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Progress Report



MOOSE

Study I, Job 6

July 1, 2005 to June 30, 2006

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**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>1-7</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>1</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>5</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

STATEWIDE

Abstract

The Idaho Department of Fish and Game offered 102 controlled hunts with 864 permits for antlered moose and an additional 35 controlled hunts with 222 permits for antlerless (female or young male) moose in 2005 (Appendix A). In addition, 5 'Super Tags' were offered for any moose statewide.

Moose Harvest in 2005

Hunters reported harvesting 662 antlered moose, plus 5 'Super Tag' moose, during the fall hunt in 2005. In addition, 48 moose hunters failed to report and so are included in the total as having killed a moose. Thus, estimated harvest of antlered moose in 2005 totaled 715 animals, for a success rate of 83%. By comparison, a total of 776 antlered moose was harvested in 2004 for a 77% hunter success rate. The hunter success rate was 75% (764 moose harvested) in 2003 and 76% (761 moose harvested) in 2002.

The mean antler spread among all harvested moose was 36.8 inches in 2005 and 36.6 inches in 2004.

In addition, the 222 permit holders reported harvesting 169 antlerless moose in 2005 (86% hunter success). By comparison, 157 antlerless moose were harvested in 2004 for a 77% harvest rate. In 2003, hunters harvested 169 moose for a 73% success rate, while in 2002, hunters harvested 98 antlerless moose for a 67% harvest rate. Resident hunter interest in hunting antlerless moose has increased since the Idaho Fish and Game Commission approved a change in moose harvest regulations, allowing hunters to harvest both a once-in-a-lifetime antlerless plus a once-in-a-lifetime antlered moose in Idaho beginning in 2005.

Moose Permit Applications in 2006

There were 5,384 first-choice applications for the 864 permits for antlered moose in April 2006 compared with 5,134 applications for 1,004 permits in 2004, 4,980 applications for 1,004 permits in 2003 and 4,817 first-choice applications for 1,003 permits in 2002. Of the 864 permits

offered, 15 were filled as hunter's second choice of hunt area, and 19 were unfilled (16 for antlered moose) and were offered through a second drawing process.

The overall success rate of applicants for antlered moose permits in 2005 was 16% as compared with 20% in 2004, 20% in 2003, and 21% in 2002. Non-resident hunters sent in 11% (611) of the first-choice applications received, and were successful in obtaining 60 (7%) of the antlered moose permits. Non-residents were eligible to receive up to 114 of the permits offered in the drawing. Only 1 non-resident applied for (and drew) a permit for an antlerless moose in April 2006.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>1</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>I</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

PANHANDLE REGION

Units 1, 2, 3, 4, 6, 7, 9

Controlled Hunt Areas 1-1, 1-2, 1-3, 1-4, 2, 3, 4, 6, 7, 9

Abstract

In 2005, 13 of 227 bulls harvested exceeded 50 inches in antler spread (5.7%) while in 2004, 9 of 188 bulls exceeded 50 inches (4.9%). Success rates averaged 83% from 1995-2004 and 88% in 2005. The average antler spread for harvested bull moose ($n = 227$) was 36.4 inches. There were an estimated 59 non-controlled hunt moose mortalities reported during 2005.

Management Direction

1. Develop an index to moose population trends that does not rely solely on aerial surveys.
2. Place enforcement emphasis on known problem areas of illegal moose kills. Publicize moose poaching arrests and the statewide reward system (Citizens Against Poaching) in the media.
3. Develop a program for warning deer and elk hunters that moose are in an area to reduce accidental kills of moose.
4. Continue to examine present controlled hunt boundaries to include areas not now open to hunting and to distribute moose hunters more evenly. Coordinate moose management and permit levels along the Idaho/Washington border with the Washington Department of Fish and Wildlife.
5. Continue collecting information on moose distribution and mortality from Department and other agency personnel and the hunting public.

Background

Open areas and extensive riparian areas that typify moose habitat elsewhere are not widespread in Panhandle Region. Moose in this region also often utilize closed-canopy timber stands with interspersed shrub fields and creek bottoms. Presently, moose populations are steadily expanding in most areas of the Panhandle.

Historically, moose have been managed in Idaho for rapid population increases and long hunts with high success rates and a good opportunity to harvest a large-antlered bull. This conservative approach, coupled with a high demand for moose hunting, has led to poor odds for drawing a moose permit. In response, short, 7-day hunts were initiated during fall 2005 to a) provide hunters a choice for better drawing odds at the expense of season length and b) provide data on how success rates change with a short season.

Population Surveys

Funding was unavailable for moose population surveys during the study period.

Harvest

In Panhandle Region, moose hunting was authorized in all units except Unit 5 during 2005. Two hundred eighty-five moose permits were issued: 200 permits for antlered moose with an 86-day season (30 Aug - 23 Nov), 55 permits for antlered moose with a 7-day season (24 Sept - 30 Sept), and 30 permits for antlerless moose with a 40-day season (15 Oct - 23 Nov).

Two hundred fifty-two permit holders completed the mandatory report stating that they were successful in harvesting a moose for an overall success rate of 88% (Table 1). One additional moose was harvested with a special "Supertag", issued as a reward for hunters completing their mandatory report card in a timely manner. Approximately two-thirds of the 2005 moose harvest was from Unit 1 (Table 2). Within the same hunt area, permit holders for the 7-day hunts had a slightly lower success rate but a slightly higher mean antler spread than permit holders for the 86-day hunts (Table 3).

The opportunity to harvest a large bull moose is relatively good in Panhandle Region. Since 1985, 83 bulls have been checked with antler spreads of 50 inches or greater; of these, 23 have been during the past 2 years. Five to 6 percent of the bulls taken currently have antler spreads in this range.

Controlled Hunt Odds

Most areas of Idaho have permits available for a variety of big game species. By forcing a choice between moose and other big game permits, the Department has been successful in substantially improving drawing odds across most of the state. In the Panhandle, the only big game species managed under a permit system is moose, making drawing odds poor for moose.

In an attempt to address the complaint of hunters that it was too difficult to draw a moose permit, the Department conducted a trial 7-day hunt for 2005 and 2006 to provide an avenue for improving drawing odds. It was believed that relatively few hunters would opt for the shorter season, thus greatly improving drawing odds for those hunters who were interested in choosing better drawing odds at the expense of a shorter hunting season. It was also believed that success rates would diminish slightly with the shorter season, allowing the moose herd to support additional permits to be issued, which would further improve drawing odds.

During the past 5 years, the number of moose applicants in the Panhandle Region has risen 60%, from 1,799 to 2,878, while moose permits have risen 30%. During 2006, there were 10.1 applicants per permit (Table 1). Antlered moose hunts with short seasons had much better drawing odds than longer seasons during both 2005 and 2006 (Table 4). There were 3 times as many short-hunt applicants per permit during 2006 than 2005, indicating increased interest or awareness of the better drawing odds of the shorter hunts.

Other Mortalities

Enforcement records of moose illegal mortalities were added to the existing database of moose mortalities for prior years. During the past 8 years, 25 to 64 moose mortalities have been detected each year, in addition to controlled hunt harvest (Table 5). The bulk of these were illegal kills with road-kills contributing significantly. The Coeur d'Alene Indian Tribe regulates moose harvest on ceded lands under agreement with the State of Idaho. In coordination with state goals, the tribe planned to increase tribal harvest to 10 bull moose on ceded lands starting in 2002. Final tribal harvest is unknown at this time, but is estimated to be 10 animals based on prior success rates. Tribal harvest remains a negligible impact to moose herd dynamics in the Panhandle.

Management Implications

An attempt was made beginning in 2001 to become less conservative in many of our moose hunts, particularly in Hunt Areas, 1-1, 1-3, and 2. Success rates have remained high, mean antler spread has continued to increase, and the number of days hunted by successful permit-holders has remained unchanged. These observations are consistent with anecdotal information from hunters indicating the moose population in these areas has not decreased in size nor the availability of large-antlered bulls during the past 5 years. It appears likely that the recent increase in permits was yet too modest to produce a major influence on the moose population in these hunt areas.

The lack of moose population surveys is a serious handicap to moose management in Idaho. Consequently, permit levels continue to be set conservatively, based on anecdotal tidbits and the perception of what is socially acceptable to the public. This conservative approach has produced poor drawing odds, the major complaint regarding moose management in Idaho.

Drawing odds were much better for the 7-day hunts than the 86-day hunts, providing an avenue for hunters willing to trade season length for improved odds. Hunters with the shorter hunts reported high satisfaction with the hunts during animal check-ins. It was hypothesized that the success rates for the shorter hunts would be lower than the longer hunts, allowing more hunters afield. The difference, however was relatively minor.

Table 1. Moose harvest and drawing odds, Panhandle Region, 1981-present.

| Year | Permits | Harvest | | | Hunter success (%) | First-choice applicants | Drawing odds |
|------|---------|---------|----|-------|--------------------|-------------------------|--------------|
| | | M | F | Total | | | |
| 1981 | 11 | 7 | 0 | 7 | 64 | 701 | 1:63.7 |
| 1982 | 11 | 11 | 0 | 11 | 100 | 599 | 1:54.5 |
| 1983 | 15 | 14 | 0 | 14 | 93 | 712 | 1:47.5 |
| 1984 | 15 | 14 | 0 | 14 | 93 | 721 | 1:48.1 |
| 1985 | 28 | 21 | 0 | 21 | 75 | 907 | 1:32.4 |
| 1986 | 28 | 23 | 0 | 23 | 82 | 750 | 1:26.8 |
| 1987 | 28 | 24 | 0 | 24 | 86 | 653 | 1:23.3 |
| 1988 | 40 | 34 | 0 | 34 | 85 | 597 | 1:14.9 |
| 1989 | 40 | 35 | 0 | 35 | 88 | 725 | 1:18.1 |
| 1990 | 42 | 38 | 0 | 38 | 90 | 849 | 1:20.2 |
| 1991 | 51 | 45 | 0 | 45 | 88 | 1,024 | 1:20.1 |
| 1992 | 51 | 44 | 0 | 44 | 86 | 1,071 | 1:21.0 |
| 1993 | 83 | 69 | 0 | 69 | 83 | 1,361 | 1:16.4 |
| 1994 | 83 | 63 | 0 | 63 | 76 | 1,430 | 1:17.2 |
| 1995 | 100 | 84 | 0 | 84 | 84 | 1,529 | 1:15.3 |
| 1996 | 100 | 74 | 0 | 74 | 74 | 1,516 | 1:15.2 |
| 1997 | 103 | 85 | 0 | 85 | 83 | 1,837 | 1:17.8 |
| 1998 | 103 | 91 | 0 | 91 | 88 | 1,623 | 1:15.8 |
| 1999 | 123 | 100 | 0 | 100 | 81 | 2,001 | 1:16.3 |
| 2000 | 123 | 106 | 0 | 106 | 86 | 1,765 | 1:14.3 |
| 2001 | 220 | 176 | 5 | 181 | 82 | 1,799 | 1:8.2 |
| 2002 | 220 | 156 | 5 | 161 | 73 | 1,703 | 1:7.7 |
| 2003 | 235 | 189 | 17 | 206 | 88 | 1,858 | 1:7.9 |
| 2004 | 236 | 188 | 14 | 202 | 86 | 2,088 | 1:8.8 |
| 2005 | 285 | 226 | 26 | 253 | 88 | 2,536 | 1:8.9 |
| 2006 | 285 | NA | NA | NA | NA | 2,878 | 1:10.1 |

Table 2. Moose harvest and drawing odds by Game Management Unit, Panhandle Region, 1994-present.

| Unit | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds | |
|-------|------|---------|-----------------|-----|--------------------|--------------------------|-------------------------|--------------|--------|
| | | | M | F | | | | | |
| 1 | 1994 | 59 | 45 | 0 | 76 | 8.1 | 1,026 | 1:17.4 | |
| | 1995 | 74 | 63 | 0 | 85 | 11.3 | 1,106 | 1:14.9 | |
| | 1996 | 74 | 56 | 0 | 76 | 7.9 | 1,081 | 1:14.6 | |
| | 1997 | 74 | 64 | 0 | 86 | 10.2 | 1,109 | 1:15.0 | |
| | 1998 | 74 | 67 | 0 | 91 | 8.4 | 1,050 | 1:14.2 | |
| | 1999 | 88 | 68 | 0 | 77 | 12.1 | 1,324 | 1:15.0 | |
| | 2000 | 88 | 75 | 0 | 85 | 8.6 | 812 | 1:9.2 | |
| | 2001 | 155 | 120 | 0 | 77 | 8.6 | 828 | 1:5.3 | |
| | 2002 | 155 | 103 | 0 | 66 | 9.2 | 1,065 | 1:6.9 | |
| | 2003 | 170 | 135 | 14 | 88 | 9.3 | 1,165 | 1:6.9 | |
| | 2004 | 171 | 131 | 10 | 82 | 7.2 | 1,185 | 1:6.9 | |
| | 2005 | 170 | 145 | 18 | 96 | 8.9 | 1,220 | 1:7.2 | |
| | 2006 | 170 | NA | NA | NA | NA | 1,316 | 1:7.7 | |
| 2 | 1994 | 4 | 3 | 0 | 75 | 2.3 | 120 | 1:30.0 | |
| | 1995 | 5 | 5 | 0 | 100 | 4.8 | 116 | 1:23.2 | |
| | 1996 | 5 | 5 | 0 | 100 | 5.0 | 129 | 1:25.8 | |
| | 1997 | 10 | 9 | 0 | 90 | 9.0 | 230 | 1:23.0 | |
| | 1998 | 10 | 10 | 0 | 100 | 14.0 | 225 | 1:22.5 | |
| | 1999 | 10 | 10 | 0 | 100 | 9.6 | 298 | 1:29.8 | |
| | 2000 | 10 | 10 | 0 | 100 | 6.4 | 162 | 1:16.2 | |
| | 2001 | 25 | 20 | 5 | 100 | 7.1 | 211 | 1:8.4 | |
| | 2002 | 25 | 20 | 5 | 100 | 4.4 | 205 | 1:8.2 | |
| | 2003 | 25 | 20 | 4 | 96 | 8.2 | 208 | 1:8.3 | |
| 3 & 4 | 1994 | 4 | 4 | 0 | 100 | 7.3 | 60 | 1:15.0 | |
| | 1995 | 4 | 3 | 0 | 75 | 9.3 | 57 | 1:14.3 | |
| | 1996 | 4 | 4 | 0 | 100 | 10.0 | 86 | 1:21.5 | |
| | 1997 | 4 | 2 | 0 | 50 | 2.7 | 104 | 1:26.0 | |
| | 1998 | 4 | 3 | 0 | 75 | 9.1 | 87 | 1:21.8 | |
| | 1999 | 5 | 4 | 0 | 80 | 4.3 | 29 | 1:5.8 | |
| | 2000 | 5 | 4 | 0 | 80 | 11.3 | 27 | 1:5.4 | |
| | 2001 | 5 | 5 | 0 | 100 | 7.2 | 35 | 1:7.0 | |
| | 2002 | 5 | 5 | 0 | 100 | 10.8 | 49 | 1:9.8 | |
| | 2003 | 5 | 4 | 0 | 80 | 8.5 | 44 | 1:8.8 | |
| 3 | 2004 | 5 | 5 | 0 | 100 | 6.8 | 66 | 1:13.2 | |
| | 2005 | 10 | 11 ^b | 0 | 100 | 4.9 | 83 | 1:8.3 | |
| | 2006 | 10 | NA | NA | NA | NA | 114 | 1:11.4 | |
| | 4 | 1999 | 5 | 4 | 0 | 80 | 8.0 | 110 | 1:22.0 |
| | | 2000 | 5 | 5 | 0 | 100 | 9.5 | 68 | 1:13.6 |
| | | 2001 | 10 | 9 | 0 | 90 | 12.0 | 108 | 1:10.8 |
| | | 2002 | 10 | 7 | 0 | 70 | 10.0 | 122 | 1:12.2 |
| 2003 | | 10 | 8 | 0 | 80 | 14.6 | 133 | 1:13.3 | |
| 2004 | | 10 | 8 | 0 | 80 | 9.9 | 175 | 1:17.5 | |
| 2005 | 15 | 15 | 0 | 100 | 4.0 | 229 | 1:15.3 | | |

Table 2. Continued.

| Unit | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|------|------|---------|---------|----|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 6 | 2006 | 15 | NA | NA | NA | NA | 247 | 1:16.5 |
| | 1994 | 4 | 4 | 0 | 100 | 2.5 | 101 | 1:25.3 |
| | 1995 | 5 | 5 | 0 | 100 | 10.3 | 156 | 1:31.2 |
| | 1996 | 5 | 5 | 0 | 100 | 7.8 | 124 | 1:24.8 |
| | 1997 | 5 | 4 | 0 | 80 | 7.0 | 175 | 1:35.0 |
| | 1998 | 5 | 5 | 0 | 100 | 12.0 | 181 | 1:36.2 |
| | 1999 | 5 | 5 | 0 | 100 | 11.8 | 154 | 1:38.0 |
| | 2000 | 5 | 4 | 0 | 80 | 8.3 | 121 | 1:24.2 |
| | 2001 | 10 | 7 | 0 | 70 | 11.0 | 132 | 1:13.2 |
| | 2002 | 10 | 8 | 0 | 80 | 4.1 | 147 | 1:14.7 |
| | 2003 | 10 | 10 | 0 | 100 | 9.2 | 185 | 1:18.5 |
| | 2004 | 10 | 8 | 0 | 80 | 9.9 | 233 | 1:23.3 |
| | 2005 | 15 | 14 | 0 | 93 | 6.4 | 275 | 1:18.3 |
| | 2006 | 15 | NA | NA | NA | NA | 334 | 1:22.3 |
| 7 | 1994 | 8 | 4 | 0 | 50 | 14.5 | 87 | 1:10.9 |
| | 1995 | 8 | 4 | 0 | 50 | 11.9 | 68 | 1:8.5 |
| | 1996 | 8 | 2 | 0 | 25 | 2.5 | 46 | 1:5.8 |
| | 1997 | 5 | 4 | 0 | 80 | 9.0 | 60 | 1:12.0 |
| | 1998 | 5 | 1 | 0 | 20 | 17.7 | 48 | 1:9.6 |
| | 1999 | 5 | 4 | 0 | 80 | 6.5 | 56 | 1:11.2 |
| | 2000 | 5 | 3 | 0 | 60 | 8.8 | 34 | 1:6.8 |
| | 2001 | 10 | 10 | 0 | 100 | 11.8 | 108 | 1:10.8 |
| | 2002 | 10 | 10 | 0 | 100 | 9.4 | 57 | 1:5.7 |
| | 2003 | 10 | 9 | 0 | 90 | 5.0 | 83 | 1:8.3 |
| | 2004 | 10 | 8 | 0 | 80 | 4.1 | 86 | 1:8.6 |
| | 2005 | 10 | 8 | 0 | 80 | 4.7 | 112 | 1:11.2 |
| | 2006 | 10 | NA | NA | NA | NA | 97 | 1:9.7 |
| | 9 | 1994 | 4 | 3 | 0 | 75 | 7.8 | 40 |
| 1995 | | 4 | 4 | 0 | 100 | 6.7 | 26 | 1:6.5 |
| 1996 | | 4 | 2 | 0 | 50 | 5.0 | 50 | 1:12.5 |
| 1997 | | 5 | 2 | 0 | 40 | 9.5 | 44 | 1:8.8 |
| 1998 | | 5 | 5 | 0 | 100 | 10.6 | 32 | 1:6.4 |
| 1999 | | 5 | 5 | 0 | 100 | 7.4 | 30 | 1:6.0 |
| 2000 | | 5 | 5 | 0 | 100 | 9.2 | 41 | 1:8.2 |
| 2001 | | 5 | 5 | 0 | 100 | 8.0 | 61 | 1:12.2 |
| 2002 | | 5 | 5 | 0 | 100 | 10.0 | 40 | 1:8.0 |
| 2003 | | 5 | 5 | 0 | 100 | 10.8 | 40 | 1:8.0 |
| 2004 | | 5 | 5 | 0 | 100 | 8.0 | 56 | 1:11.2 |
| 2005 | | 10 | 9 | 0 | 90 | 5.8 | 54 | 1:5.4 |
| 2006 | | 10 | NA | NA | NA | NA | 69 | 1:6.9 |

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

^b Includes one Supertag harvest.

Table 3. Comparison of moose harvest and mean antler spread with 86-day and 7-day seasons by Hunt Area, Panhandle Region, 2005.

| Season length | Hunt number | Hunt area | Permits issued | Number harvest | Success rate (%) | Mean antler spread |
|---------------|-----------------------|-----------|----------------|----------------|------------------|--------------------|
| 86 days | 3001 | 1-1 | 50 | 46 | 92 | 36.5 |
| | 3004 | 1-3 | 20 | 18 | 90 | 37.3 |
| | 3007 | 2 | 20 | 20 | 100 | 36.4 |
| | 3009 | 3 | 5 | 5 | 100 | 45.6 |
| | 3011 | 4 | 10 | 5 | 50 | 34.4 |
| | 3013 | 6 | 10 | 10 | 100 | 44.0 |
| | 3018 | 9 | 5 | 5 | 100 | 35.3 |
| | 86-day hunts combined | | | 120 | 109 | 91 |
| 7 days | 3002 | 1-1 | 20 | 13 | 65 | 41.9 |
| | 3005 | 1-3 | 10 | 9 | 90 | 35.3 |
| | 3008 | 2 | 5 | 4 | 80 | 37.9 |
| | 3010 | 3 | 5 | 5 | 100 | 42.2 |
| | 3012 | 4 | 5 | 5 | 100 | 37.7 |
| | 3014 | 6 | 5 | 4 | 80 | 42.0 |
| | 3019 | 9 | 5 | 4 | 80 | 39.3 |
| | 7-day hunts combined | | | 55 | 44 | 80 |

Table 4. Differences between hunt types and season lengths for moose, Panhandle Region, 2005-2006.

| Year | Hunt type | Season length (days) | Permits | First choice drawn | First choice applicants | Applicants per permit |
|------|------------|----------------------|---------|--------------------|-------------------------|-----------------------|
| 2005 | Antlered | 86 | 200 | 200 | 2,200 | 11.0 |
| | Antlered | 7 | 55 | 46 | 82 | 1.5 |
| | Antlerless | 40 | 30 | 30 | 254 | 8.5 |
| 2006 | Antlered | 86 | 200 | 200 | 2,408 | 12.0 |
| | Antlered | 7 | 55 | 55 | 254 | 4.6 |
| | Antlerless | 40 | 30 | 30 | 216 | 7.2 |

Table 5. Known moose mortalities, excluding controlled hunts, Panhandle Region, 1992-present.

| Year | Mortality agent | | | | | | Total |
|------|-------------------------|--------------|-----------|---------|------------|-------|-----------------|
| | Native American harvest | Illegal kill | Road kill | Natural | Train kill | Other | |
| 1992 | 0 | 7 | 3 | 1 | 2 | | 13 |
| 1993 | 1 | 3 | 1 | 1 | 1 | | 7 |
| 1994 | 2 | 14 | 7 | 1 | 1 | 5 | 30 |
| 1995 | 2 | 42 | 5 | 3 | 0 | 12 | 64 |
| 1996 | 4 | 16 | 16 | 3 | 10 | 5 | 54 |
| 1997 | 2 | 12 | 9 | 3 | 4 | 2 | 32 |
| 1998 | 2 | 35 | 5 | 4 | 0 | 2 | 48 |
| 1999 | 2 | 24 | 20 | 4 | 1 | 3 | 54 |
| 2000 | 2 | 16 | 15 | 1 | 3 | 1 | 38 |
| 2001 | 9 | 22 | 8 | 0 | 0 | 3 | 42 |
| 2002 | 10 ^a | 15 | 20 | 0 | 0 | 0 | 45 |
| 2003 | 10 ^a | 20 | 1 | 0 | 0 | 1 | 32 |
| 2004 | 10 ^a | 12 | 2 | 1 | 0 | 0 | 25 |
| 2005 | 10 ^a | 10 | 7 | 0 | 0 | 2 | 59 ^b |

^a Estimate. The Coeur d'Alene Indian Tribe issued 10 bull moose permits on ceded lands during 2002-2004. Final tribal harvest not available for 2002-present.

^b An estimated 30 moose were reported by officers for which no BGMR was received.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>2</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>1</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

CLEARWATER REGION

Units 8, 8A, 10, 10A, 12, 14, 15, 16, 16A, 17, 19, 20

**Controlled Hunt Areas 8, 8A, 10-1, 10-2, 10-3, 10-4, 10-5, 10-6,
10A-1, 10A-2, 10A-3, 10A-4, 10A-5, 12-1, 12-2, 12-3, 12-4, 12-5, 12-6,
14-1, 14-2, 15-1, 15-2, 15-3, 15-4, 16-1, 16-2, 16A-1, 16A-2,
17-1, 17-2, 17-3, 17-4, 17-5, 19-1, 19-2, 20-1, 20-2, 20-3, 20-4**

Abstract

Based upon mandatory harvest report data, Clearwater Region hunters harvested 152 antlered moose in 40 antlered-only controlled hunts and an additional 8 antlerless moose in 2 controlled hunts for antlerless moose in 2005. A total of 250 (242 antlered, 8 antlerless) permits were available across the region for a total harvest success rate of 64%. Antlered and antlerless success rates were 63% and 100%, respectively. Drawing odds ranged from 1:1.0 to 1:17.3.

Management Direction

Moose populations will be allowed to increase in units where habitat conditions will support expansion. Legal harvest will continue primarily for antlered bulls. Antlerless moose hunting opportunity will be continued in those areas where population control measures are considered desirable. Moose harvest will be increased where feasible and decreased where necessary. Known mortalities will be documented and information on numbers and distribution will be obtained from big game mortality report forms and mandatory harvest checks.

Moose populations large enough to support hunts are found in all big game management units in the region except Units 11, 11A, 13, and 18. Management units are divided into controlled hunts to disperse hunters and to direct harvest to specific areas.

Historically, moose have been hunted with controlled hunts on a bulls-only basis; however, in 1999, 2 antlerless moose hunts (Hunt 8-2 with 4 permits, and Hunt 8A-2 also with 4 permits) were initiated to increase hunting opportunity, address high cow moose densities, and minimize the potential for moose-automobile collisions in these areas. Hunting season lengths for moose

in Clearwater Region were 86 days for antlered moose hunts and 40 days for antlerless hunts (Appendix A). Since 1986, persons applying for moose permits have been prohibited from applying for any other controlled hunt to improve drawing odds. Additionally, unsuccessful permittees must wait 2 years before applying for another controlled moose hunt. Permit levels are based on trends in antler spread of harvested moose and hunter success rates of recent permittees in the respective controlled hunts.

Some moose populations in Clearwater Region are found in climax vegetative cover. Summer feeding habits tend to be nocturnal in open, wet meadows, while diurnal activity is limited to adjacent forested areas. Logging may reduce habitat for these populations. Winter habitat selection favors subalpine fir and Pacific yew plant communities. Other populations are adapted to seral plant communities, except in winter. These populations seem to be expanding in areas where extensive habitat manipulation has resulted in seral brush fields. Winter ranges appear to be timbered areas where yew-wood thickets are several hundred years old. Creating openings in these timber stands through logging may impact moose by eliminating these yew-wood thickets. Effects of the recent expansion of wolves on moose populations within the region is as yet undetermined.

Population Surveys

Moose in Clearwater Region are usually counted incidental to elk surveys. Consequently, many moose are not counted because these surveys are seldom flown at elevations where moose normally winter and because moose tend to prefer dense subalpine fir plant associations for winter habitat where they are less conspicuous. As a result, no comparative population data have been collected on a regular basis on moose throughout the region.

A sightability survey of moose in Unit 15 was attempted in 2000. Results were unsatisfactory because of overly-large confidence intervals. These results were due to the extreme correction factors applied to animals detected under heavy canopy coverage classes. During model development, only 4 moose were encountered in cover greater than 70%.

Harvest Characteristics

Harvest levels, hunter success, and hunter days expended for 2005 were determined from mandatory harvest reports (Tables 1 and 2). Hunt areas in Units 12, 15, and 17 were combined and/or renamed in 2001 and 1 new hunt area was added in Unit 10 (10-6) in 2001. Permit numbers were adjusted in the region to respond to changes in hunter success rates and/or antler spread with a net loss of 22 permits in 2001 and an additional 20 permits in 2005. The 250 moose permits that were available in 2005 resulted in a reported harvest of 152 antlered moose and 8 antlerless moose. Mortality reports from some permittees were unaccounted for and were not used in calculating hunter success. The 2005 cumulative success rate (64%) was slightly higher than the average (59%) for the past 5-year period (2000-2004). Success rates for antlered and antlerless moose were 63% and 100%, respectively. Drawing odds ranged from 1:1.0 (Hunt Areas 10-6, 12-3, 12-4, 17-1, 17-3, 17-4, 19-2, 20-1, 20-2, 20-3, 20-4) to 1:17.3 (Hunt Area 8A).

Reported moose mortalities due to methods other than legal harvest during controlled hunts have varied considerably by year (Table 3). It is likely that the level of mortality is considerably higher than reported for Clearwater Region, particularly with respect to the 'Native American harvest' and 'illegal kill' categories.

Climatic Conditions

Clearwater Region experienced normal snow pack for water year 2005-2006 according to the Natural Resources Conservation Service Idaho Basin Outlook Report. The Clearwater River Basin was 97% of the 30-year average of snow water (Oct-Jun), with the total precipitation percent of average at 112%. Snow depth was 100% of average for the basin with the peak snow depth accumulation not until April at the highest elevations. Meanwhile, the Salmon River Basin averaged 121% of snow water with a total precipitation percent of average at 132%. Snow depth was slightly above normal at the higher elevations where melting did not occur, although at lower elevations snow depths were normal. Snowfall was good throughout the winter in the region with large accumulations persisting to provide adequate run-off. Spring conditions consisted of heavy intermittent rain showers which allowed for good growth of big game food sources.

Management Implications

Permit levels will continue to be allocated based on trends in antler spread of harvested moose and hunter success rates of recent permittees. Numbers of permits may be increased or decreased as dictated by harvest data. Permit numbers were decreased by 22 in Clearwater Region in 2001 and by an additional 20 permits in 2005.

All areas need more intensive work to determine population levels, trends, and habitat selection and use. Some moose populations appear to be increasing and seem to respond favorably to extensive habitat alteration by silvicultural practices. However, other populations may be displaced or eliminated because they cannot adapt to habitat changes, particularly where yew-wood thickets are eliminated through logging and where increased road densities make moose more vulnerable to illegal and Native American harvest.

Table 1. Moose harvest and drawing odds, Clearwater Region, 1990-present.

| Year | Permits | Harvest | | | Hunter success (%) | First-choice applicants | Drawing odds |
|------|---------|---------|---|-------|--------------------|-------------------------|--------------|
| | | M | F | Total | | | |
| 1990 | 167 | 118 | 0 | 118 | 71 | 1,156 | 1:6.9 |
| 1991 | 176 | 134 | 0 | 134 | 76 | 1,201 | 1:6.8 |
| 1992 | 176 | 132 | 0 | 132 | 75 | 1,221 | 1:6.9 |
| 1993 | 201 | 159 | 0 | 159 | 79 | 1,211 | 1:6.0 |
| 1994 | 201 | 133 | 0 | 133 | 66 | 1,115 | 1:5.5 |
| 1995 | 263 | 177 | 0 | 177 | 67 | 1,501 | 1:5.7 |
| 1996 | 263 | 162 | 0 | 162 | 62 | 1,288 | 1:4.9 |
| 1997 | 263 | 157 | 0 | 157 | 60 | 1,579 | 1:6.0 |
| 1998 | 263 | 153 | 0 | 153 | 58 | 1,250 | 1:4.8 |
| 1999 | 292 | 180 | 8 | 188 | 64 | 1,540 | 1:5.3 |
| 2000 | 292 | 177 | 7 | 184 | 63 | 961 | 1:3.3 |
| 2001 | 270 | 141 | 7 | 148 | 55 | 931 | 1:3.4 |
| 2002 | 270 | 152 | 8 | 160 | 59 | 803 | 1:3.0 |
| 2003 | 270 | 156 | 7 | 163 | 60 | 858 | 1:3.2 |
| 2004 | 270 | 155 | 8 | 163 | 60 | 901 | 1:3.3 |
| 2005 | 250 | 152 | 8 | 160 | 64 | 837 | 1:3.3 |

Table 2. Moose harvest and drawing odds by Game Management Unit, Clearwater Region, 1996-present.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|-----------|-------------------|---------|---------|---|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 8 | 1996 | 4 | 3 | 0 | 75 | 15.3 | 41 | 1:10.3 |
| | 1997 | 4 | 3 | 0 | 75 | 7.0 | 41 | 1:10.3 |
| | 1998 | 4 | 4 | 0 | 100 | 17.6 | 44 | 1:11.0 |
| | 1999 | 10 | 6 | 4 | 100 | 8.7 | 61 | 1:6.1 |
| | 2000 | 10 | 5 | 3 | 80 | 5.1 | 34 | 1:3.4 |
| | 2001 | 10 | 5 | 3 | 80 | 7.1 | 35 | 1:3.5 |
| | 2002 | 10 | 6 | 4 | 100 | 5.4 | 52 | 1:5.2 |
| | 2003 | 10 | 6 | 3 | 90 | 5.4 | 48 | 1:4.8 |
| | 2004 | 10 | 6 | 4 | 100 | 4.2 | 54 | 1:5.4 |
| | 2005 | 12 | 8 | 4 | 100 | 12.0 | 66 | 1:5.5 |
| 8A | 1996 | 4 | 3 | 0 | 75 | 7.8 | 65 | 1:16.3 |
| | 1997 | 4 | 2 | 0 | 50 | 9.5 | 84 | 1:21.0 |
| | 1998 | 4 | 4 | 0 | 100 | 5.5 | 93 | 1:23.3 |
| | 1999 | 10 | 6 | 4 | 100 | 5.2 | 154 | 1:5.4 |
| | 2000 | 10 | 6 | 4 | 100 | 3.5 | 76 | 1:7.6 |
| | 2001 | 10 | 5 | 4 | 90 | 4.1 | 104 | 1:10.4 |
| | 2002 | 10 | 5 | 4 | 90 | 4.6 | 93 | 1:9.3 |
| | 2003 | 10 | 6 | 3 | 90 | 11.3 | 113 | 1:11.3 |
| | 2004 | 10 | 6 | 4 | 100 | 6.8 | 105 | 1:10.5 |
| | 2005 | 12 | 8 | 4 | 100 | 8.2 | 138 | 1:11.5 |
| 10 | 1996 | 23 | 16 | 0 | 70 | 7.3 | 124 | 1:5.4 |
| | 1997 | 23 | 16 | 0 | 70 | 8.4 | 134 | 1:5.8 |
| | 1998 | 23 | 14 | 0 | 61 | 6.7 | 151 | 1:6.6 |
| | 1999 | 23 | 16 | 0 | 70 | 11.1 | 149 | 1:6.5 |
| | 2000 | 23 | 13 | 0 | 57 | 4.0 | 112 | 1:4.9 |
| | 2001 | 28 | 17 | 0 | 61 | 6.4 | 91 | 1:3.3 |
| | 2002 | 28 | 14 | 0 | 50 | 9.3 | 86 | 1:3.1 |
| | 2003 | 28 | 20 | 0 | 71 | 6.4 | 82 | 1:2.9 |
| | 2004 | 28 | 21 | 0 | 75 | 3.9 | 105 | 1:3.8 |
| | 2005 | 32 | 21 | 0 | 66 | 7.8 | 100 | 1:3.1 |
| 10A | 1996 | 23 | 19 | 0 | 83 | 9.9 | 155 | 1:6.7 |
| | 1997 | 23 | 20 | 0 | 87 | 13.2 | 201 | 1:8.7 |
| | 1998 | 23 | 14 | 0 | 61 | 9.8 | 151 | 1:6.6 |
| | 1999 | 34 | 21 | 0 | 62 | 8.7 | 194 | 1:5.7 |
| | 2000 | 34 | 29 | 0 | 85 | 11.9 | 134 | 1:3.9 |
| | 2001 | 32 | 28 | 0 | 88 | 6.8 | 116 | 1:3.6 |
| | 2002 | 32 | 26 | 0 | 81 | 7.9 | 130 | 1:4.1 |
| | 2003 | 32 | 27 | 0 | 84 | 8.9 | 140 | 1:4.4 |
| | 2004 | 32 | 25 | 0 | 78 | 9.4 | 145 | 1:4.5 |
| | 2005 | 34 | 32 | 0 | 94 | 7.6 | 148 | 1:4.4 |
| 12 | 1996 | 64 | 33 | 0 | 52 | 5.2 | 201 | 1:3.1 |
| | 1997 ^b | 64 | 29 | 0 | 45 | 5.0 | 258 | 1:4.0 |
| | 1998 ^c | 64 | 27 | 0 | 42 | 5.6 | 172 | 1:2.7 |
| | 1999 ^c | 61 | 29 | 0 | 48 | 6.0 | 191 | 1:3.1 |
| | 2000 ^c | 61 | 31 | 0 | 51 | 6.3 | 119 | 1:2.0 |
| | 2001 | 45 | 16 | 0 | 36 | 3.0 | 70 | 1:1.6 |

Table 2. Continued.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds | |
|-----------|------|---------|---------|----|--------------------|--------------------------|-------------------------|--------------|-------|
| | | | M | F | | | | | |
| 14 | 2002 | 45 | 24 | 0 | 53 | 4.5 | 58 | 1:1.3 | |
| | 2003 | 45 | 27 | 0 | 58 | 6.7 | 75 | 1:1.7 | |
| | 2004 | 45 | 22 | 0 | 49 | 5.6 | 87 | 1:1.9 | |
| | 2005 | 43 | 20 | 0 | 47 | 6.9 | 73 | 1:1.7 | |
| | 1996 | 10 | 10 | 0 | 100 | 5.7 | 113 | 1:11.3 | |
| | 1997 | 10 | 9 | 0 | 90 | 3.9 | 161 | 1:16.1 | |
| | 1998 | 10 | 8 | 0 | 80 | 6.0 | 124 | 1:12.4 | |
| | 1999 | 10 | 9 | 0 | 90 | 7.9 | 157 | 1:15.7 | |
| | 2000 | 10 | 9 | 0 | 90 | 4.5 | 100 | 1:10.0 | |
| | 2001 | 13 | 11 | 0 | 85 | 3.5 | 124 | 1:9.5 | |
| | 2002 | 13 | 11 | 0 | 85 | 5.3 | 120 | 1:9.2 | |
| | 2003 | 13 | 11 | 0 | 85 | 4.6 | 121 | 1:9.3 | |
| | 15 | 2004 | 13 | 11 | 0 | 85 | 8.2 | 114 | 1:8.8 |
| 2005 | | 13 | 11 | 0 | 85 | 10.0 | 114 | 1:8.8 | |
| 1996 | | 51 | 43 | 0 | 84 | 7.1 | 337 | 1:6.6 | |
| 1997 | | 51 | 37 | 0 | 73 | 6.8 | 346 | 1:6.8 | |
| 1998 | | 51 | 44 | 0 | 86 | 8.7 | 287 | 1:5.6 | |
| 1999 | | 60 | 50 | 0 | 83 | 7.5 | 386 | 1:6.4 | |
| 2000 | | 60 | 44 | 0 | 73 | 8.2 | 212 | 1:3.5 | |
| 2001 | | 60 | 34 | 0 | 57 | 8.9 | 256 | 1:4.3 | |
| 2002 | | 60 | 35 | 0 | 58 | 8.5 | 176 | 1:2.9 | |
| 2003 | | 60 | 35 | 0 | 58 | 11.2 | 173 | 1:2.9 | |
| 2004 | | 60 | 37 | 0 | 62 | 7.1 | 186 | 1:3.1 | |
| 2005 | | 45 | 30 | 0 | 67 | 8.4 | 155 | 1:3.4 | |
| 16 | | 1996 | 14 | 9 | 0 | 64 | 5.4 | 65 | 1:4.6 |
| | 1997 | 14 | 10 | 0 | 71 | 10.2 | 94 | 1:6.7 | |
| | 1998 | 14 | 11 | 0 | 79 | 6.3 | 79 | 1:5.6 | |
| | 1999 | 14 | 14 | 0 | 100 | 6.5 | 89 | 1:6.4 | |
| | 2000 | 14 | 13 | 0 | 93 | 6.2 | 78 | 1:5.6 | |
| | 2001 | 17 | 10 | 0 | 59 | 6.3 | 65 | 1:3.8 | |
| | 2002 | 17 | 11 | 0 | 65 | 5.4 | 40 | 1:2.4 | |
| | 2003 | 17 | 9 | 0 | 53 | 7.0 | 58 | 1:3.4 | |
| | 2004 | 17 | 10 | 0 | 59 | 4.8 | 47 | 1:2.8 | |
| | 2005 | 12 | 8 | 0 | 67 | 6.3 | 55 | 1:4.6 | |
| | 16A | 1996 | 7 | 2 | 0 | 29 | 2.0 | 41 | 1:5.9 |
| | | 1997 | 7 | 5 | 0 | 71 | 5.0 | 33 | 1:4.7 |
| | | 1998 | 7 | 5 | 0 | 71 | 8.2 | 43 | 1:6.1 |
| 1999 | | 7 | 5 | 0 | 71 | 7.8 | 21 | 1:3.0 | |
| 2000 | | 7 | 3 | 0 | 43 | 8.7 | 21 | 1:3.0 | |
| 2001 | | 7 | 6 | 0 | 86 | 4.3 | 13 | 1:1.9 | |
| 2002 | | 7 | 3 | 0 | 43 | 14.3 | 14 | 1:2.0 | |
| 2003 | | 7 | 3 | 0 | 43 | 4.0 | 8 | 1:1.1 | |
| 2004 | | 7 | 5 | 0 | 71 | 16.8 | 12 | 1:1.7 | |
| 2005 | | 7 | 5 | 0 | 71 | 8.0 | 13 | 1:1.9 | |
| 17 | | 1996 | 35 | 8 | 0 | 23 | 3.3 | 45 | 1:1.3 |
| | | 1997 | 35 | 11 | 0 | 31 | 5.4 | 37 | 1:1.1 |
| | | 1998 | 35 | 4 | 0 | 11 | 4.3 | 26 | 1:1.0 |

Table 2. Continued.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|-----------|-------------------|---------|---------|---|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 19 | 1999 | 35 | 11 | 0 | 31 | 4.5 | 55 | 1:1.6 |
| | 2000 ^c | 35 | 12 | 0 | 34 | 5.8 | 23 | 1:1.0 |
| | 2001 | 22 | 2 | 0 | 9 | 4.5 | 25 | 1:1.1 |
| | 2002 | 22 | 9 | 0 | 41 | 6.5 | 14 | 1:1.0 |
| | 2003 | 22 | 6 | 0 | 27 | 7.7 | 16 | 1:1.0 |
| | 2004 | 22 | 7 | 0 | 32 | 10.3 | 16 | 1:1.0 |
| | 2005 | 18 | 5 | 0 | 28 | 3.8 | 22 | 1:1.2 |
| | 1996 | 14 | 9 | 0 | 64 | 4.3 | 44 | 1:3.1 |
| | 1997 | 14 | 9 | 0 | 64 | 6.9 | 156 | 1:11.1 |
| | 1998 | 14 | 10 | 0 | 71 | 3.4 | 37 | 1:2.6 |
| | 1999 | 14 | 7 | 0 | 50 | 3.7 | 42 | 1:3.0 |
| | 2000 | 14 | 7 | 0 | 50 | 5.6 | 29 | 1:2.1 |
| | 2001 | 12 | 2 | 0 | 17 | 14.0 | 15 | 1:1.3 |
| | 2002 | 12 | 4 | 0 | 33 | 5.0 | 6 | 1:1.0 |
| | 2003 | 12 | 6 | 0 | 50 | 10.7 | 14 | 1:1.2 |
| | 2004 | 12 | 3 | 0 | 25 | 12.5 | 40 | 1:3.3 |
| | 2005 | 12 | 1 | 0 | 8 | 5.0 | 18 | 1:1.5 |
| 20 | 1996 | 14 | 7 | 0 | 50 | 3.6 | 57 | 1:4.1 |
| | 1997 | 14 | 6 | 0 | 43 | 4.0 | 34 | 1:2.4 |
| | 1998 | 14 | 8 | 0 | 57 | 12.1 | 43 | 1:3.1 |
| | 1999 | 14 | 6 | 0 | 43 | 3.8 | 41 | 1:2.9 |
| | 2000 | 14 | 5 | 0 | 36 | 11.4 | 23 | 1:1.6 |
| | 2001 | 14 | 5 | 0 | 36 | 8.4 | 17 | 1:1.2 |
| | 2002 | 14 | 4 | 0 | 29 | 4.5 | 14 | 1:1.0 |
| | 2003 | 14 | 2 | 0 | 14 | 7.0 | 10 | 1:1.0 |
| | 2004 | 14 | 2 | 0 | 14 | 16.5 | 9 | 1:1.0 |
| | 2005 | 10 | 3 | 0 | 30 | 17.5 | 8 | 1:1.0 |

^a Data are from mandatory check of successful hunters only.

^b One permittee returned tag prior to season start.

^c Some permits not sold.

Table 3. Known moose mortalities, excluding controlled hunts, Clearwater Region, 1979-present.

| Year | Mortality agent | | | | | Total |
|------|----------------------------|--------------|-----------|---------|-------|-------|
| | Native American harvest | Illegal kill | Road kill | Natural | Other | |
| 1979 | 4 | 9 | 4 | | | 17 |
| 1980 | 4 | 19 | 3 | | | 26 |
| 1981 | 1 | 13 | 4 | | | 18 |
| 1982 | 11 | 21 | 0 | | | 32 |
| 1983 | 13 | 25 | 5 | | | 43 |
| 1984 | 10 | 19 | 4 | | | 33 |
| 1985 | 6 | 15 | 4 | | | 25 |
| 1986 | 18 | 14 | 7 | | | 39 |
| 1987 | 2 | 13 | 11 | | | 26 |
| 1988 | 0 | 0 | 0 | | | 0 |
| 1989 | 4 | 17 | 7 | | | 28 |
| 1990 | 13 | 11 | 1 | | | 25 |
| 1991 | 15 | 21 | 3 | | | 39 |
| 1992 | 10 | 33 | 5 | 6 | 4 | 58 |
| 1993 | 7 | 31 | 5 | 0 | 2 | 45 |
| 1994 | 2 | 13 | 2 | 1 | 5 | 23 |
| 1995 | 10 | 4 | 7 | 4 | 2 | 27 |
| 1996 | 4 | 9 | 4 | 3 | 6 | 26 |
| 1997 | 1 | 18 | 2 | 2 | 5 | 28 |
| 1998 | 6 | 3 | 3 | 0 | 5 | 17 |
| 1999 | 6 | 1 | 0 | 0 | 8 | 15 |
| 2000 | 5 | 10 | 0 | 5 | 0 | 20 |
| 2001 | 1 | 9 | 3 | 0 | 1 | 14 |
| 2002 | 2 | 13 | 4 | 0 | 2 | 21 |
| 2003 | 0 | 2 | 0 | 0 | 3 | 5 |
| 2004 | 0 | 7 | 2 | 2 | 1 | 12 |
| 2005 | 2 | 7 | 6 | 2 | 0 | 17 |

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>3</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>1</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

SOUTHWEST REGION

Units 19A, 20A, 25, 26

Controlled Hunt Areas 19A, 20A-1, 20A-2, 25, 26

Abstract

Two moose were harvested in Hunt Area 19A in 2005. One moose was harvested in Hunt Area 25 during the 2005 season. No moose were harvested in Hunt Areas 20A-1, 20A-2, and 26 in 2005. The average greatest antler spread for bull moose ($n = 3$) was 44.4 inches. No population trend or herd composition surveys were conducted in Units 19A, 20A, 25, or 26 during the reporting period. Modifications were made to Hunt Areas 20A-1, 20A-2, and 20A-3, resulting in 2 hunts (20A-1 and 20A-2) with 2 permits each for the 2005-2006 regulation cycle.

Management Direction

Management will be consistent with the statewide management direction delineated in the 1991-1995 Moose Management Plan.

Background

Moose observations had been increasing in Units 19A, 20A, 25, and 26. As a result, a 2-permit hunt was initiated in Unit 20A in 1983. Further increases in moose sightings led to subdivision of the unit in 1995 into 3 hunt areas, 20A-1, 20A-2, and 20A-3, consisting of 2, 3, and 2 permits, respectively. This increase in moose observations also led to the establishment of a 2-permit hunt in Unit 26 in 1997. Consequently, 2 new hunts, Hunt Areas 19A and 25, were created in 1999 consisting of 2 permits each. Since then, moose sightings and activity appear to have declined. As a result, the 3 hunt areas in Unit 20A were combined into 2 new hunt areas with 2 permits in each area for the 2005-2006 regulation cycle.

Population Surveys

No moose population surveys were conducted during the reporting period.

Harvest Characteristics

Moose hunting seasons last 86 days in Units 19A, 20A, 25, and 26 (Appendix A). Harvest data are generated through a mandatory hunter report requirement. Both permit holders harvested a moose in Hunt Area 19A in 2005 (Tables 1 and 2). One moose was harvested in Hunt Area 25. No moose were harvested in Hunt Areas 20A-1, 20A-2, and 26 in 2005. Average spread was 43.4 inches in Unit 19A and 46.25 inches in Unit 25.

Management Implications

Because reliable population data are not available and difficult to generate, permit levels have been conservative. The frequency and location of reports indicated pioneering populations existed in game management units adjacent to or near Units 20A and 26 (e.g., 19A, 24, 25). Two moose hunts with 2 permits each were implemented in Units 19A (Hunt Area 19A) and 25 (Hunt Area 25) in 1999. The lack of hunter success continued in Units 20A and 26 in 2005. The most vulnerable moose in the Chamberlain Basin, Root Ranch, and Cold Meadows areas may have been harvested, making hunting more difficult. There may also be effects of predation on animals in these areas. All areas need intensive data collection to determine population levels, trends, and habitat selection.

Table 1. Moose harvest and drawing odds, Southwest Region, 1996-present.

| Year | Permits | Harvest | | | Hunter success (%) | First-choice applicants | Drawing odds |
|-------------------|---------|---------|---|-------|--------------------|-------------------------|--------------|
| | | M | F | Total | | | |
| 1996 | 7 | 4 | 0 | 4 | 57 | 38 | 1:5.4 |
| 1997 | 9 | 7 | 0 | 7 | 78 | 49 | 1:5.4 |
| 1998 | 9 | 4 | 0 | 4 | 44 | 38 | 1:4.2 |
| 1999 | 13 | 9 | 0 | 9 | 69 | 105 | 1:8.1 |
| 2000 ^a | 13 | 4 | 0 | 4 | 31 | 50 | 1:3.8 |
| 2001 ^b | 16 | 8 | 0 | 8 | 50 | 47 | 1:2.9 |
| 2002 | 13 | 8 | 0 | 8 | 62 | 47 | 1:3.6 |
| 2003 | 13 | 6 | 0 | 6 | 46 | 70 | 1:5.4 |
| 2004 | 13 | 3 | 0 | 3 | 23 | 78 | 1:6.0 |
| 2005 | 10 | 3 | 0 | 3 | 30 | 58 | 1:5.8 |

^a Three permit holders opted for a rain-check tag in 2001.

^b Includes 3 rain-check tag recipients from the 2000 hunting season.

Table 2. Moose harvest and drawing odds by hunt area, Southwest Region, 1995-present.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|------------------|-------------------|---------|---------|---|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 19A ^b | 1999 | 2 | 2 | 0 | 100 | 18.5 | 39 | 1:19.5 |
| | 2000 | 2 | 1 | 0 | 50 | | 17 | 1:8.5 |
| | 2001 | 2 | 1 | 0 | 50 | | 18 | 1:9.0 |
| | 2002 | 2 | 2 | 0 | 100 | 9.5 | 19 | 1:9.5 |
| | 2003 | 2 | 2 | 0 | 100 | 4.5 | 24 | 1:12 |
| | 2004 | 2 | 1 | 0 | 50 | | 32 | 1:16 |
| | 2005 | 2 | 2 | 0 | 100 | | 17 | 1:8.5 |
| 20A | 1995 | 7 | 7 | 0 | 100 | 3.7 | 38 | 1:5.4 |
| | 1996 | 7 | 4 | 0 | 57 | 2.8 | 38 | 1:5.4 |
| | 1997 | 7 | 5 | 0 | 71 | 5.2 | 26 | 1:3.7 |
| | 1998 | 7 | 3 | 0 | 43 | 3.0 | 19 | 1:2.7 |
| | 1999 | 7 | 4 | 0 | 57 | 2.8 | 14 | 1:2.0 |
| | 2000 ^c | 7 | 2 | 0 | 29 | 15.0 | 19 | 1:2.7 |
| | 2001 ^d | 10 | 3 | 0 | 30 | 4.7 | 10 | 1:1.0 |
| | 2002 | 7 | 2 | 0 | 28 | | 8 | 1:1.1 |
| | 2003 | 7 | 0 | 0 | 0 | | 13 | 1:1.9 |
| | 2004 | 7 | 1 | 0 | 14 | | 7 | 1:1.0 |
| 2005 | 4 | 0 | 0 | 0 | | 19 | 1:4.8 | |
| 25 ^b | 1999 | 2 | 2 | 0 | 100 | 8.5 | 38 | 1:19.0 |
| | 2000 | 2 | 1 | 0 | 50 | | 9 | 1:4.5 |
| | 2001 | 2 | 2 | 0 | 100 | 8.5 | 15 | 1:7.5 |
| | 2002 | 2 | 2 | 0 | 100 | 5.0 | 17 | 1:8.5 |
| | 2003 | 2 | 2 | 0 | 100 | 3.0 | 25 | 1:12.5 |
| | 2004 | 2 | 1 | 0 | 50 | | 31 | 1:15.5 |
| | 2005 | 2 | 1 | 0 | 50 | | 14 | 1:7.0 |
| 26 ^e | 1997 | 2 | 2 | 0 | 100 | 1.5 | 23 | 1:11.5 |
| | 1998 | 2 | 1 | 0 | 50 | 7.0 | 19 | 1:9.5 |
| | 1999 | 2 | 1 | 0 | 50 | 2.0 | 14 | 1:7.0 |
| | 2000 | 2 | 0 | 0 | 0 | | 5 | 1:2.5 |
| | 2001 | 2 | 2 | 0 | 100 | 3.5 | 4 | 1:2.0 |
| | 2002 | 2 | 2 | 0 | 100 | 3.5 | 3 | 1:1.5 |
| | 2003 | 2 | 2 | 0 | 100 | 11.0 | 8 | 1:4.0 |
| | 2004 | 2 | 0 | 0 | 0 | | 8 | 1:4.0 |
| | 2005 | 2 | 0 | 0 | 0 | | 8 | 1:4.0 |

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

^b Hunt established in 1999.

^c Three permit holders opted for a rain-check tag in 2001.

^d Includes 3 rain-check tag recipients from the 2000 hunting season.

^e Hunt established in 1997.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>4</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>I</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

MAGIC VALLEY REGION

Units 43, 44, 48, 49, 56

Controlled Hunt Areas 44, 48, 56

Abstract

Legal harvest was authorized in Magic Valley Region for the first time in 1999 in Unit 56. Beginning fall 2001, antlered harvest was authorized in Units 44, 48, and 49. In 2005, 2 antlerless permits each were authorized for Hunt Areas 44 and 48. A total of 15 permits were issued in 2005 for the 3 hunt areas, and 11 hunters were successful (73%). Two animals (a cow and a bull calf) were harvested during antlerless hunts.

Management Direction

Follow statewide management direction; allow established populations to expand; transplant moose where feasible; and increase effort to record sightings and mortalities.

Background

Prior to 1990, transient moose were recorded throughout Magic Valley Region, but there were no viable, resident populations. In recent years, moose numbers in the region have increased as a result of good reproduction, natural ingress and transplants. Viable populations capable of sustaining limited harvest occur in Units 44, 48, 49, and 56.

Population Surveys

Aerial population surveys for moose have not been conducted in the region. In recent years, observations indicate increasing numbers of moose along the South Fork Boise River in Unit 43, Willow Creek in Unit 44, Big Wood River in Unit 48, and in the Trail Creek drainage on the border of Units 48-49. Initially, the increase in moose numbers was primarily the result of movement of moose from Unit 50, but natural reproduction is likely the key contributor to recent increases in the moose population. Thirty-one moose were released in Units 43 and 44 between

1986 and 2000; these transplants probably initiated the increase in the moose population in this unit. Populations in the Sublett area (Unit 56) appear to be stable and observations are common.

Harvest Characteristics

Hunting season length for antlered moose in the 3 hunt areas in Magic Valley Region was 86 days in 2005 (Appendix A). Four antlered permits were offered in Hunt Area 44. The boundary of Hunt Area 44 was changed prior to the 2005 hunting season, and now includes portions of Units 44 and 48. Two bulls were harvested, with 1 each taken in Unit 44 and Unit 48 (Table 1). A new hunt with 2 antlered permits was offered in Hunt Area 48, which includes all of Unit 49 and part of Unit 48. Two bulls were harvested; both were taken in Unit 48. Five antlered permits were again offered in Hunt Area 56 (includes Units 56, 73, and 73A). Five bulls were harvested, with 1 taken in Unit 56, 3 taken in Unit 73, and 1 taken in Unit 73A (Table 1).

Two new antlerless hunts, offering 2 permits each, were created in Hunt Areas 44 and 48. No antlerless animals were harvested in Hunt Area 44. Two antlerless moose (1 adult female and 1 bull calf, both from Unit 48) were harvested in Hunt Area 44. No other moose mortalities were reported in the region during the reporting period.

Other sources of moose mortality are illegal, Native American harvest, natural, road-kills, and other. For the 2005-2006 reporting period, no non-harvest mortalities were reported. (Table 2). Reporting of non-hunting mortalities is believed to be much lower than the actual number.

Capture and Translocation

No moose were released in the region during this reporting period.

Management Implications

Efforts to reintroduce moose in Unit 43 were not successful in establishing a huntable moose population in this unit. Most of the released moose were illegally killed or have moved from the area. However, there have been numerous moose observations in Unit 43 during winter while Department employees are conducting elk feeding operations and sightability surveys.

The Big Wood River moose population (Units 48 and 49) has continued to expand over the past several years. The population likely has potential for additional growth, however, social conflicts may increase as the population continues to grow in this suburban environment. Currently, human-moose conflicts in the Big Wood River Valley are minimal, and public support remains strong for moose population expansion in this area.

Table 1. Moose harvest and drawing odds by hunt area, Magic Valley Region, 1999-present.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter | First-choice applicants | Drawing odds |
|-----------------|------|---------|---------|---|--------------------|-------------|-------------------------|--------------|
| | | | M | F | | | | |
| 44 ^a | 2001 | 2 | 2 | 0 | 100 | 3.8 | 9 | 1:4.5 |
| | 2002 | 2 | 1 | 0 | 50 | 1.0 | 13 | 1:6.5 |
| | 2003 | 4 | 3 | 0 | 75 | 11.0 | 16 | 1:4.0 |
| | 2004 | 4 | 4 | 0 | 100 | 7.7 | 20 | 1:5.0 |
| | 2005 | 6 | 2 | 0 | 33 | 6.5 | 13 | 1:2.2 |
| 48 ^b | 2005 | 4 | 2 | 2 | 100 | 6.3 | 8 | 1:2.0 |
| 56 | 1999 | 5 | 5 | 0 | 100 | 16.0 | 28 | 1:5.6 |
| | 2000 | 5 | 5 | 0 | 100 | 3.8 | 21 | 1:4.2 |
| | 2001 | 5 | 4 | 1 | 100 | 19.2 | 31 | 1:6.2 |
| | 2002 | 5 | 4 | 0 | 80 | 3.0 | 31 | 1:6.2 |
| | 2003 | 5 | 5 | 0 | 100 | 17.2 | 37 | 1:7.4 |
| | 2004 | 5 | 5 | 0 | 100 | 5.6 | 44 | 1:8.8 |
| | 2005 | 5 | 5 | 0 | 100 | 12.3 | 46 | 1:9.2 |

^a Hunt established in 2001; includes portions of Units 44 and 48.

^b Hunt established in 2005; includes all of Unit 49 and a portion of Unit 48.

Table 2. Known moose mortalities, excluding controlled hunts, Magic Valley Region, 1986-present.

| Year | Mortality agent | | | | | Total |
|------|----------------------------|--------------|-----------|---------|-------|-------|
| | Native American harvest | Illegal kill | Road kill | Natural | Other | |
| 1986 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 0 | 1 | 1 | 0 | 2 |
| 1989 | 0 | 3 | 1 | 0 | 0 | 4 |
| 1990 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1991 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1992 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1993 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1995 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1996 | 0 | 2 | 0 | 0 | 0 | 2 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 0 | 0 | 0 | 0 | 1 | 1 |
| 1999 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2001 | 0 | 2 | 0 | 0 | 4 | 6 |
| 2002 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2003 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2004 | 0 | 0 | 3 | 0 | 0 | 3 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 0 |

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>5</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>1</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

SOUTHEAST REGION

Units 66A, 70, 71, 72, 73, 73A, 74, 75, 76, 77, 78

**Controlled Hunt Areas 66A, 70, 71-1, 71-2, 72,
74, 75, 76-1, 76-2, 76-3, 77, 78**

Abstract

The number of moose permits available were significantly reduced in 2005; 95 antlered-only and 65 antlerless-only permits were offered in 2005. This was a 39% reduction from 2004 antlered permit levels and a 7% reduction from 2004 antlerless permit levels. Mandatory harvest reports identified a total of 75 antlered (79% hunter success) and 41 antlerless (63% hunter success) moose harvested. The average greatest antler spread was 35 inches for the 75 antlered moose for which data is available. Data for Hunt Area 56 (Units 56, 73, and 73A) are reported under the Magic Valley Region-subproject 4.

Management Direction

Management direction for moose in Southeast Region follows that for the state in general; to provide "high-quality" hunting and other moose-related recreational opportunities. Consequently, permit levels are conservative, and hunter success is high relative to hunts for other cervid species. For antlered-only hunts, emphasis is on providing each hunter with the opportunity to harvest a mature bull moose. Antlerless-only moose hunting is also offered due to relatively high moose populations. Non-consumptive values of moose are also important.

The 1991-1995 Moose Management Plan established the goals of providing high-quality moose hunting and other moose-related recreational experiences for as many people as possible, assisting the expansion of moose populations into available habitat, and increasing permit numbers where possible.

Background

Prior to the 1950s, there were too few moose in Southeast Region to justify harvest. The first hunt for moose in the region was held in 1959 when 5 antlered-only permits were issued for a portion of Unit 76. With continued growth of the population, harvest has increased to recent levels of over 150 moose in 11 units. Illegal moose harvest may be substantial (Kuck and Ackerman 1984), although reporting of these cases is sporadic. The Department issued a small number of permits for any moose in several units from 1975-1990. An average of 80% of that harvest was antlered moose. In 1991, antlerless-only hunts were instituted in Units 66A and 76. Since 1991, permits have been issued for antlered or antlerless-only moose. Antlerless moose hunts start later than antlered hunts to provide more time for calf development.

Portions of the region continue to be colonized by moose, and populations apparently are increasing. Notably, moose appear to be expanding in Units 73 and 73A.

Population Surveys

No moose surveys were conducted in Southeast Region during the reporting period. Moose aerial surveys were conducted in 2 units in 2002. During January 2002, search units were flown in Hunt Areas 66A and 76-3.

In Hunt Area 66A, 19 search units were stratified as high, medium, or low likelihood of moose and 13 search units were flown for sightability. One hundred fifty-two moose were counted in these 13 search units consisting of 75 cows, 48 bulls, and 29 calves (Table 1). Estimates of 219 (± 31) total moose including 105 (± 15) cows, 75 (± 18) bulls, and 39 (± 9) calves were generated using the Hiller-Soloy Wyoming-based model (Unsworth et al. 1994). Overall herd composition was estimated as 48% cows, 34% bulls, and 18% calves. The population estimate of 219 in 2002 was 23% lower than the estimate of 285 in 1995; however, 90% confidence intervals overlap. Average moose seen were 3.0 in low units, 16.0 in medium units, and 18.5 in high units. Search units were likely well-stratified for the survey.

In Hunt Area 76-3, 13 search units were stratified as high or low likelihood of moose and 10 search units were flown for sightability. One hundred three moose were counted in these 10 search units consisting of 41 cows, 48 bulls, and 14 calves (Table 1). Estimates of 174 (± 40) total moose including 71 (± 20) cows, 78 (± 20) bulls, and 25 (± 8) calves were generated using the Hiller-Soloy Wyoming-based model. Overall herd composition was estimated as 41% cows, 45% bulls, and 14% calves. The population estimate of 174 in 2002 was very close to the 167 estimated in 1995. Average moose seen was 9.8 in low units and 11.2 in high units. Search units may need to be re-stratified or have stratification by moose likelihood deleted in future surveys.

Harvest Characteristics

Permit levels (Tables 2 and 3) were reduced in 2005, but the season structure (Appendix A) was unchanged. One hundred sixty permits (95 antlered and 65 antlerless) were issued. Minimum reported harvest was available through a mandatory mortality report of successful hunters.

Reported harvest totaled 116; 75 antlered and 41 antlerless moose (Tables 2 and 3). Average antler spread for Southeast Region was 35 inches.

Minimum overall hunter success rate for the region was 73%; 63% for antlerless-only permits and 79% for antlered-only permits.

Other sources of moose mortality are illegal, Native American harvest, natural, road-kills, and other. For the 2005-2006 reporting period, 3 non-harvest mortalities were reported. (Table 4). Reporting of non-hunting mortalities is believed to be much lower than the actual number.

Climatic Conditions

Winter 2005-2006 snow depths were above the 30-year average, with snow levels at 90-110% of average in most drainages. Average temperature during winter was similar to the 30-year norm.

Habitat Conditions

Succession of aspen stands into conifer may negatively affect moose habitat in the future. Treatment to retard succession may slow potential decreases. Development and disturbance associated with mining and timber harvest in the eastern portion of the region continued. Livestock grazing and other development of riparian areas impact moose habitat in many parts of the region.

Management Implications

Aerial surveys, using sightability models such as Anderson (1994) and Unsworth et al. (1994), and the mandatory check of moose harvested provide the majority of information available for management. Conservative permit levels likely allow for passive population expansion and growth, particularly in those areas being newly colonized.

Relatively high drawing odds for antlered-only permits indicate strong demand for moose hunting opportunity. Antlerless-only drawing odds are generally 1:1 or less; however, leftover permits sell quickly.

Moose also have high non-consumptive values for viewing by the public. Their relative abundance and general lack of fear of humans make them easy for people to observe.

During spring and early summer, an average of 5-30 moose wander into the city of Pocatello and surrounding communities. These are nearly always yearlings or 2-year olds and are most often hazed back into the surrounding hills or captured and translocated to more suitable habitat.

Literature Cited

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- UNSWORTH, J. W., F. A. LEBAN, D. J. LEPTICH, E. O. GARTON, AND P. ZAGER. 1994. Aerial survey: user's manual. Second edition. Idaho Department of Fish and Game, Boise, USA.

Table 1. Total observed moose by sex/age class and model estimates of moose from aerial surveys, Southeast Region, 1991-present.

| Hunt area Year | Observed | | Estimate | |
|-------------------|----------|---------------|----------|---------------|
| | Total | Bull:cow:calf | Total | Bull:cow:calf |
| 76-1, 2 | | | | |
| 1994 | 90 | 42:100:42 | 432 | 26:100:50 |
| 2000 | 286 | 74:100:42 | 510±83 | 74:100:42 |
| 76-3, 4 | | | | |
| 1993 | 104 | 76:100:37 | 192 | 76:100:36 |
| 1997 | 89 | 85:100:44 | 190 | 100:100:53 |
| 76-5, 6 | | | | |
| 1991 | 136 | 49:100:60 | | |
| 1995 | 121 | 55:100:40 | 167±22 | 54:100:34 |
| 2002 | 103 | 117:100:34 | 174±40 | 110:100:35 |
| 76 | | | | |
| 1999 | 140 | 100:100:62 | 583±146 | 99:100:60 |
| 66A | | | | |
| 1995 | 159 | 69:100:49 | 285±60 | 67:100:43 |
| 2002 | 152 | 64:100:39 | 219±31 | 71:100:37 |

Table 2. Moose harvest and drawing odds, Southeast Region, 1983-present.

| Year | Permits | Harvest | | | Hunter success (%) | First-choice applicants | Drawing odds |
|------|---------|---------|----|-------|--------------------|-------------------------|--------------|
| | | M | F | Total | | | |
| 1983 | 74 | 54 | 5 | 59 | 80 | | |
| 1984 | 95 | 77 | 5 | 82 | 86 | 1,908 | 1:20.1 |
| 1985 | 95 | 73 | 4 | 77 | 81 | 1,841 | 1:19.4 |
| 1986 | 95 | 79 | 4 | 83 | 87 | | |
| 1987 | 95 | 81 | 8 | 89 | 94 | 834 | 1:8.8 |
| 1988 | 110 | 100 | 5 | 105 | 95 | 830 | 1:7.5 |
| 1989 | 110 | 95 | 4 | 99 | 90 | 556 | 1:5.1 |
| 1990 | 125 | 98 | 9 | 107 | 86 | 738 | 1:5.9 |
| 1991 | 135 | 94 | 20 | 114 | 84 | 910 | 1:6.7 |
| 1992 | 135 | 98 | 19 | 117 | 87 | 837 | 1:6.2 |
| 1993 | 160 | 113 | 29 | 142 | 89 | 728 | 1:4.6 |
| 1994 | 160 | 114 | 29 | 143 | 89 | 809 | 1:5.1 |
| 1995 | 180 | 115 | 32 | 147 | 82 | 932 | 1:5.2 |
| 1996 | 180 | 105 | 34 | 139 | 77 | 921 | 1:5.1 |
| 1997 | 180 | 115 | 31 | 146 | 81 | 849 | 1:4.7 |
| 1998 | 180 | 103 | 28 | 131 | 73 | 804 | 1:4.5 |
| 1999 | 185 | 104 | 49 | 153 | 83 | 1,026 | 1:5.5 |
| 2000 | 185 | 111 | 34 | 145 | 78 | 600 | 1:3.2 |
| 2001 | 220 | 124 | 48 | 172 | 78 | 747 | 1:3.4 |
| 2002 | 220 | 127 | 38 | 165 | 75 | 723 | 1:3.3 |
| 2003 | 225 | 129 | 51 | 180 | 80 | 701 | 1:3.1 |
| 2004 | 225 | 129 | 31 | 160 | 71 | 737 | 1:3.1 |
| 2005 | 160 | 75 | 41 | 116 | 73 | 736 | 1:4.6 |

Table 3. Moose harvest and drawing odds by hunt area, Southeast Region, 1995-present.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|-----------|-------------------|---------|---------|----|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 66A | 1995 | 42 | 28 | 9 | 88 | 7.4 | 294 | 1:7.0 |
| | 1996 | 42 | 24 | 8 | 76 | 4.1 | 231 | 1:5.5 |
| | 1997 | 42 | 26 | 7 | 79 | 7.7 | 247 | 1:5.9 |
| | 1998 | 42 | 22 | 8 | 71 | 4.7 | 232 | 1:5.5 |
| | 1999 | 42 | 22 | 12 | 81 | 5.2 | 273 | 1:6.5 |
| | 2000 | 42 | 27 | 7 | 81 | 5.7 | 194 | 1:4.6 |
| | 2001 | 45 | 24 | 12 | 80 | 4.1 | 220 | 1:4.9 |
| | 2002 | 45 | 29 | 12 | 91 | | 202 | 1:4.5 |
| | 2003 | 45 | 28 | 12 | 89 | 3.8 | 215 | 1:4.8 |
| | 2004 | 45 | 30 | 7 | 82 | 6.5 | 197 | 1:4.8 |
| 70 | 2005 | 25 | 15 | 8 | 92 | 4.1 | 188 | 1:7.5 |
| | 1995 | 5 | 4 | 0 | 80 | 11.6 | 36 | 1:7.2 |
| | 1996 | 5 | 3 | 0 | 60 | 6.0 | 10 | 1:2.0 |
| | 1997 | 5 | 4 | 0 | 80 | 21.0 | 29 | 1:5.8 |
| | 1998 | 5 | 5 | 0 | 100 | 6.0 | 16 | 1:3.2 |
| | 1999 | 5 | 4 | 0 | 80 | 11.3 | 30 | 1:6.0 |
| | 2000 | 5 | 4 | 0 | 80 | 20.0 | 21 | 1:4.2 |
| | 2001 | 5 | 4 | 0 | 80 | 11.8 | 15 | 1:3.0 |
| | 2002 | 5 | 5 | 0 | 100 | | 30 | 1:6.0 |
| | 2003 | 5 | 5 | 0 | 100 | 10.0 | 15 | 1:3.0 |
| 71 | 2004 | 5 | 5 | 0 | 100 | 5.8 | 34 | 1:3.0 |
| | 2005 | 5 | 4 | 0 | 80 | 10.0 | 47 | 1:9.4 |
| | 1995 | 10 | 10 | 0 | 100 | 5.9 | 49 | 1:4.9 |
| | 1996 | 10 | 8 | 0 | 80 | 5.8 | 73 | 1:7.3 |
| | 1997 | 10 | 9 | 0 | 90 | 8.1 | 52 | 1:5.2 |
| | 1998 | 10 | 9 | 0 | 90 | 6.8 | 54 | 1:5.4 |
| | 1999 | 15 | 6 | 4 | 67 | 6.1 | 75 | 1:5.0 |
| | 2000 | 15 | 7 | 4 | 73 | 11.0 | 42 | 1:2.8 |
| | 2001 | 20 | 9 | 5 | 70 | 7.1 | 54 | 1:2.7 |
| | 2002 ^b | 20 | 7 | 3 | 50 | | 25 | 1:1.3 |
| 72 | 2003 ^b | 20 | 9 | 6 | 75 | 7.5 | 23 | 1:1.2 |
| | 2004 | 20 | 8 | 3 | 55 | 4.1 | 34 | 1:1.2 |
| | 2005 | 20 | 6 | 3 | 45 | 8.0 | 34 | 1:1.2 |
| | 1995 | 5 | 5 | 0 | 100 | 5.2 | 32 | 1:6.4 |
| | 1996 | 5 | 3 | 0 | 60 | 6.0 | 27 | 1:5.3 |
| | 1997 | 5 | 5 | 0 | 100 | 3.0 | 28 | 1:5.6 |
| | 1998 | 5 | 4 | 0 | 80 | 5.8 | 34 | 1:6.8 |
| | 1999 | 5 | 5 | 0 | 100 | 6.8 | 47 | 1:9.4 |
| | 2000 | 5 | 5 | 0 | 100 | 5.4 | 26 | 1:5.2 |
| | 2001 | 5 | 5 | 0 | 100 | 1.8 | 39 | 1:7.8 |
| 74 | 2002 | 5 | 5 | 0 | 100 | | 31 | 1:6.2 |
| | 2003 | 5 | 4 | 0 | 80 | 12.8 | 34 | 1:6.8 |
| | 2004 | 5 | 5 | 0 | 100 | 6.8 | 27 | 1:6.8 |
| | 2005 | 5 | 5 | 0 | 100 | 5.6 | 27 | 1:6.8 |
| | 1995 | 5 | 5 | 0 | 100 | 5.2 | 16 | 1:3.2 |
| | 1996 | 5 | 3 | 0 | 60 | 2.3 | 22 | 1:4.4 |
| | 1997 | 5 | 3 | 0 | 60 | 23.3 | 18 | 1:3.6 |

Table 3. Continued.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|-------------------|-------------------|---------|---------|-----|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 75 | 1998 | 5 | 3 | 0 | 60 | 12.0 | 25 | 1:5.0 |
| | 1999 | 5 | 2 | 0 | 40 | 4.3 | 19 | 1:3.8 |
| | 2000 | 5 | 4 | 0 | 80 | 13.7 | 12 | 1:2.4 |
| | 2001 | 5 | 4 | 0 | 80 | 34.7 | 16 | 1:3.2 |
| | 2002 | 5 | 3 | 0 | 60 | | 16 | 1:3.2 |
| | 2003 | 5 | 4 | 0 | 80 | 7.0 | 24 | 1:4.8 |
| | 2004 | 5 | 3 | 0 | 60 | 13.7 | 17 | 1:4.8 |
| | 2005 | 5 | 5 | 0 | 100 | 6.0 | 22 | 1:4.4 |
| | 1995 | 5 | 5 | 0 | 100 | 19.3 | 36 | 1:7.2 |
| | 1996 | 5 | 4 | 0 | 80 | 9.3 | 27 | 1:5.3 |
| | 1997 | 15 | 8 | 5 | 87 | 5.2 | 48 | 1:3.2 |
| | 1998 | 15 | 9 | 2 | 73 | 8.9 | 36 | 1:2.4 |
| | 1999 | 15 | 10 | 4 | 93 | 8.9 | 41 | 1:2.7 |
| | 2000 | 15 | 5 | 4 | 60 | 3.8 | 28 | 1:1.9 |
| | 76 | 2001 | 15 | 10 | 4 | 93 | 7.1 | 26 |
| 2002 | | 15 | 9 | 2 | 73 | | 29 | 1:1.9 |
| 2003 ^b | | 15 | 9 | 3 | 80 | 6.8 | 31 | 1:2.1 |
| 2004 | | 15 | 9 | 3 | 80 | 8.1 | 36 | 1:2.1 |
| 2005 | | 10 | 3 | 3 | 60 | 10.0 | 30 | 1:3.0 |
| 1995 | | 94 | 46 | 23 | 73 | 10.3 | 420 | 1:4.5 |
| 1996 | | 94 | 50 | 26 | 81 | 4.4 | 447 | 1:4.8 |
| 1997 | | 84 | 48 | 19 | 80 | 5.3 | 375 | 1:4.5 |
| 1998 | | 84 | 40 | 18 | 69 | 6.4 | 345 | 1:4.1 |
| 1999 | | 84 | 42 | 29 | 85 | 7.0 | 480 | 1:5.7 |
| 77 | 2000 | 84 | 45 | 19 | 76 | 5.6 | 249 | 1:3.0 |
| | 2001 | 105 | 51 | 27 | 74 | 4.8 | 326 | 1:3.1 |
| | 2002 ^b | 105 | 57 | 21 | 74 | | 329 | 1:3.1 |
| | 2003 | 110 | 51 | 30 | 74 | 6.2 | 323 | 1:2.9 |
| | 2004 | 110 | 51 | 18 | 63 | 6.9 | 321 | 1:2.9 |
| | 2005 | 70 | 28 | 20 | 69 | 4.8 | 335 | 1:4.8 |
| | 1995 | 7 | 6 | 0 | 86 | 18.6 | 21 | 1:3.0 |
| | 1996 | 7 | 4 | 0 | 57 | 11.5 | 26 | 1:3.7 |
| | 1997 | 7 | 6 | 0 | 86 | 7.3 | 20 | 1:2.9 |
| | 1998 | 7 | 4 | 0 | 57 | 6.3 | 28 | 1:4.0 |
| 78 | 1999 | 7 | 6 | 0 | 86 | 14.2 | 28 | 1:4.0 |
| | 2000 | 7 | 7 | 0 | 100 | 7.1 | 12 | 1:1.7 |
| | 2001 | 10 | 8 | 0 | 80 | 7.6 | 24 | 1:2.4 |
| | 2002 | 10 | 4 | 0 | 40 | | 25 | 1:2.5 |
| | 2003 | 10 | 9 | 0 | 90 | 6.3 | 23 | 1:2.3 |
| | 2004 | 10 | 9 | 0 | 90 | 5.4 | 20 | 1:2.3 |
| | 2005 | 10 | 5 | 3 | 80 | 11.4 | 23 | 1:2.3 |
| | 1995 | 7 | 6 | 0 | 86 | 15.0 | 28 | 1:4.0 |
| | 1996 | 7 | 6 | 0 | 86 | 13.8 | 58 | 1:8.3 |
| | 1997 | 7 | 6 | 0 | 86 | 21.7 | 32 | 1:4.6 |
| 1998 | 7 | 7 | 0 | 100 | 11.0 | 34 | 1:4.9 | |
| 1999 | 7 | 7 | 0 | 100 | 10.4 | 33 | 1:4.7 | |
| 2000 | 7 | 7 | 0 | 100 | 13.9 | 16 | 1:2.3 | |

Table 3. Continued.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|-----------|------|---------|---------|---|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| | 2001 | 10 | 9 | 0 | 90 | 10.9 | 27 | 1:2.7 |
| | 2002 | 10 | 8 | 0 | 80 | | 36 | 1:3.6 |
| | 2003 | 10 | 9 | 0 | 90 | 19.8 | 13 | 1:1.3 |
| | 2004 | 10 | 9 | 0 | 90 | 8.2 | 51 | 1:1.3 |
| | 2005 | 10 | 4 | 4 | 80 | 20.3 | 30 | 1:3.0 |

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

^b Applicants and drawing odds for antlered hunts only.

Table 4. Known moose mortalities, excluding controlled hunts, Southeast Region, 1992-present.

| Year | Mortality agent | | | | | | Total |
|------|-------------------------|--------------|-----------|---------|------------|-------|-------|
| | Native American harvest | Illegal kill | Road kill | Natural | Train kill | Other | |
| 1992 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1993 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 1994 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1995 | 1 | 10 | 1 | 1 | 0 | 7 | 20 |
| 1996 | 1 | 2 | 5 | 0 | 1 | 1 | 10 |
| 1997 | 0 | 1 | 1 | 3 | 0 | 3 | 8 |
| 1998 | 0 | 1 | 1 | 0 | 1 | 3 | 6 |
| 1999 | 0 | 1 | 4 | 3 | 0 | 0 | 8 |
| 2000 | 0 | 4 | 2 | 1 | 0 | 2 | 9 |
| 2001 | 1 | 1 | 3 | 0 | 0 | 4 | 9 |
| 2002 | 0 | 1 | 2 | 1 | 0 | 1 | 5 |
| 2003 | 0 | 0 | 2 | 3 | 0 | 1 | 6 |
| 2004 | 0 | 0 | 2 | 1 | 0 | 0 | 3 |
| 2005 | 0 | 1 | 2 | 0 | 0 | 0 | 3 |

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>6</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>I</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

UPPER SNAKE REGION

Abstract

Hunting season lengths for antlered and antlerless moose remained at 86 days (30 Aug-23 Nov) and 40 days (15 Oct-23 Nov), respectively, in 2005 (Appendix A). Permit numbers were reduced significantly from 2004 to 2005. Twenty-one controlled hunts with 235 permits were offered for antlered moose and 20 controlled hunts with 115 permits were offered for antlerless moose in Upper Snake Region in 2005. This was a 30% reduction from 2004 antlered permit levels and a 14% reduction from 2004 antlerless permit levels. A total of 191 antlered (81% hunter success) and 90 antlerless (78% success) moose were harvested as determined by mandatory harvest reports. The mean antler spread for all antlered hunts combined was 35.4 inches ($n = 189$). Drawing odds for antlered hunts overall were 1:5.5 and ranged from 1:0.8 (Hunt Area 60A) to 1:10.6 (Hunt Area 50). Drawing odds for antlerless hunts guaranteed a tag for first-choice applicants in many hunts. The most difficult antlerless odds were 1:6.2 (Hunt Area 59). These odds represent a significant decrease in the chance of drawing a tag due to the cuts in permit numbers in 2005.

Other sources of moose mortality are illegal, Native American harvest, natural, road-kill, train-kill and other. For the 2005-2006 reporting period, 39 non-harvest mortalities were reported for Upper Snake Region (Table 1) including 1 illegal, 5 winter kills, 27 road-kills, and 6 other.

No population surveys were conducted specifically for moose during this reporting period due to fiscal constraints. However, 731 moose were counted incidental to deer and elk surveys in Units 60A (479), 50 (24), 51 (7), 62/65 (190), and 67 (31) on winter range.

Concern had been expressed by sportsmen and field personnel that trophy bull moose have become scarce in Upper Snake Region. These concerns were examined and addressed for the 2005-2006 trophy species season-setting process. Harvest data had shown some decrease in mean antler spread depending on hunt area. Data also showed a decrease in the proportion of larger bulls harvested. This information, in conjunction with lower harvest success with consistent hunter effort, prompted the region to recommend reducing bull permits in several hunt areas. It appears that when we were consistently raising permit levels to track increasing populations, we may have passed the threshold on bull harvest for consistently producing large

antlered bulls. For the 2005-2006 seasons, the region reduced bull permits from 336 to 235 (30% reduction) and reduced cow permits from 133 to 115 (14% reduction). The effects of the new reduced permit levels should be monitored in the future.

Climatic Conditions

Spring and summer weather conditions during 2005 were cooler and much wetter than in the recent drought years. Winter precipitation was very high and winter temperatures were highly variable creating difficult snow conditions in some areas. The spring of 2006 has also seen fairly good precipitation levels.

Depredation, Capture, and Translocation

Two moose depredation complaints were recorded during this reporting period. One in Unit 63 involved moose eating stored hay and was resolved with a depredation payment. The other in Unit 50 involved moose eating shrubs and was resolved by harassment of the animal. Moose nuisance complaints in and around houses and towns are common in Upper Snake Region. Several nuisance complaints were resolved by hazing or moving the animals. Seven moose were drugged and moved during this reporting period; 3 out of Idaho Falls, 2 from Salem, 1 from St. Anthony, and 1 from Ashton. This reporting period was below average for moose complaints due to mild winter weather conditions in the valleys. Several other minor moose complaints were fielded by local officers and dealt with by either a phone call or visit.

Units 50, 51, 58, 63, 63A

Controlled Hunt Areas 50, 51, 63, 63A

Background

In early 1980, 6 moose were released near North Fork of the Big Lost River (Unit 50). Most initially remained close to their release site, but there has been egress to other areas. Reproduction has occurred, and additional transplants have augmented this population. During winter 2001-2002, several nuisance moose were also translocated to Unit 50.

An antlered-only hunt in Unit 50 was initiated in 1993 and an antlerless-only hunt was initiated in 2003. An antlered-only moose hunt was opened in Unit 51 in 1999 as a result of an increasing number of moose being sighted incidentally during deer and elk sightability surveys and ground observations. In 2003 and 2004, an antlered-only hunt was authorized in Unit 58 for the same reason but was subsequently closed in 2005.

A significant population of moose exists in Unit 63A. Moose utilize riparian habitat along the North and South Forks of the Snake River and associated sloughs, and depredation and nuisance complaints occur on a fairly regular basis. Moose distribution in Unit 63 is centered around the Mud Lake Wildlife Management Area (WMA)-Camas National Wildlife Refuge (NWR) area.

Hunt Area 63A was initiated in 1987. Unit 63 was added to Hunt Area 63A in 1999 and was then split into 2 separate hunts (Hunt Areas 63 and 63A) in 2003.

Population Surveys

No population surveys were conducted during this reporting period. Moose are counted incidentally during elk sightability surveys. However, not all moose habitat is flown so the numbers are not a good estimate of the number of animals in an area, considered only a minimum number. During this reporting period moose were counted incidental to deer and elk surveys in Units 50 (24) and 51 (7) on winter range.

Harvest Characteristics

Permit levels (Tables 2 and 3) were significantly reduced in 2005. A total of 25 antlered-only permits were issued in these units in 2005, resulting in the harvest of 21 animals (84% success) based on mandatory harvest reports. In addition, 19 moose were harvested on 20 antlerless-only permits (95% success). In 2005, mean antler spreads were 40.4 ($n = 5$, range 28.0-47.0) in Hunt Area 50; 36.1 ($n = 5$, range 33.0-42.6) in Hunt Area 51; 31.3 ($n = 4$, range 24.0-35.0) in Hunt Area 63; and 34.3 ($n = 7$, range 29.5-48.0) in Hunt Area 63A.

Habitat Conditions

Habitats within these units are quite varied. In Unit 50, extensive willow bottoms provide good summer and winter habitat, and the moose population appears to be increasing and ranging throughout the coniferous zone in summer.

Habitat in Units 51 and 58 are limited to discontinuous willow riparian areas. Habitat in Unit 63 is almost entirely desert and is unsuitable for moose except areas on and adjacent to Mud Lake WMA and Camas NWR. Habitat in Unit 63A consists primarily of the Snake River riparian zone adjacent to private residential and agricultural lands.

Management Implications

A new hunt was initiated in Unit 50 in 1993 and in Unit 51 in 1999. The populations in Unit 63 and 63A appear to be increasing and are causing nuisance and depredation problems in some years and permit increases were implemented beginning in 1993. Populations currently appear to be stable.

Units 59, 59A

Controlled Hunt Area 59

Background

Former Hunt Areas 59 and 59A were combined in 1993 to form the current Hunt Area 59. Fifteen antlered-only and 5 antlerless-only permits were offered in 2005 (Appendix A). Prior to

1993, 2 hunts with a total of 12 antlered-only permits were offered in these units. Former Hunt Area 59 had been open continuously since 1974 with permit levels fluctuating between 4 and 8 with over 90% hunter success reported. Hunt Area 59A was closed in 1978 after 1 moose was harvested in the preceding 4 years. In 1983, this hunt was reopened and 2 permits were issued annually through 1988 with 100% hunter success. Four permits were issued each season from 1989-1992 with 100% hunter success.

Population Surveys

A moose trend count was flown in Units 59 and 59A on 17-18 December 1994 using a Bell Model G47 Soloy helicopter. Counting conditions were good, with 8 or more inches of relatively new snow cover present over the entire area. All probable moose habitat was surveyed. A total of 179 moose (129 in Unit 59 and 50 in Unit 59A) with a bull:cow:calf ratio of 44:100:54 was counted on the survey. Of the 40 bulls counted, 13 were classified as yearlings, 20 as adults, and 7 had already shed antlers.

Few previous data are available for comparison. Prior to this count, no surveys had been conducted in Unit 59 since 1984 (64 total moose), and Unit 59A had never been surveyed specifically for moose. However, during deer and elk sightability surveys moose were counted on an incidental basis. In 1991-1992, 46 moose were counted in Unit 59 and 71 in Unit 59A. In 1993-1994, 49 moose were observed in Unit 59 and 46 in Unit 59A (unclassified). The 1999-2000 survey resulted in a total count of 90 moose (10 bulls, 19 cows, 13 calves, 48 unclassified). The 2004-2005 survey resulted in a total count of 74 moose (6 bulls, 13 cows, 6 calves, 49 unclassified).

Harvest Characteristics

Permit levels (Tables 2 and 3) were slightly reduced in 2005. Fifteen permits for antlered moose were offered in 2005, and 12 animals were harvested for an 80% hunter success rate. In addition, 5 antlerless permits were issued and 3 animals were harvested (60% success). Mean antler spread was 34.0 inches ($n = 12$) and ranged from 26.0-43.0 inches.

Statewide drawing odds have improved substantially in most units due to regulation changes implemented in 1986. In 2005, drawing odds were 1:6.6 in Hunt Area 59.

Known illegal kill (Table 1) was a serious problem in the early 1980s when it nearly equaled controlled harvest but has been of little significance, based on documented mortalities, in recent years.

Habitat Conditions

Habitat consists primarily of conifer/sagebrush ecotones and aspen. Riparian areas are limited and discontinuous. Habitat extends down major drainages that have willows. Improving riparian zone management would increase habitat quality and quantity in this area.

Management Implications

General observations indicate the moose population in these units is somewhat stable. Permit levels increased steadily in the past and will continue to be adjusted in response to data analysis.

Units 60, 60A, 61, 62, 62A

Controlled Hunt Areas 60, 60A, 61-1, 61-2, 61-3, 62, 62A

Background

During the 1970s, the moose population in Fremont County was thought to be declining and experiencing high levels of illegal mortality and Native American harvest. As a result, all moose hunts in Fremont County were closed in 1977. After a boundary change to include only Clark County, Hunt 361-1 was the only hunt open from 1977 to 1982.

A winter aerial survey conducted in 1983 counted moose in numbers slightly below the highs of the early 1950s. The Island Park area is the only area where counts were clearly lower than those in the 1952-1956 period. In response to the population recovery, 8 controlled hunts were opened in 1983 in Fremont County.

A new hunt was established in Unit 60A in 1986. The hunt area consists of agricultural land and the riparian zone along Henrys Fork of the Snake River. Many residences and farms occur in the area. The moose population within this corridor has been increasing. Annual depredation and nuisance complaints of moose in agriculture fields and near towns and residences have been received, resulting in expanded antlerless-only hunting opportunity. Permits were reduced by approximately 50% on the Island Park caldera portion of the region in 1991 as a result of significant winter mortality during the 1988-1989 winter, but have been steadily increasing since as populations continue to grow.

Fourteen hunts with a total of 80 antlered-only and 40 antlerless-only permits were offered in 2005 (Appendix A) in these hunt areas.

Population Surveys

A population survey was conducted in Unit 62 and a portion of 62A during December 2000. The survey in 62A was not completed because of fiscal constraints. The final population estimate for Unit 62 was 366 moose including 180 cows, 109 bulls, and 77 calves (Table 4). This total compares to fixed wing censuses of 228 and 97 moose observed during 1989 and 1990, respectively.

Most of the area was surveyed by airplane from November 1989-February 1990 (Table 5). Survey results indicated that moose populations had decreased substantially since the previous winter. Moose appeared to be in poor condition prior to the 1988-1989 winter following 2 years of drought, and significant winter losses probably occurred.

A helicopter survey was conducted along the North Fork Snake River corridor between St. Anthony and the Highway 33 bridge in Hunt Area 60A in December 1991. Only the riparian corridor was searched, so this should be considered a minimum count. A total of 37 moose were observed (2 bulls, 21 cows, 14 calves).

Moose have been counted incidental to deer and elk sightability surveys in Unit 60A on a fairly regular basis. However, moose distribution varies greatly from year to year and, since not all search units are surveyed, the usefulness of this information is questionable.

In 2006, a total of 479 moose were counted incidental to deer trend surveys. The majority of these animals were unclassified. Other recent totals for Unit 60A include 239, 185, 387, 473, 585, 340, 219, 272, 360, 187, and 312 in 2004, 2003, 2002, 2000, 1998, 1997, 1996, 1995, 1994, 1993, and 1991, respectively.

Harvest Characteristics

Permit levels (Tables 2 and 3) were significantly reduced in 2005. Eighty antlered-only moose permits were issued in 2005, resulting in the harvest of 63 animals (79% success) based on mandatory harvest reports. In addition, 29 moose were harvested on 40 antlerless-only permits (72% success) in Hunt Areas 60, 60A, 61-1, 61-2, 61-3, 62, and 62A. Mean antler spreads were 34.1 ($n = 10$, range 20.3-43.2) in Hunt Area 60; 32.0 ($n = 3$, range 28.3-32.5) in Hunt Area 60A; 34.6 ($n = 15$, range 19.0-43.5) in Hunt Area 61-1; 33.0 ($n = 7$, range 22.0-44.8) in Hunt Area 61-2; 31.7 ($n = 13$, range 24.0-37.0) in Hunt Area 61-3; 36.6 ($n = 5$, range 27.5-44.0) in Hunt Area 62; and 37.7 ($n = 9$, range 30.0-49.5) in Hunt Area 62A.

Management Implications

The increase in desert-wintering moose has led to increased depredations and nuisance complaints during average to severe winters. Mortality during the 1988-1989 winter resulted in significant population declines. However, moose populations have rebounded rapidly to levels above those present prior to the 1988-1989 die-off. Consequently, permit levels had been increased accordingly until 2002. Since then concern had been expressed by sportsmen and field personnel that trophy bull moose have become scarce. Harvest data had shown some decrease in mean antler spread depending on hunt area. Data also showed a decrease in the proportion of larger bulls harvested. This prompted a reduction in bull permits in 2005. It appears that when we were consistently raising permit levels to track increasing populations, we may have passed the threshold on bull harvest for consistently producing large antlered bulls. The effects of the new reduced permit levels should be monitored in the future.

Units 64, 65, 67

Controlled Hunt Areas 64, 65, 67-1, 67-2

Background

All of Unit 64 except the Canyon Creek drainage, Unit 65, and Unit 67 north and west of State Highway 31 have been open to moose hunting since 1974. In 1983, this area (old Hunt Area 364) was split along unit boundaries into 3 separate hunts. Increasing moose populations allowed a steady increase in permit levels until 1987. A new Hunt Area, 67-2, was created in 1983 and allowed the harvest of moose in that portion of Unit 67 previously closed. An antlerless-only hunt with 5 permits was created in 2005 in Unit 65.

Hunting opportunity has increased in these units from 1 hunt with 2 permits during the early 1980s to 7 hunts with 78 permits (58 antlered and 20 antlerless permits) in 2004. Permits have subsequently been reduced in 2005.

Population Surveys

Historically, moose populations appeared to be increasing in these units prior to the winter of 1988-1989. Forage was impacted by 2 years of drought and moose shifted their distribution to lower elevation agricultural and urban areas. Moose appeared to be in poor condition and significant winter losses likely occurred.

During winter 1992-1993, moose were first counted incidental to elk sightability surveys. Totals of 48, 26, and 90 moose were counted in Units 64, the western portion of 65, and 67, respectively. Most animals counted were unclassified. Moose were also counted incidental to elk sightability surveys during the 1995-1996 winter. Totals of 36, 101, and 60 moose were observed in Units 64, 65, and 67, respectively. Again, most animals were not classified. Moose were again counted incidentally during the 1997-1998 winter. Totals of 67, 30, and 88 (largely unclassified) moose were counted in Units 64, western 65, and 67, respectively. Moose were counted in Units 64, 65, and 67 incidental to elk surveys during the 2003-2004 winter. A total of 110 moose were observed.

Harvest Characteristics

Hunters harvested 36 antlered moose on 45 permits (80% hunter success rate) and 14 antlerless moose on 20 permits (70% success) in 2005 (Table 3). Mean antler spreads were 37.4 ($n = 13$, range 30.8-52.5) in Hunt Area 64; 43.4 ($n = 7$, range 38.5-49.2) in Hunt Area 65; 35.9 ($n = 7$, range 31.0-46.0) in Hunt Area 67-1; and 38.8 ($n = 9$, range 28.0-46.3) in Hunt Area 67-2.

Habitat Conditions

Conifer with interspersed aspen and narrow riparian areas make up the majority of moose habitat in this area. Mountain mahogany on south-facing ridges provides important winter moose habitat in Units 65 and 67. In Unit 64, moose are found wintering primarily in stream bottom

willow/aspen/dogwood communities. Concern had been expressed by sportsmen and field personnel that trophy bull moose have become scarce. Harvest data had shown some decrease in mean antler spread depending on hunt area. Data also showed a decrease in the proportion of larger bulls harvested. This prompted a reduction in bull permits in 2005. It appears that when we were consistently raising permit levels to track increasing populations, we may have passed the threshold on bull harvest for consistently producing large antlered bulls. The effects of the new reduced permit levels should be monitored in the future.

Management Implications

It is unknown if the fewer moose counted incidental to recent elk and deer surveys, compared to 1998, is a reflection of population change or differences in distribution due to mild wintering conditions. A 1989 aerial survey found approximately half the number of moose censused in 1985. A shift in moose distribution resulting from drought and severe winter conditions was partially responsible for the low count. Also, mortality during the 1988-1989 winter was above normal. Permit levels were maintained for the 1989 and 1990 seasons, but were adjusted in 1991 in response to data analysis. Moose populations appear to have rebounded rapidly to levels at or above those present prior to the 1988-1989 die-off. Consequently, permit levels increased in 1993, 1995, 1997, and again in 1999. Additionally, an antlerless-only hunt was initiated in Unit 64 in 1993. Bull permits have been reduced for 2005 due to concerns about antler size.

Units 66, 69

Controlled Hunt Areas 66-1, 66-2, 69-1, 69-2, 69-3

Background

Ten hunts with a total of 70 antlered-only permits and 30 antlerless permits were offered in Units 66 and 69 in 2005 (Appendix A) compared to 104 antlered-only and 35 antlerless permits in 2004. This was a 33% reduction in antlered and a 14% reduction in antlerless permit levels. The moose population in these units increased at a fairly rapid rate during the late 1970s when populations elsewhere in Upper Snake Region were decreasing or remaining static. Moose populations appeared to have continued to increase, particularly in the west half of Unit 69.

Hunts 66 and 69 were split in 1981 to create 4 hunts (66-1, 66-2, 69-1, and 69-2). This resulted in a 50% increase in permit levels from 1980 (16 to 24). A new hunt (69-3) was created in 1984 from adjacent portions of Hunts 66-1 and 69-2.

Hunt 69-1 was changed from antlered-only to either-sex in 1986 to address landowner concerns over depredations in grain fields. Either-sex permits were not effective in harvesting antlerless moose; no female moose were harvested. As a result, this hunt was changed back to antlered-only in 1991. However, beginning in 1993, an antlerless-only hunt (69-4) was initiated. This hunt had 10 permits and included all of Unit 69. In 1999, Unit 66 was added to this hunt, permits were increased to 20, and it was renumbered Hunt Area 66-3. This antlerless hunt was restructured again in 2001. Unit 66 was dropped from the hunt area and Unit 69 was split into 3 Hunt Areas (69-1, 69-2, and 69-3) that correspond to the like-numbered antlered hunts.

Population Surveys

No population surveys have been conducted in these units specifically to monitor moose populations. However, moose were counted incidentally during deer and elk sightability surveys in 1992, 1994, 1995, 1997, 1999, 2000, and 2002 (not all subunits were surveyed).

A total of 60 moose (most unclassified) were counted in Unit 66 in 2000. Other recent totals include 35, 62, 32, 98, and 26 in 1999, 1997, 1995, 1994, and 1992, respectively. In Unit 69, 257 moose were tallied in 2000 (6 bulls, 39 cows, 38 calves, 174 unclassified). Other recent totals include 121, 168, 231, and 193 in 1992, 1995, 1997, and 1999, respectively. A total of 175 moose were counted during deer surveys in Unit 69 in 2002 (107 during composition flights and 68 during trend flights). The most recent elk survey of Units 66 and 69 (2005) saw a total of 384 moose observed.

Harvest Characteristics

Ten hunts with a total of 100 permits were offered in these 2 units in 2005 (Table 3). A total of 59 antlered moose were harvested on 70 permits (84% success). An additional 25 antlerless moose were harvested on 30 permits (83% success). Mean antler spreads were 34.0 ($n = 13$, range 18.5-49.0) in Hunt Area 66-1; 32.7 ($n = 13$, range 18.3-42.3) in Hunt Area 66-2; 38.2 ($n = 12$, range 22.0-45.0) in Hunt Area 69-1; 34.5 ($n = 14$, range 19.3-43.0) in Hunt Area 69-2; and 42.0 ($n = 5$, range 34.8-51.3) in Hunt Area 69-3.

Habitat Conditions

Hunt Area 66 is characterized by conifer/aspen habitats with narrow canyon bottom riparian areas which support moderate willow/dogwood communities. Hunt Area 69 is primarily aspen/sagebrush and private agricultural land. Moose may be migrating from adjacent areas to winter on Tex Creek WMA.

Management Implications

Steadily increasing moose populations in these units have resulted in an increase in permit levels in all of these hunts since the early 1990s. Additionally, an antlerless-only hunt has been offered since 1993. Recently, concern has been expressed by sportsmen and field personnel that trophy bull moose have become scarce. Harvest data had shown some decrease in mean antler spread depending on hunt area. Data also showed a decrease in the proportion of larger bulls harvested. This prompted a reduction in bull permits in 2005. It appears that when we were consistently raising permit levels to track increasing populations, we may have passed the threshold on bull harvest for consistently producing large antlered bulls. The effects of the new reduced permit levels should be monitored in the future.

Table 1. Known moose mortalities, excluding controlled hunts, Upper Snake Region, 1982-present.

| Year | Mortality agent | | | | | | Total |
|------|-------------------------|--------------|-----------|---------|------------|-------|-------|
| | Native American Harvest | Illegal kill | Road kill | Natural | Train kill | Other | |
| 1982 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| 1983 | 0 | 6 | 4 | 0 | 0 | 2 | 12 |
| 1984 | 11 | 10 | 6 | 3 | 0 | 17 | 47 |
| 1985 | 6 | 12 | 13 | 1 | 6 | 9 | 47 |
| 1986 | 6 | 19 | 14 | 1 | 0 | 7 | 47 |
| 1987 | 6 | 14 | 14 | 7 | 2 | 8 | 51 |
| 1988 | 1 | 6 | 31 | 7 | 4 | 41 | 90 |
| 1989 | 2 | 2 | 10 | 1 | 0 | 9 | 24 |
| 1990 | 3 | 8 | 16 | 4 | 0 | 13 | 44 |
| 1991 | 1 | 10 | 12 | 6 | 4 | 22 | 55 |
| 1992 | 3 | 10 | 38 | 0 | 0 | 15 | 66 |
| 1993 | 1 | 8 | 7 | 0 | 0 | 4 | 20 |
| 1994 | 0 | 9 | 36 | 3 | 0 | 6 | 54 |
| 1995 | 2 | 3 | 15 | 2 | 0 | 7 | 29 |
| 1996 | 2 | 1 | 30 | 1 | 0 | 16 | 50 |
| 1997 | 1 | 7 | 27 | 9 | 0 | 5 | 49 |
| 1998 | 0 | 2 | 25 | 1 | 0 | 7 | 35 |
| 1999 | 2 | 4 | 26 | 5 | 0 | 3 | 40 |
| 2000 | 2 | 6 | 19 | 1 | 0 | 4 | 32 |
| 2001 | 0 | 3 | 11 | 1 | 0 | 9 | 24 |
| 2002 | 0 | 0 | 15 | 3 | 0 | 4 | 22 |
| 2003 | 0 | 2 | 14 | 3 | 0 | 0 | 19 |
| 2004 | 0 | 6 | 22 | 0 | 0 | 7 | 25 |
| 2005 | 0 | 1 | 27 | 5 | 0 | 6 | 39 |

Table 2. Moose harvest and drawing odds, Upper Snake Region, 1990-present.

| Year | Permits | Harvest | | | Hunter success (%) | First-choice applicants | Drawing odds |
|------|---------|---------|----|-------|--------------------|-------------------------|--------------|
| | | M | F | Total | | | |
| 1990 | 140 | 135 | 2 | 137 | 98 | 1,160 | 1:8.3 |
| 1991 | 118 | 105 | 10 | 115 | 97 | 1,490 | 1:12.6 |
| 1992 | 118 | 104 | 11 | 115 | 97 | 1,101 | 1:9.3 |
| 1993 | 214 | 170 | 30 | 200 | 93 | 1,225 | 1:5.7 |
| 1994 | 214 | 171 | 33 | 204 | 95 | 1,564 | 1:7.3 |
| 1995 | 231 | 187 | 31 | 218 | 94 | 1,668 | 1:7.2 |
| 1996 | 231 | 167 | 28 | 195 | 84 | 1,551 | 1:6.7 |
| 1997 | 276 | 201 | 35 | 236 | 86 | 1,767 | 1:6.4 |
| 1998 | 276 | 200 | 29 | 229 | 83 | 1,654 | 1:6.0 |
| 1999 | 379 | 280 | 46 | 326 | 86 | 2,235 | 1:5.9 |
| 2000 | 379 | 274 | 45 | 319 | 84 | 1,387 | 1:3.7 |
| 2001 | 406 | 305 | 52 | 357 | 88 | 1,472 | 1:3.6 |
| 2002 | 406 | 262 | 45 | 307 | 76 | 1,529 | 1:3.8 |
| 2003 | 469 | 265 | 94 | 359 | 77 | 1,495 | 1:3.2 |
| 2004 | 469 | 287 | 95 | 382 | 81 | 1,387 | 1:2.9 |
| 2005 | 350 | 191 | 90 | 281 | 80 | 1,471 | 1:4.2 |

Table 3. Moose harvest and drawing odds by analysis area, Upper Snake Region, 1995-present.

| Analysis area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|---------------|------|---------|---------|----|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 50, 51, | 1995 | 22 | 11 | 8 | 86 | 4.4 | 114 | 1:5.2 |
| 58, 63 | 1996 | 22 | 10 | 9 | 86 | 4.1 | 71 | 1:3.2 |
| 63A | 1997 | 26 | 13 | 9 | 85 | 4.8 | 116 | 1:4.5 |
| | 1998 | 26 | 9 | 8 | 65 | 5.6 | 96 | 1:3.7 |
| | 1999 | 34 | 17 | 10 | 79 | 12.0 | 160 | 1:4.7 |
| | 2000 | 34 | 17 | 11 | 82 | 2.7 | 90 | 1:2.6 |
| | 2001 | 37 | 18 | 13 | 84 | 3.3 | 113 | 1:3.1 |
| | 2002 | 37 | 22 | 11 | 89 | 6.7 | 111 | 1:3.0 |
| | 2003 | 53 | 23 | 14 | 70 | 3.7 | 107 | 1:2.0 |
| | 2004 | 53 | 25 | 19 | 83 | 5.0 | 135 | 1:2.5 |
| | 2005 | 45 | 21 | 19 | 89 | 4.8 | 158 | 1:3.5 |
| 59, 59A | 1995 | 16 | 16 | 0 | 100 | 4.4 | 155 | 1:9.7 |
| | 1996 | 16 | 15 | 0 | 94 | 6.6 | 117 | 1:7.3 |
| | 1997 | 16 | 14 | 0 | 88 | 7.1 | 132 | 1:8.3 |
| | 1998 | 16 | 15 | 0 | 94 | 2.8 | 152 | 1:9.5 |
| | 1999 | 20 | 20 | 0 | 100 | 6.1 | 172 | 1:8.6 |
| | 2000 | 20 | 19 | 0 | 95 | 4.8 | 110 | 1:5.5 |
| | 2001 | 22 | 19 | 0 | 86 | 2.6 | 88 | 1:4.0 |
| | 2002 | 22 | 20 | 0 | 91 | 6.7 | 124 | 1:5.6 |
| | 2003 | 25 | 20 | 5 | 100 | 5.0 | 113 | 1:4.5 |
| | 2004 | 25 | 19 | 5 | 96 | 3.1 | 102 | 1:4.8 |
| | 2005 | 20 | 12 | 3 | 75 | 4.5 | 131 | 1:6.6 |
| 60, 60A | 1995 | 90 | 77 | 8 | 94 | 4.6 | 731 | 1:8.1 |
| 61, 62, | 1996 | 90 | 70 | 7 | 86 | 4.4 | 678 | 1:7.5 |
| 62A | 1997 | 101 | 81 | 6 | 86 | 3.8 | 773 | 1:7.7 |
| | 1998 | 101 | 83 | 3 | 85 | 4.8 | 692 | 1:6.9 |
| | 1999 | 136 | 116 | 3 | 88 | 5.7 | 929 | 1:6.8 |
| | 2000 | 136 | 104 | 5 | 80 | 4.5 | 582 | 1:4.3 |
| | 2001 | 144 | 119 | 13 | 92 | 4.2 | 651 | 1:4.5 |
| | 2002 | 144 | 94 | 9 | 72 | 7.2 | 616 | 1:4.3 |
| | 2003 | 174 | 89 | 32 | 70 | 5.9 | 605 | 1:3.5 |
| | 2004 | 174 | 103 | 33 | 78 | 5.2 | 516 | 1:2.9 |
| | 2005 | 120 | 63 | 29 | 77 | 5.4 | 532 | 1:4.4 |
| 64, 65, | 1995 | 40 | 33 | 5 | 95 | 7.8 | 218 | 1:5.5 |
| 67 | 1996 | 40 | 24 | 4 | 70 | 6.3 | 254 | 1:6.4 |
| | 1997 | 56 | 35 | 7 | 75 | 4.5 | 228 | 1:4.1 |
| | 1998 | 56 | 36 | 5 | 73 | 4.8 | 229 | 1:4.1 |
| | 1999 | 79 | 49 | 15 | 81 | 8.1 | 279 | 1:3.5 |
| | 2000 | 79 | 51 | 10 | 77 | 4.8 | 202 | 1:2.6 |
| | 2001 | 74 | 55 | 9 | 86 | 3.8 | 175 | 1:2.4 |
| | 2002 | 74 | 41 | 8 | 66 | 6.8 | 217 | 1:2.9 |
| | 2003 | 78 | 48 | 16 | 82 | 8.7 | 184 | 1:2.4 |
| | 2004 | 78 | 47 | 14 | 78 | 6.2 | 230 | 1:2.9 |

Table 3. Continued.

| Analysis area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|---------------|------|---------|---------|----|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 66, 69 | 2005 | 65 | 36 | 14 | 77 | 5.5 | 205 | 1:3.2 |
| | 1995 | 63 | 50 | 10 | 95 | 6.0 | 450 | 1:7.1 |
| | 1996 | 63 | 48 | 8 | 89 | 4.4 | 431 | 1:6.8 |
| | 1997 | 77 | 58 | 13 | 92 | 4.1 | 518 | 1:6.7 |
| | 1998 | 77 | 57 | 13 | 91 | 4.1 | 485 | 1:6.3 |
| | 1999 | 110 | 78 | 18 | 87 | 5.2 | 695 | 1:6.3 |
| | 2000 | 110 | 83 | 19 | 93 | 5.3 | 403 | 1:3.7 |
| | 2001 | 129 | 94 | 17 | 86 | 5.2 | 445 | 1:3.4 |
| | 2002 | 129 | 85 | 17 | 79 | 6.8 | 461 | 1:3.6 |
| | 2003 | 139 | 81 | 29 | 79 | 5.3 | 486 | 1:3.5 |
| | 2004 | 139 | 92 | 26 | 85 | 5.3 | 404 | 1:2.9 |
| 2005 | 100 | 59 | 25 | 84 | 6.6 | 445 | 1:4.5 | |

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

Table 4. Aerial survey of moose, Hunt Area 62, Upper Snake Region.

| 2000-2001 | Observed | Estimated ($\pm 90\%$ CI) |
|-------------------|-----------|----------------------------|
| Total moose | 332 | 366 \pm 16 |
| Cows | 164 | 180 \pm 9 |
| Bulls | 98 | 109 \pm 8 |
| Calves | 70 | 77 \pm 5 |
| Bulls:cows:calves | 60:100:43 | 61:100:43 |

Table 5. Aerial survey of moose, Hunt Areas 60, 60A, 61, 62, Upper Snake Region.

| Inclusive location | 1990-1991 | | 1991-1992 | |
|--|-------------------|------------|-------------------|------------|
| | Bulls:cows:calves | Total | Bulls:cows:calves | Total |
| Middle to N Leigh Creek | 67:100:83 | 15 | | 0 |
| Wiggleton Hollow to Johns Creek | 56:100:56 | 19 | | 7 |
| N Fork Badger Creek to Bitch Crk | 72:100:56 | 41 | | 6 |
| Bitch Creek to Conant Creek | 7:100:68 | 49 | 56:100:67 | 20 |
| Conant Creek to Fall River | | 14 | 27:100:55 | 20 |
| Fall River Ridge to Cave Falls Rd | 36:100:43 | 80 | | 28 |
| Cave Falls Rd to Fish Creek Rd | | 10 | 56:100:22 | 16 |
| Fish Creek to Moose Creek | | 24 | | 19 |
| Warm River Hatchery to Survey Draw | 17:100:67 | 11 | | 5 |
| Buffalo River | | 2 | | 2 |
| Macks Inn/Big Springs Henrys Lake Flat | 42:100:52 | 59 | | 19 |
| Henrys Lake | 22:100:56 | 16 | | 19 |
| Henrys Fork to Hatchery Butte west of Warm River | 32:100:60 | 102 | | 14 |
| Humphrey to Spencer | 73:100:55 | 25 | | 14 |
| Spencer to Rattlesnake Creek | 25:100:75 | 24 | | 23 |
| Corral Creek to Spring Creek | 5:100:47 | 29 | | 7 |
| West Camas Drainage | | 14 | | 29 |
| East Camas Drainage | | 9 | | 4 |
| Big Bend Ridge | 14:100:105 | 88 | 22:100:122 | 68 |
| Desert, east of Sand Creek | | 6 | | 8 |
| Desert, Red Rd to Sand Creek Rd ^a | 100:100:100 | 85 | 65:100:41 | 50 |
| Junipers and Hook of Sands ^a | 118:100:44 | 103 | 33:100:67 | 18 |
| Chokecherry Ridge and Second Sands ^a | 69:100:45 | 63 | 72:100:36 | 48 |
| Total | | 888 | | 444 |

^a Moose counted in conjunction with helicopter deer survey, 18 December 1988.

**PROGRESS REPORT
SURVEYS AND INVENTORY**

| | | | |
|------------------------|--------------------------------------|--------------------|--------------------------------------|
| STATE: | <u>Idaho</u> | JOB TITLE: | <u>Moose Surveys and Inventories</u> |
| PROJECT: | <u>W-170-R-30</u> | | |
| SUBPROJECT: | <u>7</u> | STUDY NAME: | <u>Big Game Population Status,</u> |
| STUDY: | <u>I</u> | | <u>Trends, Use, and Associated</u> |
| JOB: | <u>6</u> | | <u>Habitat Studies</u> |
| PERIOD COVERED: | <u>July 1, 2005 to June 30, 2006</u> | | |

SALMON REGION

Units 21, 21A, 27, 29, 30, 30A, 36A, 37A

Controlled Hunt Areas 21, 27, 29, 36A

Abstract

Four controlled hunts with 16 total permits for antlered moose occurred in Salmon Region during 2005. Nine of 17 hunters harvested moose, including 1 successful hunter erroneously hunting in Hunt Area 29 (53% hunter success). Average antler spread was 35.8 inches; the 5-year running average was 34.5 inches. Interest in moose permits was typical of recent years; 124 applicants selected Salmon Region hunts as first choices (draw odds = 1:7.8).

Climatic Conditions

Precipitation during summer and fall 2005 was well below normal, resulting in reduced forage production and perhaps early curing of vegetation. Therefore, animals entered winter in fair to poor condition. Winter and early spring precipitation were above normal, yielding average water-year precipitation by the end of May 2006. A long period of very cold temperatures in December was followed by a series of thaw/freeze events that likely reduced forage availability because of icing and extreme snow crusting. In at least some cases, ungulates suffered high over-winter mortality rates (as evidenced by 80% mortality of radio-marked mule deer fawns).

Background

Habitats in these units range from riparian river bottoms to sagebrush grasslands on rolling foothills up through ponderosa pine and Douglas-fir forests to lodgepole pine and spruce-fir forests at higher elevations. Willow shrub communities usually associated with moose habitat are not common. Portions of these units contain extensive cliff and rock talus areas at both low and high elevations. Topography is moderately to very rugged. Units 21 and 21A are in 1 of the higher precipitation zones in Salmon Region, creating productive commercial forestlands. As a consequence, timber harvest is a dominant activity in at least the North Fork Salmon River drainage. Logging roads are common.

Units 21, 21A, 30, and 30A border areas in Montana where moose are common. Migrants from Montana may well have formed the initial nucleus for populations in units bordering Montana. Cross-border movements are no doubt common in this area. No information exists on historical moose numbers other than an increase in moose sightings in recent decades, primarily in the North Fork Salmon River drainage. As a result, Hunt Area 21 (Units 21 and 21A) was initiated in 1990 with 3 permits. Similar increases in moose sightings resulted in establishment of Hunt Area 29 (Units 29 and 37A) in 1991 and Hunt Area 30 (Units 30 and 30A) in 1993. Hunt Area 30 was incorporated into Hunt Area 29 in 1999. Two new hunt areas were opened in 2005 with 1 permit each: 27 and 36A.

Population Surveys

Because of dense cover, low moose densities, and solitary habits of moose, formal population surveys are generally ineffective in occupied moose habitat in Salmon Region. Incidental observations of moose are recorded during aerial surveys for other ungulates. During 2005-2006 surveys, observers counted 9 moose.

Harvest Characteristics

Harvest and hunter information was compiled from Big Game Mortality Reports, which hunters must complete within 10 days of harvest; antlers of males must be presented to an IDFG representative. Permit levels (Table 1) and season structure (Appendix A) were unchanged for established hunts in 2005. Two permits were added in 2 new hunt areas in 2005 (Table 2); 1 permit each in areas 27 (all of Unit 27) and 36A (all of Unit 36A). Sixteen antlered-moose permits were allocated between 4 controlled hunts in Salmon Region for 2005. One hunter with a permit for a Hunt Area outside the region harvested a moose in Hunt Area 29. Therefore, 9 of 17 hunters harvested moose (53% success). Overall hunter success was the lowest since seasons were opened and significantly below the long-term average of 88%. Of 181 permits issued since 1990, 156 hunters (85%) have taken a moose (Table 1). Antler spread of moose harvested during the 2005 season ranged from 18.5 to 45.5 inches (mean = 35.8 in.). Since 1995, average spread ranged from 33.4 to 37.4 inches.

Three moose deaths were attributed to non-hunting mortality during the reporting period (Table 3). Non-hunting mortality ranged from 0 to 8 moose per year since 1982.

Habitat Conditions

Intensive logging operations in primary moose range of Units 21 and 21A generally have enhanced moose habitat by encouraging forb and shrub production in cutover areas. However, positive impacts may eventually be counter-balanced by negative effects of increased road access and loss of mature, dense-canopy forest stands used by moose for winter cover.

Capture and Translocation

No moose capture or translocation operations were conducted in Salmon Region during the reporting period (Table 4). Opportunities exist to expand moose populations in Units 36 and 36B via capture and translocation.

Management Implications

Intensive population or habitat data will not be available for this area in the foreseeable future. Management will be based on moose sighting reports, incidental field observations of moose, and data from moose harvest and miscellaneous mortalities.

Table 1. Moose harvest and drawing odds, Salmon Region, 1990-present.

| Year | Permits | Harvest | | | Hunter success (%) | First-choice applicants | Drawing odds |
|---------------------|---------|---------|---|-------|--------------------|-------------------------|--------------|
| | | M | F | Total | | | |
| 1990 | 3 | 2 | 0 | 2 | 67 | 12 | 1:4.0 |
| 1991 | 6 | 6 | 0 | 6 | 100 | 38 | 1:6.3 |
| 1992 | 6 | 6 | 0 | 6 | 100 | 32 | 1:5.3 |
| 1993 | 9 | 9 | 0 | 9 | 100 | 54 | 1:6.0 |
| 1994 | 9 | 8 | 0 | 8 | 89 | 54 | 1:6.0 |
| 1995 | 12 | 10 | 0 | 10 | 83 | 123 | 1:10.3 |
| 1996 | 12 | 11 | 0 | 11 | 92 | 82 | 1:6.8 |
| 1997 | 12 | 12 | 0 | 12 | 100 | 89 | 1:7.4 |
| 1998 | 12 | 11 | 0 | 11 | 92 | 92 | 1:7.7 |
| 1999 | 14 | 13 | 0 | 13 | 93 | 124 | 1:8.9 |
| 2000 ^a | 14 | 11 | 0 | 11 | 79 | 80 | 1:5.7 |
| 2001 ^{a,b} | 15 | 16 | 0 | 16 | 107 | 102 | 1:6.8 |
| 2002 | 14 | 12 | 0 | 12 | 86 | 76 | 1:5.4 |
| 2003 | 14 | 11 | 0 | 11 | 79 | 106 | 1:7.6 |
| 2004 | 14 | 11 | 0 | 11 | 79 | 93 | 1:6.6 |
| 2005 ^c | 16 | 9 | 0 | 9 | 53 | 124 | 1:7.8 |

^a One permit was deferred from 2000 until 2001 season because of wildfires.

^b Two hunters mistakenly harvested bulls in Hunt Area 29.

^c One hunter mistakenly harvested a bull in Hunt Area 29.

Table 2. Moose harvest and drawing odds by hunt area, Salmon Region, 1994-present.

| Hunt area | Year | Permits | Harvest | | Hunter success (%) | Days/hunter ^a | First-choice applicants | Drawing odds |
|-------------------|-------------------|---------|---------|----|--------------------|--------------------------|-------------------------|--------------|
| | | | M | F | | | | |
| 21 | 1994 | 3 | 2 | 0 | 67 | 7.0 | 10 | 1:3.3 |
| | 1995 | 4 | 3 | 0 | 75 | 18.0 | 30 | 1:7.5 |
| | 1996 | 4 | 4 | 0 | 100 | 8.5 | 22 | 1:5.5 |
| | 1997 | 4 | 4 | 0 | 100 | 4.8 | 17 | 1:4.2 |
| | 1998 | 4 | 4 | 0 | 100 | 4.5 | 18 | 1:4.5 |
| | 1999 | 4 | 4 | 0 | 100 | 17.3 | 21 | 1:5.3 |
| | 2000 ^b | 4 | 2 | 0 | 67 | 4.0 | 10 | 1:2.5 |
| | 2001 ^b | 5 | 4 | 0 | 80 | 16.3 | 15 | 1:3.8 |
| | 2002 | 4 | 2 | 0 | 50 | 10.5 | 15 | 1:3.8 |
| | 2003 | 4 | 3 | 0 | 75 | 9.0 | 10 | 1:2.5 |
| | 2004 | 4 | 3 | 0 | 75 | 7.0 | 9 | 1:2.3 |
| | 2005 | 4 | 1 | 0 | 25 | 16.0 | 11 | 1:2.8 |
| | 27 | 2005 | 1 | 0 | 0 | 0 | | 2 |
| 29 | 1994 | 3 | 3 | 0 | 100 | 2.0 | 30 | 1:10.0 |
| | 1995 | 5 | 4 | 0 | 80 | 4.5 | 62 | 1:12.4 |
| | 1996 | 5 | 5 | 0 | 100 | 7.4 | 41 | 1:8.2 |
| | 1997 | 5 | 5 | 0 | 100 | 6.6 | 45 | 1:9.0 |
| | 1998 | 5 | 4 | 0 | 80 | 2.7 | 44 | 1:8.8 |
| | 1999 | 10 | 9 | 0 | 90 | 3.7 | 103 | 1:10.3 |
| | 2000 | 10 | 9 | 0 | 90 | 4.9 | 70 | 1:7.0 |
| | 2001 ^c | 10 | 12 | 0 | 100 | 6.7 | 87 | 1:8.7 |
| | 2002 | 10 | 10 | 0 | 100 | 7.9 | 61 | 1:6.1 |
| | 2003 | 10 | 8 | 0 | 80 | 6.3 | 96 | 1:9.6 |
| | 2004 | 10 | 8 | 0 | 80 | 7.0 | 84 | 1:8.4 |
| 2005 ^e | 10 | 8 | 0 | 73 | 4.0 | 108 | 1:10.8 | |
| 30 | 1994 | 3 | 3 | 0 | 100 | 6.0 | 14 | 1:4.7 |
| | 1995 | 3 | 3 | 0 | 100 | 2.0 | 31 | 1:10.3 |
| | 1996 | 3 | 2 | 0 | 67 | 4.0 | 19 | 1:6.3 |
| | 1997 | 3 | 3 | 0 | 100 | 3.0 | 27 | 1:9.0 |
| | 1998 ^d | 3 | 3 | 0 | 100 | 8.3 | 30 | 1:10.0 |
| 36A | 2005 | 1 | 0 | 0 | 0 | | 3 | 1:3.0 |

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

^b One permit was deferred from 2000 until 2001 season because of wildfires.

^c Two hunters mistakenly harvested bulls in Hunt Area 29.

^d Hunt Area 30 combined with Hunt Area 29 after 1998.

^e One hunter mistakenly harvested a bull in Hunt Area 29.

Table 3. Known moose mortalities, excluding controlled hunts, Salmon Region, 1982-present.

| Year | Mortality agent | | | | | Total |
|------|-------------------------|--------------|-----------|---------|-------|-------|
| | Native American harvest | Illegal kill | Road kill | Natural | Other | |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1987 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1988 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 | 2 | 0 | 1 | 1 | 0 | 4 |
| 1991 | 6 | 0 | 0 | 0 | 0 | 6 |
| 1992 | 6 | 1 | 1 | 0 | 0 | 8 |
| 1993 | 0 | 1 | 0 | 1 | 0 | 2 |
| 1994 | 0 | 1 | 1 | 1 | 0 | 3 |
| 1995 | 0 | 0 | 0 | 2 | 0 | 2 |
| 1996 | 0 | 0 | 0 | 0 | 2 | 2 |
| 1997 | 0 | 1 | 1 | 1 | 0 | 3 |
| 1998 | 0 | 1 | 0 | 0 | 2 | 3 |
| 1999 | 0 | 0 | 1 | 0 | 1 | 2 |
| 2000 | 0 | 0 | 2 | 0 | 0 | 2 |
| 2001 | 0 | 2 | 2 | 0 | 0 | 4 |
| 2002 | 0 | 2 | 1 | 1 | 1 | 5 |
| 2003 | 0 | 0 | 3 | 1 | 0 | 4 |
| 2004 | 0 | 0 | 3 | 2 | 1 | 6 |
| 2005 | 0 | 1 | 0 | 1 | 1 | 3 |

Table 4. Moose translocation, Salmon Region, 1993-present.

| Date | Capture site | Release site | Adults | | Calves | | Total |
|------|--|----------------------|--------|---|--------|---|-------|
| | | | M | F | M | F | |
| 2/93 | Units 60, 60A, 62 in various locations | Unit 36: Valley Cr. | 1 | 2 | 0 | 0 | 3 |
| | | Unit 36: Decker Flat | 0 | 2 | 1 | 0 | 3 |
| | | Unit 36: Gold Cr. | 0 | 2 | 0 | 0 | 2 |

APPENDIX A
IDAHO
2005 SEASON
MOOSE RULES



Moose, Bighorn Sheep and Mountain Goat



Controlled Hunt Seasons 2005 and 2006

REGULATIONS

Photo courtesy Dave Grickson, U.S. Fish and Wildlife Service



- **Controlled Hunt application period:
April 1 - April 30**
- **Persons applying for controlled hunts
MUST submit tag and application fees.
See pages 5-6.**
- **New information is highlighted.**





2005 & 2006 MOOSE HUNTING SEASONS

- Only moose with at least one antler longer than six inches may be taken in any season open for antlered moose only.
- Only moose without antlers or with antlers less than six inches long may be taken in any season which is open for antlerless moose only.

MANDATORY CHECK AND REPORT REQUIREMENTS

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

Successful hunters must complete a big game mortality report, available at IDFG regional offices or from conservation officers, within 10 days of the date of the kill. All hunters who have harvested either an antlered or antlerless moose must complete this report.

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

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

2005 & 2006 ANTLERED MOOSE CONTROLLED HUNTS - 864 PERMITS

| Hunt No. | Season Dates | Controlled Hunt Area | Permits | Notes |
|----------|-----------------|----------------------|---------|--|
| 3001 | Aug 30 - Nov 23 | 1-1 | 50 | |
| 3002 | Sep 24 - Sep 30 | 1-1 | 20 | NEW HUNT - One week only in Hunt Area 1-1 |
| 3003 | Aug 30 - Nov 23 | 1-2 | 30 | |
| 3004 | Aug 30 - Nov 23 | 1-3 | 20 | |
| 3005 | Sep 24 - Sep 30 | 1-3 | 10 | NEW HUNT - One week only in Hunt Area 1-3 |
| 3006 | Aug 30 - Nov 23 | 1-4 | 40 | |
| 3007 | Aug 30 - Nov 23 | 2 | 20 | |
| 3008 | Sep 24 - Sep 30 | 2 | 5 | NEW HUNT - One week only in Hunt Area 2 |
| 3009 | Aug 30 - Nov 23 | 3 | 5 | |
| 3010 | Sep 24 - Sep 30 | 3 | 5 | NEW HUNT - One week only in Hunt Area 3 |
| 3011 | Aug 30 - Nov 23 | 4* | 10 | |
| 3012 | Sep 24 - Sep 30 | 4* | 5 | NEW HUNT - One week only in Hunt Area 4 |
| 3013 | Aug 30 - Nov 23 | 6 | 10 | |
| 3014 | Sep 24 - Sep 30 | 6 | 5 | NEW HUNT - One week only in Hunt Area 6 |
| 3015 | Aug 30 - Nov 23 | 7 | 10 | |
| 3016 | Aug 30 - Nov 23 | 8 | 8 | |
| 3017 | Aug 30 - Nov 23 | 8A | 8 | |
| 3018 | Aug 30 - Nov 23 | 9 | 5 | |
| 3019 | Sep 24 - Sep 30 | 9 | 5 | NEW HUNT - One week only in Hunt Area 9 |
| 3020 | Aug 30 - Nov 23 | 10-1 | 6 | Contact Clearwater National Forest for motorized travel restrictions on Lolo Motorway. |

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

2005 & 2006 ANTLERED MOOSE CONTROLLED HUNTS

| Hunt No. | Season Dates | Controlled Hunt Area | Permits | Notes |
|-----------------|---------------------|-----------------------------|----------------|--|
| 3021 | Aug 30 - Nov 23 | 10-2 | 5 | |
| 3022 | Aug 30 - Nov 23 | 10-3 | 10 | |
| 3023 | Aug 30 - Nov 23 | 10-4 | 4 | |
| 3024 | Aug 30 - Nov 23 | 10-5 | 4 | Contact Clearwater National Forest for motorized travel restrictions on Lolo Motorway. |
| 3025 | Aug 30 - Nov 23 | 10-6 | 3 | |
| 3026 | Aug 30 - Nov 23 | 10A-1 | 10 | |
| 3027 | Aug 30 - Nov 23 | 10A-2 | 8 | |
| 3028 | Aug 30 - Nov 23 | 10A-3 | 3 | |
| 3029 | Aug 30 - Nov 23 | 10A-4 | 8 | |
| 3030 | Aug 30 - Nov 23 | 10A-5 | 5 | |
| 3031 | Aug 30 - Nov 23 | 12-1 | 3 | Contact Clearwater National Forest for motorized travel restrictions on Lolo Motorway. |
| 3032 | Aug 30 - Nov 23 | 12-2 | 13 | Contact Clearwater National Forest for motorized travel restrictions on Lolo Motorway. |
| 3033 | Aug 30 - Nov 23 | 12-3 | 7 | |
| 3034 | Aug 30 - Nov 23 | 12-4 | 7 | |
| 3035 | Aug 30 - Nov 23 | 12-5 | 7 | |
| 3036 | Aug 30 - Nov 23 | 12-6 | 6 | Contact Clearwater National Forest for motorized travel restrictions on Lolo Motorway. |
| 3037 | Aug 30 - Nov 23 | 14-1 | 7 | |
| 3038 | Aug 30 - Nov 23 | 14-2 | 6 | |
| 3039 | Aug 30 - Nov 23 | 15-1 | 15 | |
| 3040 | Aug 30 - Nov 23 | 15-2 | 10 | |
| 3041 | Aug 30 - Nov 23 | 15-3 | 5 | |
| 3042 | Aug 30 - Nov 23 | 15-4 | 15 | |
| 3043 | Aug 30 - Nov 23 | 16-1 | 5 | |
| 3044 | Aug 30 - Nov 23 | 16-2 | 7 | |
| 3045 | Aug 30 - Nov 23 | 16A-1 | 5 | |
| 3046 | Aug 30 - Nov 23 | 16A-2 | 2 | |
| 3047 | Aug 30 - Nov 23 | 17-1 | 5 | |
| 3048 | Aug 30 - Nov 23 | 17-2 | 3 | |
| 3049 | Aug 30 - Nov 23 | 17-3 | 2 | |
| 3050 | Aug 30 - Nov 23 | 17-4 | 3 | |
| 3051 | Aug 30 - Nov 23 | 17-5 | 5 | |
| 3052 | Aug 30 - Nov 23 | 19-1 | 4 | |
| 3053 | Aug 30 - Nov 23 | 19-2 | 8 | |
| 3054 | Aug 30 - Nov 23 | 19A | 2 | |
| 3055 | Aug 30 - Nov 23 | 20-1 | 3 | |
| 3056 | Aug 30 - Nov 23 | 20-2 | 2 | |
| 3057 | Aug 30 - Nov 23 | 20-3 | 2 | |
| 3058 | Aug 30 - Nov 23 | 20-4 | 3 | |
| 3059 | Aug 30 - Nov 23 | 20A-1 | 2 | Boundary Change. Limited Access. |
| 3060 | Aug 30 - Nov 23 | 20A-2 | 2 | Boundary Change. Limited Access. |
| 3061 | Aug 30 - Nov 23 | 21 | 4 | |
| 3062 | Aug 30 - Nov 23 | 25 | 2 | |
| 3063 | Aug 30 - Nov 23 | 26 | 2 | Limited Access. |
| 3064 | Aug 30 - Nov 23 | 27 | 1 | NEW HUNT. Limited Access. |

2005 & 2006 ANTLERED MOOSE CONTROLLED HUNTS

| Hunt No. | Season Dates | Controlled Hunt Area | Permits | Notes |
|-----------------|---------------------|-----------------------------|----------------|--|
| 3065 | Aug 30 - Nov 23 | 29* | 10 | |
| 3066 | Aug 30 - Nov 23 | 36A | 1 | NEW HUNT |
| 3067 | Aug 30 - Nov 23 | 44* | 4 | Boundary Change |
| 3068 | Aug 30 - Nov 23 | 48* | 2 | NEW HUNT |
| 3069 | Aug 30 - Nov 23 | 50 | 5 | |
| 3070 | Aug 30 - Nov 23 | 51 | 5 | |
| 3071 | Aug 30 - Nov 23 | 56* | 5 | |
| 3072 | Aug 30 - Nov 23 | 59* | 15 | |
| 3073 | Aug 30 - Nov 23 | 60 | 15 | Short range weapons only on Chester Wetlands WMA. |
| 3074 | Aug 30 - Nov 23 | 60A | 5 | Short-range weapons only.# Limited Access. Motorboat advised for game retrieval. |
| 3075 | Aug 30 - Nov 23 | 61-1 | 15 | |
| 3076 | Aug 30 - Nov 23 | 61-2 | 10 | |
| 3077 | Aug 30 - Nov 23 | 61-3 | 15 | |
| 3078 | Aug 30 - Nov 23 | 62 | 10 | |
| 3079 | Aug 30 - Nov 23 | 62A | 10 | |
| 3080 | Aug 30 - Nov 23 | 63 | 5 | Short range weapons only on Mud Lake WMA.# Limited Access. |
| 3081 | Aug 30 - Nov 23 | 63A | 10 | Short range weapons only.# Limited Access. Motorboat advised for game retrieval. |
| 3082 | Aug 30 - Nov 23 | 64 | 15 | |
| 3083 | Aug 30 - Nov 23 | 65 | 10 | |
| 3084 | Aug 30 - Nov 23 | 66-1 | 15 | |
| 3085 | Aug 30 - Nov 23 | 66-2 | 15 | |
| 3086 | Aug 30 - Nov 23 | 66A | 15 | |
| 3087 | Aug 30 - Nov 23 | 67-1 | 10 | |
| 3088 | Aug 30 - Nov 23 | 67-2 | 10 | |
| 3089 | Aug 30 - Nov 23 | 69-1 | 15 | |
| 3090 | Aug 30 - Nov 23 | 69-2 | 15 | |
| 3091 | Aug 30 - Nov 23 | 69-3* | 10 | Limited Access. |
| 3092 | Aug 30 - Nov 23 | 70 | 5 | |
| 3093 | Aug 30 - Nov 23 | 71-1 | 5 | |
| 3094 | Aug 30 - Nov 23 | 71-2 | 5 | |
| 3095 | Aug 30 - Nov 23 | 72 | 5 | |
| 3096 | Aug 30 - Nov 23 | 74 | 5 | |
| 3097 | Aug 30 - Nov 23 | 75 | 5 | |
| 3098 | Aug 30 - Nov 23 | 76-1 | 15 | |
| 3099 | Aug 30 - Nov 23 | 76-2 | 10 | |
| 3100 | Aug 30 - Nov 23 | 76-3 | 15 | |
| 3101 | Aug 30 - Nov 23 | 77 | 5 | |
| 3102 | Aug 30 - Nov 23 | 78 | 5 | |

*See page 11.

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

2005 & 2006 ANTLERLESS MOOSE CONTROLLED HUNTS - 222 PERMITS

| Hunt No. | Season Dates | Controlled Hunt Area | Permits | Notes |
|----------|-----------------|----------------------|---------|--|
| 3103 | Oct 15 - Nov 23 | 1-1 | 20 | |
| 3104 | Oct 15 - Nov 23 | 2 | 10 | |
| 3105 | Oct 15 - Nov 23 | 8 | 4 | |
| 3106 | Oct 15 - Nov 23 | 8A | 4 | |
| 3107 | Oct 15 - Nov 23 | 44 | 2 | NEW HUNT |
| 3108 | Oct 15 - Nov 23 | 48 | 2 | NEW HUNT |
| 3109 | Oct 15 - Nov 23 | 50 | 5 | |
| 3110 | Oct 15 - Nov 23 | 59* | 5 | |
| 3111 | Oct 15 - Nov 23 | 60 | 5 | Short range weapons only on Chester Wetlands WMA |
| 3112 | Oct 15 - Nov 23 | 60A | 10 | Short range weapons only#. Limited Access. Motorboat advised for game retrieval. |
| 3113 | Oct 15 - Nov 23 | 61-1 | 5 | |
| 3114 | Oct 15 - Nov 23 | 61-2 | 5 | |
| 3115 | Oct 15 - Nov 23 | 61-3 | 5 | |
| 3116 | Oct 15 - Nov 23 | 62 | 5 | |
| 3117 | Oct 15 - Nov 23 | 62A | 5 | |
| 3118 | Oct 15 - Nov 23 | 63 | 5 | Short range weapons only#. Limited Access. |
| 3119 | Oct 15 - Nov 23 | 63A | 10 | Short range weapons only#. Limited Access. Motorboat advised for game retrieval. |
| 3120 | Oct 15 - Nov 23 | 64 | 5 | |
| 3121 | Oct 15 - Nov 23 | 65 | 5 | NEW HUNT |
| 3122 | Oct 15 - Nov 23 | 66-1 | 5 | |
| 3123 | Oct 15 - Nov 23 | 66-2 | 5 | |
| 3124 | Oct 15 - Nov 23 | 66A | 10 | |
| 3125 | Oct 15 - Nov 23 | 67-1 | 5 | |
| 3126 | Oct 15 - Nov 23 | 67-2 | 5 | |
| 3127 | Oct 15 - Nov 23 | 69-1 | 10 | |
| 3128 | Oct 15 - Nov 23 | 69-2 | 5 | |
| 3129 | Oct 15 - Nov 23 | 69-3 | 5 | |
| 3130 | Oct 15 - Nov 23 | 71-1 | 5 | |
| 3131 | Oct 15 - Nov 23 | 71-2 | 5 | |
| 3132 | Oct 15 - Nov 23 | 75 | 5 | |
| 3133 | Oct 15 - Nov 23 | 76-1 | 10 | |
| 3134 | Oct 15 - Nov 23 | 76-2 | 10 | |
| 3135 | Oct 15 - Nov 23 | 76-3 | 10 | |
| 3136 | Oct 15 - Nov 23 | 77 | 5 | NEW HUNT |
| 3137 | Oct 15 - Nov 23 | 78 | 5 | NEW HUNT |

See page 11.

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

HUNT AREA DESCRIPTIONS

Hunt Area 1-1—That portion of Unit 1 within the Priest River drainage, and those portions of the Pend Oreille and Salmo River drainages downstream from the Priest River drainage.

Hunt Area 1-2—That portion of Unit 1 within the following boundaries: beginning on U.S. Highway 95 bridge across the Pend Oreille River at Sandpoint, then northward along

Highway 95 to the Kootenai River at Bonner's Ferry, then northwesterly along the Kootenai River to the U.S. border, then west along the U.S. border to the Priest River-Kootenai River divide, then south along the Priest River-Pack River divide to Flat Top Mountain, then south along the divide separating the Priest River drainage and the Pend Oreille

drainage to Priest River, then east along the Pend Oreille River to the point of beginning. EXCEPT MYRTLE CREEK GAME PRESERVE – CLOSED.

Hunt Area 1-3—That portion of Unit 1 north and east of the Kootenai River.

Hunt Area 1-4—That portion of Unit 1 south of the Kootenai River and east of U.S. Highway 95. EXCEPT THE DAVID THOMPSON GAME PRESERVE – CLOSED.

Hunt Area 2—All of Unit 2.

Hunt Area 3—All of Unit 3.

Hunt Area 4—All of Units 4 and 4A.

Hunt Area 6—All of Unit 6.

Hunt Area 7—All of Unit 7.

Hunt Area 8—All of Unit 8.

Hunt Area 8A—All of Unit 8A.

Hunt Area 9—All of Unit 9.

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

Hunt Area 10-2—That portion of Unit 10 on the north side of the Kelly Creek drainage upstream from, but excluding, the Moose Creek drainage, and that portion on the south side of the Kelly Creek drainage upstream from, but excluding, the Cayuse Creek drainage.

Hunt Area 10-3—That portion of Unit 10 on the north side of the Kelly Creek drainage upstream from its mouth to and including the Moose Creek drainage, and the North Fork of the Clearwater River drainage upstream from the mouth of Kelly Creek.

Hunt Area 10-4—That portion of Unit 10 within the Fourth of July Creek drainage, that portion on the south side of the North Fork of the Clearwater River from the mouth of Fourth of July Creek upstream to the mouth of Kelly Creek, and the south side of the Kelly Creek drainage from its mouth upstream to, but excluding, the Cayuse Creek drainage.

Hunt Area 10-5—That portion of Unit 10 within the Weitas Creek drainage (a tributary of the upper North Fork of the Clearwater River), and the drainages on the southwest side of the North Fork of the Clearwater River from the Weitas Creek drainage to, but excluding, the Fourth of July Creek drainage.

Hunt Area 10-6—That portion of Unit 10 on the north side of the North Fork of the Clearwater River drainage downstream from the mouth of Kelly Creek.

Hunt Area 10A-1—That portion of Unit 10A within the following boundary: Beginning at the junction of the Unit 10A boundary with Forest Service Road 250 along the North Fork of the Clearwater River, then southwest along Forest Service Road 250 to Forest Service Road 669, then west and south along Forest Service Road 669 to Highway 11 at Pierce, then south on Highway 11 to Forest Service Road 100, then south on Forest Service Road 100 to the Clearwater National Forest boundary, then south along the

Clearwater National Forest boundary to the Unit 10A boundary, then north along the Unit 10A boundary to the point of beginning.

Hunt Area 10A-2—That portion of Unit 10A within the following boundary: Beginning at the junction of Unit 10A boundary with Forest Service Road 247, then south on Forest Service Road 247 to Forest Service Road 251, then south on Forest Service Road 251 to Forest Service Road 246, then southwest on Forest Service Road 246 to State Highway 11 at Headquarters, then south on Highway 11 to Forest Service Road 669 at Pierce, then northeast on Forest Service Road 669 to Forest Service Road 250, then northeast on Forest Service Road 250 to the Unit 10A boundary, then north and east along the Unit 10A boundary to the point of beginning.

Hunt Area 10A-3—That portion of Unit 10A within the following boundary: Beginning at the Grandad Bridge on the Unit 10A boundary, then south and east along the Silver Creek-Casey Creek Road to Forest Service Road 247, then south on Forest Service Road 247 to Forest Service Road 246 at Headquarters, then northeast on Forest Service Road 246 to Forest Service Road 251, then north on Forest Service Road 251 to Forest Service Road 247, then north on Forest Service Road 247 to the Unit 10A boundary at the North Fork of the Clearwater River, then west on the Unit 10A boundary to the point of beginning.

Hunt Area 10A-4—That portion of Unit 10A north of Forest Service Road 1705 from Elk River to Grandad Bridge and north and west of Dworshak Reservoir and the Little North Fork of the Clearwater River.

Hunt Area 10A-5—That portion of Unit 10A south of Forest Service Road 1705 from Elk River to Grandad Bridge and north and west of Dworshak Reservoir.

Hunt Area 12-1—That portion of Unit 12 north of the Lochsa River from and including the Lost Creek drainage upstream to, but excluding the Crooked Fork drainage.

Hunt Area 12-2—That portion of Unit 12 within the Crooked Fork drainage and north of White Sand Creek upstream to and including the Storm Creek drainage.

Hunt Area 12-3—That portion of Unit 12 south of the Lochsa River from and including the Old Man Creek drainage upstream to and including the Mocus Creek drainage.

Hunt Area 12-4—That portion of Unit 12 south of the Lochsa River from, but excluding, the Mocus Creek drainage, upstream to and including the Cliff Creek drainage.

Hunt Area 12-5—That portion of Unit 12 within the Walton Creek drainage, that portion on the south side of White Sand Creek upstream to the mouth of Storm Creek, and all of White Sand Creek drainage upstream from, but excluding, the Storm Creek drainage.

Hunt Area 12-6—That portion of Unit 12 north of the Middle Fork of the Clearwater River from the Smith Creek Road (Forest Service Road 101) upstream to the mouth of

the Lochsa River, that portion on the north side of the Lochsa River upstream to, but excluding, the Lost Creek drainage, and that portion on the south side of the Lochsa River from its mouth upstream to, but excluding, the Old Man Creek drainage.

Hunt Area 14-1—That portion of Unit 14 north of the following boundary: Beginning on the Unit 14 west boundary on the Slate Creek Road (Forest Service Road 354), then east on the Slate Creek Road to Forest Service Road 221, then north on Forest Service Road 221 to the Unit 14 east boundary.

Hunt Area 14-2—That portion of Unit 14 south of the following boundary: Beginning on the Unit 14 west boundary on the Slate Creek Road (Forest Service Road 354), then east on the Slate Creek Road to Forest Service Road 221, then north on Forest Service Road 221 to the Unit 14 east boundary.

Hunt Area 15-1—That portion of Unit 15 north of the South Fork of the Clearwater River from and including the American River drainage downstream to and including the Newsome Creek drainage.

Hunt Area 15-2—That portion of Unit 15 south of the South Fork of the Clearwater River downstream from and including the Crooked River drainage upstream to and including the Red River drainage.

Hunt Area 15-3—That portion of Unit 15 on the south and west sides of the South Fork of the Clearwater River downstream from, but excluding, the Crooked River drainage.

Hunt Area 15-4 — That portion of Unit 15 north and east of the South Fork of the Clearwater River from and including the Sally Ann Creek drainage upstream to and including the Leggett Creek drainage.

Hunt Area 16-1 — That portion of Unit 16 north and west of the Hamby Creek Road (Forest Service Road 651), and that portion south and west of the Selway River from its mouth upstream to the Hamby Creek Road.

Hunt Area 16-2 — That portion of Unit 16 south and east of Hamby Creek Road (Forest Service Road 651), and that portion north and east of the Selway River from its mouth upstream to Fog Mountain Road (Forest Service Road 319).

Hunt Area 16A-1 — That portion of Unit 16A north and west of the following boundary: Beginning at Anderson Butte, then east along the Drive Ridge Trail (Forest Service Trail 809) to the Meadow Creek Trail (Forest Service Trail 726), then east along the Meadow Creek Trail to the Disgrace Butte-Vermilion Peak Trail (Forest Service Trail 609), then northeast along the Disgrace Butte-Vermilion Peak Trail to the Buck Lake Creek-Drake Creek Trail (Forest Service Trail 628), then northeast along the Buck Lake Creek-Drake Creek Trail to the Unit 16A boundary at Drake Saddle.

Hunt Area 16A-2—That portion of Unit 16A south and east of the following boundary: Beginning at Anderson Butte, then east along the Drive Ridge Trail (Forest Service Trail

809) to the Meadow Creek Trail (Forest Service Trail 726), then east along the Meadow Creek Trail to the Disgrace Butte-Vermilion Peak Trail (Forest Service Trail 609), then northeast along the Disgrace Butte-Vermilion Peak Trail to the Buck Lake Creek-Drake Creek Trail (Forest Service Trail 628), then northeast along the Buck Lake Creek-Drake Creek Trail to the Unit 16A boundary at Drake Saddle.

Hunt Area 17-1—That portion of Unit 17 north of the Selway River from Fog Mountain Road (Forest Service Road 319) upstream to and including the west side of the Moose Creek drainage, the North Fork Moose Creek drainage, and the north side of the East Fork Moose Creek drainage upstream to, but excluding, Cedar Creek.

Hunt Area 17-2—That portion of Unit 17 east of the Selway River from the mouth of Moose Creek upstream to and including the Bear Creek drainage, and that portion on the east side of the Moose Creek and East Fork Moose Creek drainage from the mouth of Moose Creek upstream to and including the Cedar Creek drainage.

Hunt Area 17-3—That portion of Unit 17 south and west of the Selway River from and including the Mink Creek drainage upstream to and including the Goat Creek drainage.

Hunt Area 17-4—That portion of Unit 17 west of the Selway River from, but excluding the Goat Creek drainage, upstream to Forest Service Road 468.

Hunt Area 17-5—That portion of Unit 17 east of the Selway River upstream from, but excluding the Bear Creek drainage to Forest Service Road 468; all of the Selway River drainage south of Forest Service Road 468.

Hunt Area 19-1—That portion of Unit 19 outside the Gospel Hump Wilderness boundary.

Hunt Area 19-2—That portion of Unit 19 within the Gospel Hump Wilderness boundary.

Hunt Area 19A—All of Unit 19A.

Hunt Area 20-1—That portion of Unit 20 within South Fork of Red River, the Big Mallard Creek and Little Mallard Creek drainages and the Salmon River drainage from the Big Mallard drainage to but EXCLUDING the Bargamin Creek drainage.

Hunt Area 20-2—That portion of Unit 20 within the Bargamin Creek drainage, and that portion on the north side of the Salmon River to, but excluding, the Sabe Creek drainage.

Hunt Area 20-3—That portion of Unit 20 within the Sabe Creek drainage.

Hunt Area 20-4—That portion of Unit 20 from the Mackay Bar Road (Forest Service Road 222) upstream to and including the Elkhorn Creek drainage.

Hunt Area 20A-1—That portion of Unit 20A east of the following boundary: From the mouth of Chamberlain Creek upstream to the watershed divide between McCalla Creek and Chamberlain Creek, then southwest along McCalla Ridge to the Unit 20A/26 boundary.

Hunt Area 20A-2—That portion of Unit 20A west of the following boundary: From the mouth of Chamberlain Creek upstream to the watershed divide between McCalla Creek and Chamberlain Creek, then southwest along McCalla Ridge to the Unit 20A/26 boundary.

Hunt Area 21—All of Units 21 and 21A.

Hunt Area 25—All of Unit 25.

Hunt Area 26—That portion of Unit 26 on the north side of Big Creek downstream from, but excluding, the Smith Creek Drainage, and the south side of Big Creek downstream from, and including, the Little Marble Creek drainage.

Hunt Area 27 — All of Unit 27.

Hunt Area 29 —All of Units 29, 30, 30A and 37A.

Hunt Area 36A — All of Unit 36A.

Hunt Area 44 — That portion of Unit 44 east of the Fairfield-Couch Summit-Five Points Road, and that portion of Unit 48 west of State Highway 75.

Hunt Area 48 — All of Unit 49 and that portion of Unit 48 east of State Highway 75.

Hunt Area 50—All of Unit 50.

Hunt Area 51—All of Unit 51.

Hunt Area 56—All of Units 56, 73, and 73A.

Hunt Area 59—All of Units 59 and 59A.

Hunt Area 60—All of Unit 60.

Hunt Area 60A —That portion of Unit 60A south and east of the North Fork (Henrys Fork) of the Snake River, and that portion within one (1) mile north and west of the North Fork of the Snake River.

Hunt Area 61-1—That portion of Unit 61 west of East Dry Creek.

Hunt Area 61-2—That portion of Unit 61 east of East Dry Creek and west of U.S. Highway 191-20 and south and west of State Highway 87.

Hunt Area 61-3—That portion of Unit 61 north of State Highway 87 and that portion east of U.S. Highway 191-20 EXCEPT that portion enclosed by the Big Springs Loop Road and U.S. Highway 191-20.

Hunt Area 62—All of Unit 62.

Hunt Area 62A—All of Unit 62A.

Hunt Area 63 — All of Unit 63.

Hunt Area 63A —All of Unit 63A.

Hunt Area 64—All of Unit 64.

Hunt Area 65—All of Unit 65.

Hunt Area 66-1—That portion of Unit 66 north of main Bear Creek EXCEPT the Pritchard and Garden Creek drainages.

Hunt Area 66-2—That portion of Unit 66 south of main Bear Creek.

Hunt Area 66A —All of Unit 66A.

Hunt Area 67-1—That portion of Unit 67 north and west of State Highway 31.

Hunt Area 67-2—That portion of Unit 67 south and east of State Highway 31.

Hunt Area 69-1—That portion of Unit 69 west of the Grays Lake-Long Valley-Bone-Iona Road.

Hunt Area 69-2—That portion of Unit 69 east of the Grays Lake-Long Valley-Bone-Iona Road EXCEPT the Antelope and Granite Creek drainages.

Hunt Area 69-3—That portion of Unit 69 within the Antelope and Granite Creek drainages, and that portion of Unit 66 within the Pritchard and Garden Creek drainages.

Hunt Area 70—All of Unit 70.

Hunt Area 71-1—That portion of Unit 71 located in Bannock and Bingham counties.

Hunt Area 71-2—That portion of Unit 71 located in Caribou County.

Hunt Area 72—All of Unit 72.

Hunt Area 74—All of Unit 74.

Hunt Area 75 —All of Unit 75.

Hunt Area 76-1 —That portion of Unit 76 within the following boundary: Beginning at Soda Springs on State Highway 34, then northeast to the Lanes Creek Road at Wayan, then south along the Lanes Creek-Diamond Creek Road to Timber Creek Road, then northeast along Timber Creek-Smoky Canyon-Stump Creek Road to the Idaho-Wyoming state line, then south along the state line to the Crow Creek Road, then southwest along Crow Creek-Wells Canyon-Georgetown Canyon Road to U.S. 30, then north along U.S. Highway 30 to Soda Springs, the point of beginning.

Hunt Area 76-2 — That portion of Unit 76 south of the Georgetwon-Wells Canyon-Crow Creek Road.

Hunt Area 76-3 —That portion of Unit 76 north and east of the following boundary: Beginning at the Idaho-Wyoming state line, then west along the Stump Creek-Smoky Canyon-Timber Creek Road to the Diamond Creek Road, then north along the Diamond Creek-Lanes Creek Road to State Highway 34 at Wayan.



Idaho law requires every outfitter and guide to be licensed and bonded. **Outfitting or guiding without a license is a crime.** You can ask your outfitter or guide to see their license, or you can contact the **Idaho Outfitters and Guides Licensing Board** with inquires, complaints, or for more information at 1-800-506-5656, (208) 327-7167, or (208) 327-7380; or visit this link to the Outfitters and Guides Licensing Board website: <http://www2.state.id.us/oglb/oglbhome.htm>

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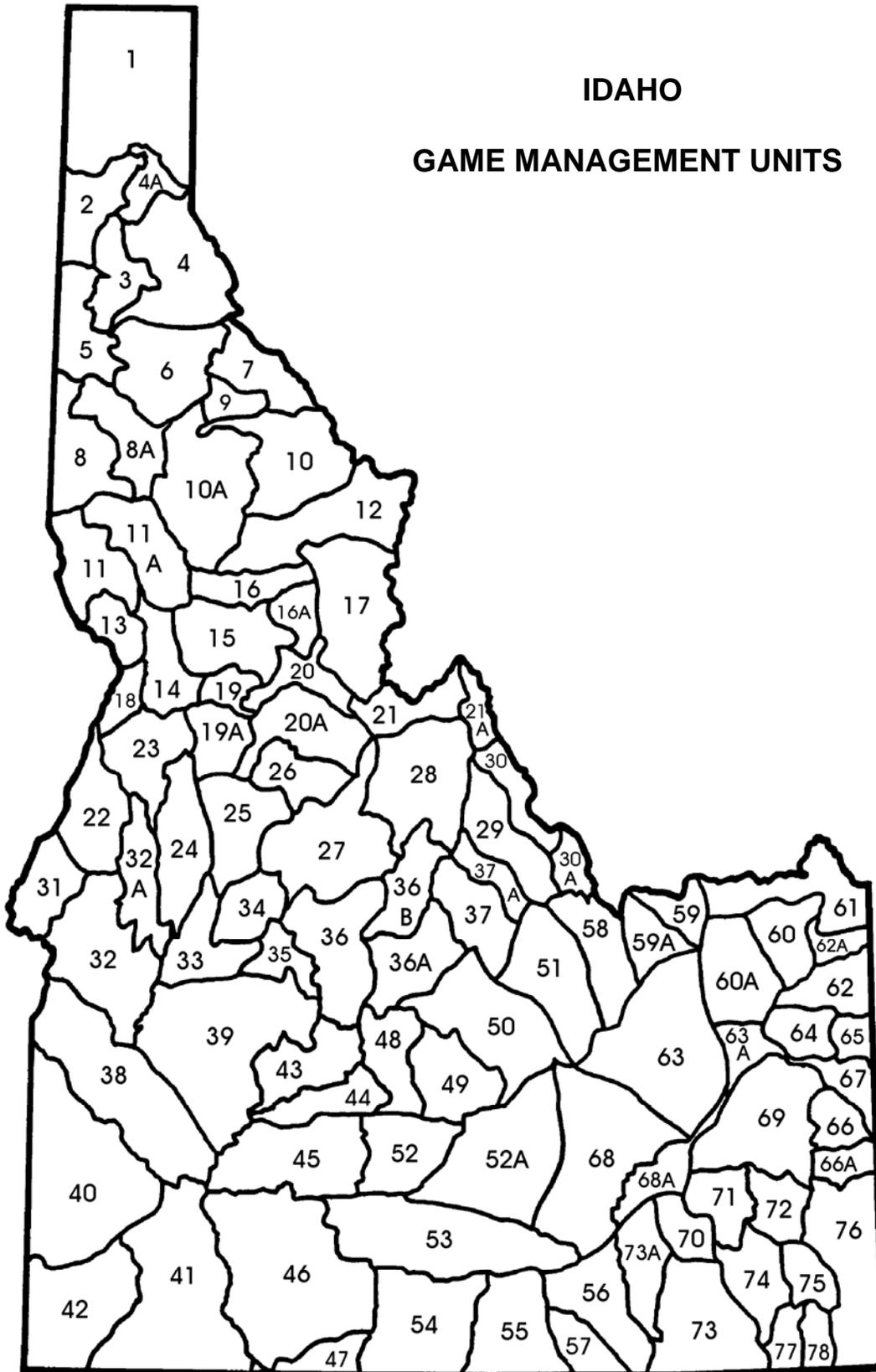
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Dale E. Toweill
Wildlife Program Coordinator
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IDAHO

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.

