1	0	0	0	1
	F	0	0	0	1	0	0	0	1
46	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
47	M	0	0	0	1	2	1	0	4
	F	0	0	0	0	1	0	0	1
48	M	0	0	0	1	0	0	0	1
	F	0	0	0	0	0	0	0	0
49	M	0	0	0	0	1	1	0	2
	F	0	0	0	0	0	0	0	0
52	M	0	0	1	1	0	0	0	2
	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	1	1	3	1	0	0	6
	F	2	0	1	1	3	0	0	7
55	M	0	0	0	1	1	2	0	4
	F	0	0	0	1	2	0	0	3
56	M	0	0	0	2	0	0	0	2
	F	0	0	0	0	0	1	1	2
57	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
Total	M	0	1	2	10	5	6	0	23
	F	2	0	1	3	7	1	1	15

Table 6. Mountain lion harvest by age and sex classes by unit in the Magic Valley Region during 1999-2000.

Unit	Sex	Age Class			Unknown (%)
		K-3 (%)	4-7 (%)	8+ (%)	
43	M	0	1(50)	0	0
	F	0	0	0	1(50)
44	M	0	0	0	0
	F	0	0	0	0
45	M	0	1(50)	0	0
	F	0	1(50)	0	0
46	M	0	0	0	0
	F	0	0	0	0
47	M	1(20)	3(60)	0	0
	F	0	1(20)	0	0
48 <sup>a</sup>	M	0	0	0	1(100)
	F	0	0	0	0
49 <sup>b</sup>	M	0	0	2(100)	0
	F	0	0	0	0
52 <sup>c</sup>	M	0	2(100)	0	0
	F	0	0	0	0
54 <sup>d</sup>	M	1(8)	4(31)	0	1(8)
	F	2(15)	3(23)	0	2(15)
55	M	1(14)	1(14)	1(14)	1(14)
	F	0	2(28)	1(14)	0
56 <sup>e</sup>	M	0	1(20)	1(20)	0
	F	0	1(20)	1(20)	0
57	M	0	0	0	0
	F	0	0	0	0

<sup>a</sup> Does not include 1 female taken by Wildlife Services in response to a livestock depredation.

<sup>b</sup> Does not include 1 female taken by Ketchum Police Department.

<sup>c</sup> Does not include 1 male taken by Wildlife Services in response to a livestock depredation.

<sup>d</sup> Does not include 1 female taken by a shepherd in response to a depredation.

<sup>e</sup> Does not include 1 male kitten euthanized by Department personnel.

Table 7. Mountain lion harvest by method in the Magic Valley Region during 1999-2000.

Method	Males	Females	Total
<b>Weapon</b>			
Rifle	9	8	17
Bow	4	2	6
Muzzleloader	0	0	0
Pistol	10	4	14
Other/Unknown	0	1	1
<b>Guided</b>			
Yes	3	2	5
No	20	13	33
Other/Unknown	0	0	0
<b>Method</b>			
Still	0	0	0
Bait	0	1	1
Incidental	2	2	4
Predator Call	0	2	2
Hounds	21	10	31
Other/Unknown	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-24</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>I</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b> <u>July 1, 1999 to June 30, 2000</u>			

**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 17. Unit 74 was moved from the western to eastern quota group. The west district quota of 10 females was not reached, but the east district quota of 7 females was reached in December 1999.

Thirty-seven mountain lions (21 males and 16 females) were reported harvested in the Southeast Region during the report period. Nine other mountain lion mortalities were documented, including 5 killed for being near livestock operations.

**AREA 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 harvests 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. For 1999 Unit 74 was moved from the western to eastern quota district. Quotas have varied from 2 females per district several yeas ago to 10 in the west and 7 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	7-female quota
		70, 71, 73, 73A	10-female quota

HARVEST CHARACTERISTICS

Thirty-seven mountain lions comprised of 21 males and 16 females were reported harvested in the Southeast Region during the 1999-2000 season (Table 1). The 43% female harvest was slightly above the 10-year region-wide average of 40% (Table 1). 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 43% (16 of 37) of the mountain lions taken (Table 2). Most mountain lions taken in the report period (25 of 37) were taken in November or December, with 8 of the 16 females taken in December alone (Table 2). The western district quota of 10 females was not reached during the reporting period as only 9 females were taken, whereas the eastern district quota was reached (7 females harvested) in December 1999.

Tooth drop measurements were obtained from all 37 of the mountain lions (Table 3): 15 in group I (1-3 years), 18 in group II (4-7 years), and 4 in group III (8+ years). The largest percentage of mountain lions harvested during the report period was from the 4-7 year old group with 10 (48%) of the males and 8 (50%) of the females within that class (Table 3).

As with most years, most (33 of 37) mountain lions harvested were taken by hunters using hounds (Table 4). Only 2 of the mountain lions harvested were taken with the use of paid guides (Table 4). Reported nonhunting mortalities consisted entirely of mountain lions killed due to proximity to humans or livestock. Nine such mortalities were reported, 5 over concern for depredations on livestock.

### 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 1999-2000 were 75-85% 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. No mountain lions were 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 43% female harvest during the reporting period is similar 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. During the last 5 harvest seasons the proportion of the male mountain lion harvest occurring in the oldest age category has appeared to decline (Fig. 1).

Table 1. Mountain lion harvest in Area 5-1, 1990-1999, in the Southeast Region.

Year	Males	Females	Total	Percent Female
1990	9	8	17	47
1991	8	*5	13	38
1992	5	4	9	44
1993	7	*5	12	42
1994	12	4	16	25
1995	9	*6	15	40
1996	13	*9	22	41
1997	29	*15	44	34
1998	51	43	94	46
1999	21	16	37	43
1990-1999 Mean	16.4	11.5	27.9	40.0

\* 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 1998-1999.

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	1	1	0	0	0	2
	F	0	0	0	0	0	0	0	0
71	M	0	0	0	1	1	1	0	3
	F	0	0	0	1	0	0	0	1
72	M	0	0	0	0	0	0	0	0
	F	0	0	0	2	0	0	0	2
73	M	0	0	1	3	1	1	0	6
	F	0	0	0	1	1	0	0	2
73A	M	0	0	0	1	1	0	0	2
	F	0	0	0	1	2	2	1	6
74	M	0	0	0	1	0	0	0	1
	F	0	0	0	1	0	0	0	1
75	M	0	0	1	0	0	0	0	1
	F	0	0	1	1	0	0	0	2
76	M	0	0	1	1	0	0	0	2
	F	0	0	0	0	0	0	0	0
77	M	0	0	1	1	0	0	0	2
	F	0	0	0	1	0	0	0	1
78	M	0	0	2	0	0	0	0	2
	F	0	1	0	0	0	0	1	
Total	M	0	0	7	9	3	2	0	21
	F	0	1	1	8	3	2	1	16

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

Unit	Sex	Age Class*		
		K-3 (%)	4-7 (%)	8+ (%)
66A	M	0	0	0
	F	0	0	0
70	M	0	0	2 (100)
	F	0	0	0
71	M	0	3 (100)	0
	F	0	1 (100)	0
72	M	0	0	0
	F	1 (50)	1 (50)	0
73	M	3 (50)	3 (50)	0
	F	1 (50)	1 (50)	0
73A	M	1 (50)	1 (50)	0
	F	4 (67)	1 (17)	1 (17)
74	M	1 (100)	0	0
	F	0	1 (100)	0
75	M	0	0	1 (100)
	F	0	2 (100)	0
76	M	1 (50)	1 (50)	0
	F	0	0	0
77	M	0	2 (100)	0
	F	0	1 (100)	0
78	M	2 (100)	0	0
	F	1 (100)	0	0
Total	M	8 (38)	10 (48)	3 (14)
	F	7 (44)	8 (50)	1 (6)

\*Age classes assigned from tooth drop from jawbone to first enamel; <4mm, 4-7mm, >6mm.

Table 4. Mountain lion harvest per sex by weapon, guide status, and method in the Southeast Region during 1999-2000.

Method	Males	Females	Total
<b>Weapon</b>			
Rifle	10	6	16
Bow	3	1	4
Pistol	7	8	15
Other	1	1	2
<b>Guided</b>			
Yes	1	1	2
No	20	15	35
<b>Method</b>			
Incidental	1	2	3
Predator Call	0	1	1
Hounds	20	13	33

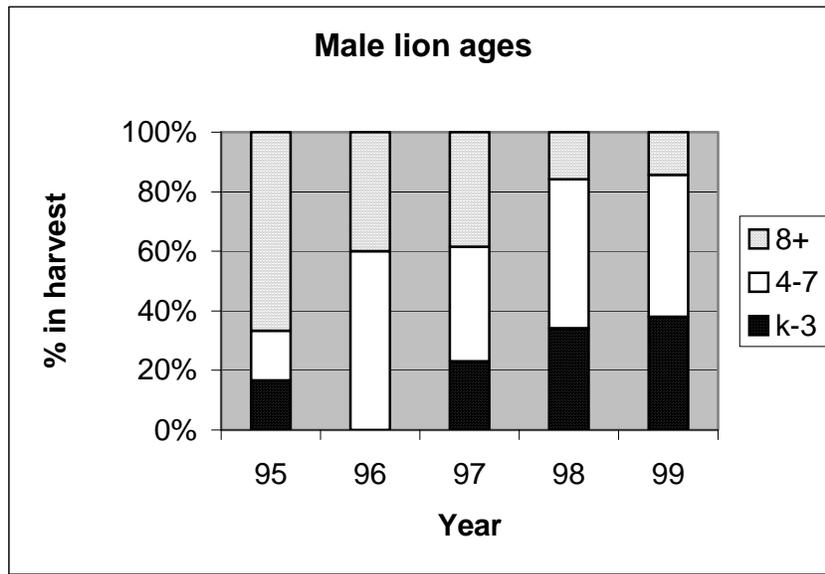


Figure 1. Age distribution of male mountain lions harvested in the Southeast Region, 1995-1999 harvest seasons.

**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-24</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>I</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b>	<u>July 1, 1999 to June 30, 2000</u>		

**UPPER SNAKE REGION**

**ABSTRACT**

Eighteen mountain lions were reported harvested in the Upper Snake Region during the 1999-2000 season. Harvest was determined from hunter reports as required by Fish and Game Commission regulation. No estimate of hunter effort nor hunter participation in the dog training season is available. Officer field contacts have found only light dog training activity in Units 51, 58, and 59A and no known dog-training activity in Units 60, 61, 62, and 62A. Relatively mild wintering conditions resulted in dispersed wintering big game. The female mountain lion quota was not met in any of the data analysis units. The U.S. Department of Agriculture's Wildlife Services verified a report of a mountain lion killing 7 sheep and 5 lambs in Clark County and an unverified report of a mountain lion killing 2 lambs in Teton County. The Department reimbursed the sheep owner in Clark County \$112.00 for his losses, but received no other mountain lion depredation complaints.

**AREA 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. Mountain lion viewing is also limited because the mountain lions primarily use the more rugged terrain which receives relatively light recreational use. However, when a mountain

lion or mountain lion sign is seen, it adds to the observer's recreational experience and reports of the observation is repeated many times by residents of this sparsely populated area. The hunting season had traditionally been September 15 through January 31; however, the 1996-1997 season was extended to March 31 to provide more hunter opportunity on perceived increased mountain lion numbers. These dates have been maintained since the 1996-1997 season. 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>                      September 15, 1999-March 31, 2000

<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 two female mountain lions have been harvested or March 31, 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 March 31.

## HARVEST CHARACTERISTICS

### Sex Ratio

Two male mountain lion, but no female mountain lion, were reported harvested from Area 6-1 during the 1999-2000 season (Table 1). Harvest from this area has been too light and variable to make meaningful sex ratio comparisons with previous years.

### Age Structure

One of the male mountain lions that was in the K-3 years old category and the other was in the 4-7 age category (Table 5).

### Harvest Trend

Over the past five years mountain lion reported harvested from Area 6-1 has ranged from 1 to 6 with an average of 3 (Table 1). The 1999-2000 harvest of 2 mountain lion is below average for reported mountain lion harvest from this DAU over the last 5 years. Reported female mountain lion harvest has varied from 0 to 100% of the total harvest over the last 5 years.

### Kill Distribution by Date

Both of the mountain lions were harvested in December (Table 4).

### Incidental Kill

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

## CLIMATIC CONDITIONS

Winter conditions were relatively mild resulting in big game remaining disbursed. Low snow accumulation during the early part of winter made locating mountain lion tracks difficult.

## DEPREDATIONS

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

## MANAGEMENT IMPLICATIONS

There are relatively few mountain lions in Area 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.

Unit 59 was opened to hunting and dog training in 1994 because I-15 provides a better hunt area boundary than Medicine Lodge Creek. Mountain lion numbers in this unit are low and, therefore, provide only limited hunter and dog training opportunity.

There is no need for a controlled hunt in this area because harvest is light, ranging from 1 to 6 mountain lions per season.

## **AREA 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 January 31 to March 31 in 1996-1997 to provide more hunter opportunity on perceived increased mountain lion numbers; these dates have been retained since the 1996-1997 season. 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. Unit 49, which had been reported with Area 6-2 through 1995, was placed in the DAU with Units 43 and 44 in 1996.

### Season Structure

General Either Sex Take Season<sup>a,b</sup> September 15, 1999-March 31, 2000

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

<sup>b</sup> The units will remain open until 3 female mountain lions have been harvested or March 31, whichever occurs first.

Dog training season

A dog-training season shall open upon the closure of this group of units to harvest where the harvest quota is met. If opened, the training season will close March 31.

## HARVEST CHARACTERISTICS

### Sex Ratio

Five male mountain lions and 2 female mountain lions were harvested in Area 6-2 during the 1999-2000 season (Table 2). The sex ratio was 29% female, which was below the 5-year average of 48%. The female mountain lion quota was not filled during the 1999-2000 season.

### Age Structure

All age classes of mountain lion were represented in the harvest (Table 5). One mountain lion was in the K-3 years old category, 5 were in the 4-7 years old category and 1 was in the 8+ years old category.

### Harvest Trend

Seven mountain lions were reported harvested from Area 6-2 during the 1999-2000 season. Four of the mountain lions were reported taken from Unit 50 and 3 from Unit 51 (Table 4). This harvest was above the 5-year average harvest of 6.2 (Table 2).

### Kill Distribution by Date

One mountain lion was harvested in October, 3 in December, 2 in January, and 1 in February (Table 4).

### Incidental Kill

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

## CLIMATIC CONDITIONS

Snow accumulation was light resulting in big game remaining relatively dispersed throughout the winter. Temperatures remained near normal throughout winter.

## DEPREDATIONS

There were no mountain lion depredations reported for DAU 6-2 during this reporting period.

## MANAGEMENT IMPLICATIONS

The take season remained open until March 31, 2000. Unit 50 has 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 Area 6-2 continues to be directed toward minimizing harvest of female mountain lions.

## **AREA 6-3 (GMUS 64, 65, 66, 67, 69 (PART))**

### 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

Historically there were relatively few mountain lions in these units. Suitable mountain lion habitat is limited to the Snake River Mountain Range, which is isolated from other mountain lion habitat by agricultural lands and urban areas. The area receives high recreational use throughout the summer and winter; consequently, nonconsumptive values have been high for mountain lion

occupying this area. Historically there were very few depredation or landowner complaints on mountain lions in these units. However, after implementing a dog training season in 1991, depredation and landowner complaints occurred annually. Therefore, the Department approved a mountain lion take season for these units in 1994. Area 6-3 was expanded to include Unit 66 and that part of Unit 69 within the Antelope and Garden Creek Drainages and the female quota increased from 2 to 3 in 1996-1997, increased to 4 for 1997-1998, and increased again to 5 for the 1998-1999 and 1999-2000 seasons.

### Season Structure

General either sex take season<sup>a</sup>                      September 15, 1999-December 31, 1999

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

Dog Training Season                                      None

## HARVEST CHARACTERISTICS

### Sex Ratio

Seven male and 2 female mountain lions were reported taken from Area 6-3 during the 1999 season (Table 3).

### Age Structure

Three of the mountain lions harvested were in the K-3 years old category, 2 were in the 4-7 years old category, and 4 were in the over 8 years old category (Table 5).

### Kill Distribution by Date

Two mountain lions was harvested in November and 7 in December (Table 4).

### Incidental Kill

There was no incidental mountain lion kill reported from area 6-3 during the 1999-2000 reporting period.

## CLIMATIC CONDITIONS

Snow accumulation was light and winter conditions remained relatively mild throughout the season. Hunter access was not hampered by snow depth. Big game winter mortality was light.

## DEPREDATIONS

Wildlife Services received an unverified report of a mountain lion killing 2 lambs in Teton County during the 1999-2000 reporting period.

## MANAGEMENT IMPLICATIONS

Area 6-3 is a relatively small area of mountain lion habitat that is isolated from other mountain lion habitat by agricultural and urban development. 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 very vulnerable to overharvest of the mountain lion population. The female quota directs harvest toward male mountain lions, but does not prevent overharvest.

Seven male mountain lions and 2 female mountain lions were reported taken from this relatively small isolated population during the 1999 season. It is doubtful that this level can be sustained. Therefore, harvest and houndsmen activity in Area 6-3 should be monitored closely to see how the mountain lion population and distribution responds. If harvest drops or houndsmen complain of a lack of mountain lion, or the nonhunting public complains, it will be necessary to restrict the take season. This could be done by implementing a controlled hunt as provided for in the mountain lion plan.

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

### MANAGEMENT DIRECTION

There is very little mountain lion habitat in these units and mountain lion sightings are rare. No open mountain lion season is anticipated in these management units during this planning period.

### BACKGROUND

Occasionally, mountain lions travel through these units, but there does not appear to be an established population. There are no wintering concentrations of big game in these units. 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.

#### Season Structure

General take season	None
Dog Training Season	January 1, 2000-March 31, 2000

#### Season Participation

No data are collected on dog training season participation. However, Department personnel are unaware of any mountain lion hound hunter activity during the season.

#### DEPREDATIONS

Wildlife Services verified 1 mountain lion depredation on 7 sheep and 5 lambs in the Clark County area of 61 during the summer of 1999. The sheep owner submitted a claim to the Department for \$1,112.00; after the standard deduction of \$1,000.00, the Department reimbursed the sheep owner \$112.00 for his loss.

#### MANAGEMENT IMPLICATIONS

The mountain lion plan provides for no mountain lion hunting or dog training in these units. There does not appear to be an established mountain lion population in this area, although transient mountain lions occasionally migrate through and may temporarily stay in the area for a short time. There are no winter concentrations of big game in the area, which could be the reason no mountain lion population has established. Snow depths usually prevent dog training activity after November 1. Therefore, the value to the mountain lion hunting public of retaining this area open to dog training is questionable.

Table 1. Mountain lion harvest in Area 6-1, 1995-1999 in the Upper Snake Region.

Year	Males	Females	Total	Percent Female
1995	2	2	4	50
1996	1	1	2	50
1997	6	0	6	0
1998	0	1	1	100
1999	2	0	2	0
1995-1999 Average	2.2	0.8	3.0	27

Table 2. Mountain lion harvest in Area 6-2, 1995-1999 in the Upper Snake Region.

Year	Males	Females	Total	Percent Female
1995 <sup>a</sup>	2	3	5	60
1996	5	3	8	38
1997	3	3	6	50
1998	1	4	5	80
1999	5	2	7	29
1995-1999 Average	3.2	3.0	6.2	48

<sup>a</sup> Included unit 49.

Table 3. Mountain lion harvest in Area 6-3, 1995-1999 in the Upper Snake Region.

Year	Males	Females	Total	Percent Female
1995	5	1	6	17
1996	2	2	4	50
1997	7	3	10	43
1998	9	0	9	0
1999	7	2	9	22
1995-1999 Average	6.0	1.6	7.6	21

Table 4. Mountain lion harvest by sex and unit for the Upper Snake Region during 1999-2000.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
50	M	0	0	0	3	0	0	0	3
	F	0	1	0	0	0	0	0	1
51	M	0	0	0	0	1	1	0	2
	F	0	0	0	0	1	0	0	1
58	M	0	0	0	1	0	0	0	1
	F	0	0	0	0	0	0	0	0
59	M	0	0	0	1	0	0	0	1
	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
64	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0
65	M	0	0	0	1	0	0	0	1
	F	0	0	0	2	0	0	0	2
66	M	0	0	1	2	0	0	0	3
	F	0	0	0	0	0	0	0	0
67	M	0	0	0	2	0	0	0	2
	F	0	0	0	0	0	0	0	0
69	M	0	0	1	0	0	0	0	1
	F	0	0	0	0	0	0	0	0
Total	M	0	0	2	10	1	1	0	14
	F	0	1	0	2	1	0	0	4

Table 5. Mountain lion harvest by age and sex classes by unit in the Upper Snake Region during 1999-2000.

Unit	Sex	Age Class		
		K-3 (%)	4-7 (%)	8+ (%)
50	M	1(20)	2(40)	0(0)
	F	0(0)	1(20)	1(20)
51	M	0(0)	2(100)	0(0)
	F	0(0)	0(0)	0(0)
58	M	1(100)	0(0)	0(0)
	F	0(0)	0(0)	0(0)
59	M	0(0)	1(100)	0(0)
	F	0(0)	0(0)	0(0)
59A	M	0(0)	0(0)	0(0)
	F	0(0)	0(0)	0(0)
64	M	0(0)	0(0)	0(0)
	F	0(0)	0(0)	0(0)
65	M	0(0)	0(0)	1(33)
	F	1(33)	0(0)	1(33)
66	M	1(33)	2(67)	0(0)
	F	0(0)	0(0)	0(0)
67	M	1(50)	0(0)	1(50)
	F	0(0)	0(0)	0(0)
69	M	0(0)	0(0)	1(100)
	F	0(0)	0(0)	0(0)
Total	M	4(22)	7(39)	3(17)
	F	1(6)	1(6)	2(11)

Table 6. Mountain lion harvest by method in the Upper Snake Region during 1999-2000.

Method	Males	Females	Total
<b>Weapon</b>			
Rifle	3	4	7
Bow	6	0	6
Mzldr.	0	0	0
Pistol	5	0	5
Other	0	0	0
<b>Guided</b>			
Yes	1	1	2
No	13	3	16
<b>Method</b>			
Still	1	1	2
Bait	0	0	0
Incid.	0	2	2
Pred. Call	0	0	0
Hounds	13	1	14
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-24</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>I</u>		<u>Trends, Use, and Associated</u>
<b>JOB:</b>	<u>8</u>		<u>Habitat Studies</u>
<b>PERIOD COVERED:</b> <u>July 1, 1999 to June 30, 2000</u>			

**SALMON REGION**

**ABSTRACT**

Hunters have taken 338 mountain lions (223 males, 115 females) in the Salmon Region in the past five seasons. Seventy-six mountain lions (36% females) were harvested in 1999-2000. Only 15% of the harvest were young (age 0-3) animals. Age 8+ mountain lions comprised 32% of the 1999-2000 harvest.

Over the past three seasons, December and January accounted for about 75% of the harvest in the accessible areas (DAUs 7-1 and 7-2). About 40-50% occurred during December and 25-35% in January. In contrast most of the backcountry harvest (DAU 3-3) occurred during January; only about 10% occurred during September through December. No mountain lions were harvested during the 17 days added to the beginning of the 1999-2000 season; four mountain lions were harvested during the 44 additional days at the end of this year's season. In the Salmon Region, 90% of the mountain lions were taken using hounds. Only 8% of the harvest occurred as incidental take during deer and elk seasons.

The average annual mountain lion harvest from the Salmon Region has been increasing, more than doubling from the 1970s through the 1990s. The increased harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases. At the same time the age composition of the harvest has been improving, suggesting that mountain lion populations are more than keeping pace with the increased harvest. Wolves reintroduced into the Salmon Region during 1995 and 1996 could eventually have some impact on mountain lion populations, particularly in localized areas.

**AREA 3-3 (GMU 27)**

**MANAGEMENT DIRECTION**

Follow statewide management direction in the 1991-1995 Mountain Lion Species Management Plan, which is to maintain populations, reduce and stabilize the harvest, and reduce the female component to 25-35% of the harvest.

## BACKGROUND

### Historical Information

Unit 27 encompasses most of the 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 the terrain is generally quite rugged. Human use of the area is primarily recreational - summer river rafting and fall/winter hunting. Elevations vary 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 good mountain lion populations that are lightly harvested because of the limited access and difficult terrain. 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 beginning to establish 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. In 1999-2000 the season opened two weeks earlier (August 30) than it had in recent prior years. The August 30, 1999 through March 31, 2000 season included a total season length of 214 days. Dogs may be used when a firearm season for deer or elk is not open (after November 18.) Neither spotted young nor female mountain lions accompanied by young may be taken.

## HARVEST CHARACTERISTICS

### Sex Ratio

Over the long term, females comprised 37% of the 1995-2000 mountain lion check (Table 1).

### Age Structure

More subadult mountain lions than usual (n=5) were harvested during 1999-2000 (Table 4). Over the long term, about 5% of the females and 57% of the males are in the oldest age class (age 8+). Subadults comprise about 2% of the male harvest and 19% of the female harvest.

### Harvest Trend

The 1999-2000 harvest of 17 mountain lions was comparable to that of 1997-1998 and 1998-1999, which was the highest in at least 25 years. The average harvest for Unit 27 has increased from 4-5 mountain lions per year in the 1970s and 1980s to 8.0 mountain lions per year in the

early 1990s and 14.6 mountain lions per year in the late 1990s. Unit 27 mountain lion harvest can be strongly influenced by the activities of a handful of outfitters.

#### Kill Distribution By Date

Most of the Unit 27 harvest (about two-thirds over the long term) occurs during January (Table 5). Less than 10% of the harvest occurs during the September 15-November 18 deer and elk season. February and March account for about 25% of the harvest.

#### Incidental Kill

Eighty-seven percent of the mountain lions harvested in Unit 27 are taken with the assistance of hounds (Table 6). Only 6% of the harvest is incidental to fall deer and elk hunting.

### CLIMATIC CONDITIONS

Summer and fall 1999 were drier than usual, producing poor forage quality and ungulate body condition entering the 1999-2000 winter. Dry conditions persisted through November, but regular precipitation came during early December just before the peak mountain lion hunting period. Regular snowfall also came during early January. The remainder of the 1999-2000 winter was milder and drier than usual, which probably inhibited mountain lion hunting somewhat.

### DEPREDATIONS

No mountain lion depredations were reported in 1999-2000.

### MANAGEMENT IMPLICATIONS

Mountain lion harvest is on an increasing trend. The 1997-1998 and 1998-1999 harvests of 19 animals were the highest in at least 25 years, and the 1999-2000 harvest was comparable. The increased 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. The sex and age composition of the Unit 27 harvest suggest a light harvest rate - older animals and males represent the majority of the harvest. Percent females in the harvest for Unit 27 is currently just above the goal range of 25-35%. Over the long term, newly reintroduced wolves could have some impact on mountain lion populations, at least on a local level.

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

### MANAGEMENT DIRECTION

Follow statewide management direction in the 1991-1995 Mountain Lion Species Management Plan, which is to maintain populations, reduce and stabilize the harvest, and reduce the female component to 25-35% of the harvest.

### BACKGROUND

#### Historical Information

Area 7-1 is comprised primarily of the drainages to the 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.

Area 7-1 supports good 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. Management Area 7-1 mountain lion populations are partly sustained by immigration from adjacent, lightly hunted wilderness populations (Management Area 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 the winters of 1994-1995 and 1995-1996, 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 Area 7-1.

#### Season Structure

During 1996-1997 the general mountain lion season in Area 7-1 was extended by 15 days from January 31 to February 15. During 1999-2000 the season was extended by another 61 days (August 30 to March 31) 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. 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. With the advent of much longer mountain lion take seasons, dog-training seasons (no harvest allowed) were eliminated in all Area 7-1 units.

### HARVEST CHARACTERISTICS

#### Sex Ratio

During 1999-2000, 44% of the mountain lions harvested were females (Table 2). However, over the longer term, females comprised 37% of the 1995-2000 mountain lion check (n=186).

### Age Structure

Two subadult mountain lions (6% of the total harvest) and 8 old mountain lions (24% of the total) were harvested during 1999-2000 (Table 4). Over the long term, harvest age structure has been stable to improving, with about one-fourth of the female harvest and less than 10% of the male harvest in the subadult age class. Approximately 25% of the females and 40% of the males taken are old animals (age 8+).

### Harvest Trend

Despite the significant increase in season length, the 1999-2000 harvest of 34 mountain lions marked a harvest reduction from the 1998-1999 record harvest of 41 animals. The average harvest for these units has 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 37.2 mountain lions per year in the late 1990s.

### Kill Distribution By Date

About three-fourths of the Area 7-1 mountain lion harvest occurs during December and January (Table 5). About 10% occurs from September through November, and about 10% in the first half of February. No mountain lions were harvested during the 17 days added to the beginning of the season this year; only one mountain lion was harvested during the 44 additional days at the end of this year's season.

### Incidental Kill

Eighty-nine percent of the Salmon Region mountain lions harvested during 1999-2000 were taken with the assistance of hounds (Table 6). Eight mountain lions were taken incidental to fall deer and elk hunting.

## CLIMATIC CONDITIONS

Summer and fall 1999 were drier than usual, producing poor forage quality and ungulate body condition entering the 1999-2000 winter. Dry conditions persisted through November, but regular precipitation came during early December just before the peak mountain lion hunting period. Regular snowfall also came during early January. The remainder of the 1999-2000 winter was milder and drier than usual, which probably inhibited mountain lion hunting somewhat.

## DEPREDACTIONS

No mountain lion depredations were reported in 1999-2000.

## MANAGEMENT IMPLICATIONS

Mountain lion harvest in Area 7-1 has been on an increasing trend since the mandatory check was initiated in 1973. The increased harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases. The sex and age composition of the Area 7-1 harvest suggest that harvest rate has not increased - older animals and males represent a stable to increasing proportion of the harvest. Percent females in the harvest is currently slightly above the goal range of 25-35%. Over the long term, newly reintroduced wolves could have some impact on mountain lion populations, at least on the local level.

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

#### MANAGEMENT DIRECTION

Follow statewide management direction in the 1991-1995 Mountain Lion Species Management Plan, which is to maintain populations, reduce and stabilize the harvest, and reduce the female component to 25-35% of the harvest.

#### BACKGROUND

##### Historical Information

Area 7-2 is comprised primarily of the drainages to the 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.

Area 7-2 supports low to moderate mountain lion densities 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 Area 7-2.

##### Season Structure

During 1996-1997 the general mountain lion season in Area 7-2 was extended by 15 days from January 31 to February 15. During 1999-2000 the season was extended by another 61 days (August 30 to March 31) 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. 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. With the advent of much longer mountain lion take seasons, dog-training seasons (no harvest allowed) were eliminated in all Area 7-2 units.

## HARVEST CHARACTERISTICS

### Sex Ratio

During 1999-2000, 20% of the mountain lions harvested were females (Table 3). Over the longer term, females comprised 24% of the 1995-2000 mountain lion check (n = 79).

### Age Structure

Four subadult mountain lions (16% of the harvest) were harvested from area 7-2 during 1999-2000 (Table 4). Nine mountain lions (36% of the harvest) were in the old age category (age 8+). Over the past five years, the female harvest has averaged 29% old animals and the male harvest has been 43% old animals. During the past two seasons, there appears to have been a decline in old age animals in the harvest, a trend that will bear watching carefully.

### Harvest Trend

The 1999-2000 harvest of 25 mountain lions was the highest in at least 25 years, almost double the harvest seen in recent years. The average harvest for 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 15.8 mountain lions per year in the late 1990s.

### Kill Distribution By Date

About three-fourths of the Area 7-2 mountain lion harvest occurs during December and January (Table 5). About 10% occurs from September through November, and about 10% in the first half of February. No mountain lions were harvested during the 17 days added to the beginning of the season this year; three mountain lions were harvested during the 44 additional days at the end of this year's season.

### Incidental Kill

Eighty-nine percent of the Salmon Region mountain lions harvested during 1999-2000 were taken with the assistance of hounds (Table 6). Eight mountain lions were taken incidental to fall deer and elk hunting.

## CLIMATIC CONDITIONS

Summer and fall 1999 were drier than usual, producing poor forage quality and ungulate body condition entering the 1999-2000 winter. Dry conditions persisted through November, but regular precipitation came during early December just before the peak mountain lion hunting period. Regular snowfall also came during early January. The remainder of the 1999-2000 winter was milder and drier than usual, which probably inhibited mountain lion hunting somewhat.

## DEPREDATIONS

No mountain lion depredations were reported in 1999-2000.

## MANAGEMENT IMPLICATIONS

Mountain lion harvest in Area 7-2 has been on an increasing trend. The increased harvest probably reflects mountain lion population increases as a result of prey (primarily elk) population increases. The sex and age composition of the Area 7-2 harvest suggest that harvest rate is still acceptable, although the proportion of old mountain lions in the harvest may be declining. Percent females in the harvest for Area 7-2 is currently well within the goal range of 25-35%.

Table 1. Mountain lion harvest in Area 3-3 in the Salmon Region (Unit 27).

Year	Males	Females	Total	Percent 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
1995-1999 Average	9	5	14	37

Table 2. Mountain lion harvest in Area 7-1 in the Salmon Region.

Year	Males	Females	Total	Percent Female
1995	27	11	38	29
1996	28	7	35	20
1997	19	19	38	50
1998	24	17	41	41
1999	19	15	34	44
1995-1999 Average	23	14	37	37

Table 3. Mountain lion harvest in Area 7-2 in the Salmon Region.

Year	Males	Females	Total	Percent Female
1995	10	3	13	23
1996	11	2	13	15
1997	10	4	14	29
1998	9	5	14	36
1999	20	5	25	20
1995-1999 Average	12	4	16	24

Table 4. Mountain lion harvest by age and sex classes by unit in the Salmon Region during 1999-2000.

Unit	Sex	Age Class		
		K-3 (%)	4-7 (%)	8+ (%)
21	M	0	4	2
	F	0	1	0
21A	M	0	1	0
	F	0	2	1
27	M	3	4	3
	F	2	1	4
28	M	0	8	1
	F	1	5	2
29	M	0	2	1
	F	0	0	0
30	M	0	3	0
	F	1	0	0
30A	M	0	2	3
	F	1	0	0
36	M	0	1	0
	F	0	0	0
36A	M	0	2	3
	F	1	1	0
36B	M	0	1	0
	F	1	0	2
37	M	1	0	0
	F	0	0	0
37A	M	0	2	1
	F	0	0	1
Total	M	4 (8)	30 (61)	14 (29)
	F	7 (27)	10 (38)	10 (37)

Table 5. Mountain lion harvest by sex and unit for the Salmon Region during 1999-2000.

Unit	Sex	Month							Total
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	
21	M	0	0	1	2	2	1	0	6
	F	0	0	0	0	1	0	0	1
21A	M	0	0	0	0	0	1	0	1
	F	0	0	0	0	2	1	0	3
27	M	0	1	0	0	7	2	0	10
	F	0	0	0	0	4	2	1	7
28	M	0	0	1	5	3	1	0	10
	F	0	1	1	2	4	0	0	8
29	M	0	0	0	1	1	0	1	3
	F	0	0	0	0	0	0	0	0
30	M	0	0	1	1	1	0	0	3
	F	0	0	0	0	1	0	0	1
30A	M	0	0	0	3	1	0	1	5
	F	0	0	0	1	0	0	0	1
36	M	0	0	0	1	0	0	0	1
	F	0	0	0	0	0	0	0	0
36A	M	0	0	0	4	1	0	0	5
	F	0	0	0	0	1	0	1	2
36B	M	0	0	0	0	1	0	0	1
	F	0	0	0	0	3	0	0	3
37	M	0	0	0	1	0	0	0	1
	F	0	0	0	0	0	0	0	0
37A	M	0	0	0	2	1	0	0	3
	F	0	1	0	0	0	0	0	1
Total	M	0	1	3	20	18	5	2	49
	F	0	2	1	3	16	3	2	27

Table 6. Mountain lion harvest by method in the Salmon Region during 1999-2000.

Method	Males	Females	Total
<b>Weapon</b>			
Rifle	24	11	35
Bow	13	9	22
Muzzleloader	0	1	1
Pistol	12	6	18
Other	0	0	0
<b>Guided</b>			
Yes	25	18	43
No	24	9	33
<b>Method</b>			
Still	0	0	0
Bait	0	0	0
Incidental	4	4	8
Predator Call	0	0	0
Hounds	44	23	67
Other	0	0	0

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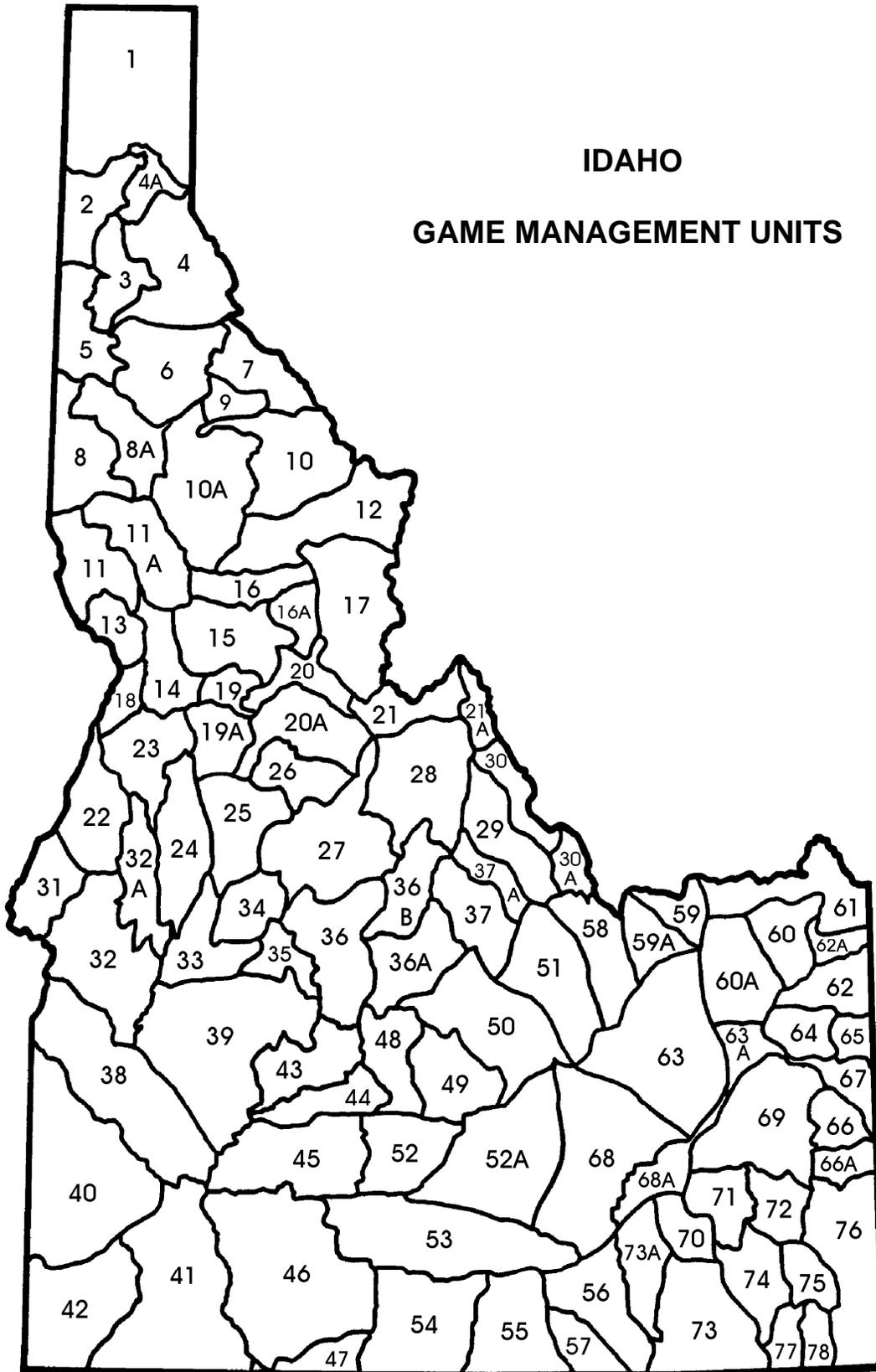
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# IDAHO

## 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.

