

WYOMING MOUNTAIN LION STATUS REPORT – 2001

DANIEL D. BJORNLIE, Trophy Game Biologist, 260 Buena Vista, Lander, WY 82520

DAVID S. MOODY, Trophy Game Section Coordinator, 260 Buena Vista, Lander, WY 82520

Abstract: Mountain lions (*Puma concolor*) are distributed widely throughout Wyoming in all types of habitats. The status of the mountain lion in Wyoming has changed considerably since the nineteenth century. Wyoming is currently divided into 28 mountain lion hunt areas with a quota system. Wyoming statutes allow any mountain lion damaging private property to be killed by the owner, employee, or lessee of the property. Information collected from harvested mountain lions is presently the primary source of data used to monitor lion populations in Wyoming.

DISTRIBUTION AND ABUNDANCE

Mountain lions (*Puma concolor*) are distributed widely throughout Wyoming in all types of habitats. Densities, however, are not uniform, with the highest densities thought to be in the Bighorn, Owl Creek, and Laramie mountain ranges (Wyoming Game & Fish Department 1997). Logan and Irwin (1985) found that habitat use by mountain lions in the Bighorn Mountains was varied and included virtually all habitat types. However, mixed conifer and curleaf mountain mahogany were preferred and sagebrush-grass was generally avoided. Lions also preferred rugged terrain in all seasons (Logan and Irwin 1985) and the timber/prairie interface in winter (Chuck Anderson, pers. comm.). Presently, there are no estimates of how many mountain lions inhabit Wyoming. However, responses from houndsman surveys distributed since 1996 and increasing hunter harvest indicate populations are stable or increasing throughout the state.

MANAGEMENT

The status of the mountain lion in Wyoming has changed considerably since the nineteenth century. In 1882, the Wyoming Territorial government enacted legislation placing a bounty on mountain lions and other predators (Wyoming Game & Fish Department 1997). This allowed lion hunting the entire year without bag limit. In 1973, the mountain lion was reclassified as a trophy game animal. Since then, seasons have been created, management units and hunt areas delineated, and quotas established to better control the number and sex of lions harvested.

The Wyoming Game & Fish Department (WGFD) prepared a draft management plan for mountain lions in 1997. That plan has not been finalized to date. Currently the WGFD uses age and sex ratio data from harvested lions as the primary means of assessing population status and establishing seasons and quotas for mountain lions. Wyoming is currently divided into 28 mountain lion hunt areas. These hunt areas are grouped into 5 Mountain Lion Management Units (MLMU) based on geographic boundaries. Each hunt area has a maximum annual mortality quota that varies from 2 to 34, with one area also having a maximum female mortality quota. If either quota is filled, the hunting season in that hunt area is closed. Harvest counts begin at the start of each season and include all legal and illegal hunting mortalities. Total and female mortality quotas are reevaluated each year after the seasons close by the Trophy Game Section and regional biologists, game wardens, and supervisors. The annual harvest report, conflict records, and perceived lion abundance are utilized to determine whether quotas need to be changed.

The individual bag limit for lions is 1 lion per hunter per calendar year, except for 2 units in north central and central Wyoming, where 1 additional lion may be taken each calendar year. Hunters are responsible for inquiring about the status of harvest quotas prior to hunting, and pelts and skulls from harvested lions must be inspected by a Game and Fish official within 3 days of harvest. The season extends from September 1 to March 31 for all hunt areas except for 4 units in and around the Bighorn Mountains, which have year-round seasons. Because of their secretive nature, lions are rarely harvested without the aid of dogs. From 1990 through 1999, 89% of all lions legally harvested were taken with dogs.

NUISANCE AND DAMAGE ACTIVITY

Wyoming statutes allow any mountain lion damaging private property to be killed by the owner, employee, or lessee of the property. Damage generally occurs in areas where domestic livestock are seasonally permitted to graze. Lions will kill most species of livestock, although cattle and sheep are the most common in depredation records. While lions will kill adult and young sheep, most cattle taken are calves (Lindzey 1987). In Wyoming and other northern Rocky Mountain states, most cattle give birth in areas where lions are not prevalent. Livestock owners in Wyoming are reimbursed for confirmed lion-related losses. An average of 2.5 nuisance lions were removed annually in Wyoming from 1990 to 1999, with a low of 0 in 1995 and a high of 6 in 1999. There are no limits on the number of nuisance lions that can be removed, and removed lions do not count toward annual mortality quotas.

POPULATION MONITORING

Information collected from harvested mountain lions is presently the primary source of data used to monitor lion populations in Wyoming. The mandatory check system for successful hunters makes it possible for Game and Fish to collect data for sex and age of the harvested lion. Two teeth are collected for aging, and hair and tissue samples are collected for DNA analysis. The location of kill, sex, number of days hunted, and method of take are also recorded.

Although harvest data is the primary source of lion population demography data, other techniques are being investigated. Current research conducted by C.R. Anderson at the Wyoming Cooperative Fish and Wildlife Research Unit at the University of Wyoming is investigating the effects of intense harvest on mountain lion population demographics, as well as overall mountain lion management and population genetics. Snow track aerial surveys are also being conducted to attempt to obtain more accurate lion population estimates.

HARVEST SUMMARY

Mountain lion harvest has averaged 115 per year for the last 10 years (1990-99). However, there has been a steady increase in harvest over this time (Figure 1), with an average of 156 lions per year for the past 5 years (1995-99). Yearly harvest numbers ranged from 51 in 1991 to 208 in 1999. In this same time period, 89% of all legal lion harvest has utilized dogs. Hunter days (1 hunter for 1 day = 1 hunter day) have also increased dramatically over the past 10 years (Figure 2), ranging from 120 in 1991 to 743 in 1999. However, with the exception of a peak in 1993, hunter days per lion harvested remained relatively constant over this time period (Figure 2). Of the 615 successful hunters who responded to the question of whether they were selective when hunting, 470 (76%) said they were not. This is reflected in the fact that the overall percentage of males harvested in the past 10 years is only slightly higher than that of females (58% males:42% females). The annual percentages ranged from 50% males:50% females in 1990 to 68% males:32% females in 1993.

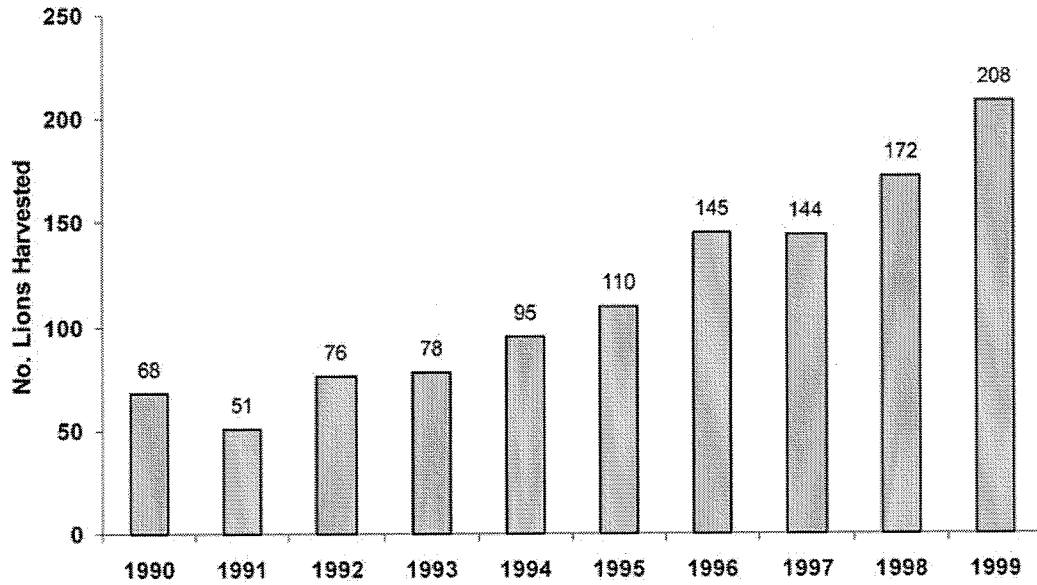


Figure 1. The total number of mountain lions harvested in Wyoming from 1990 to 1999.

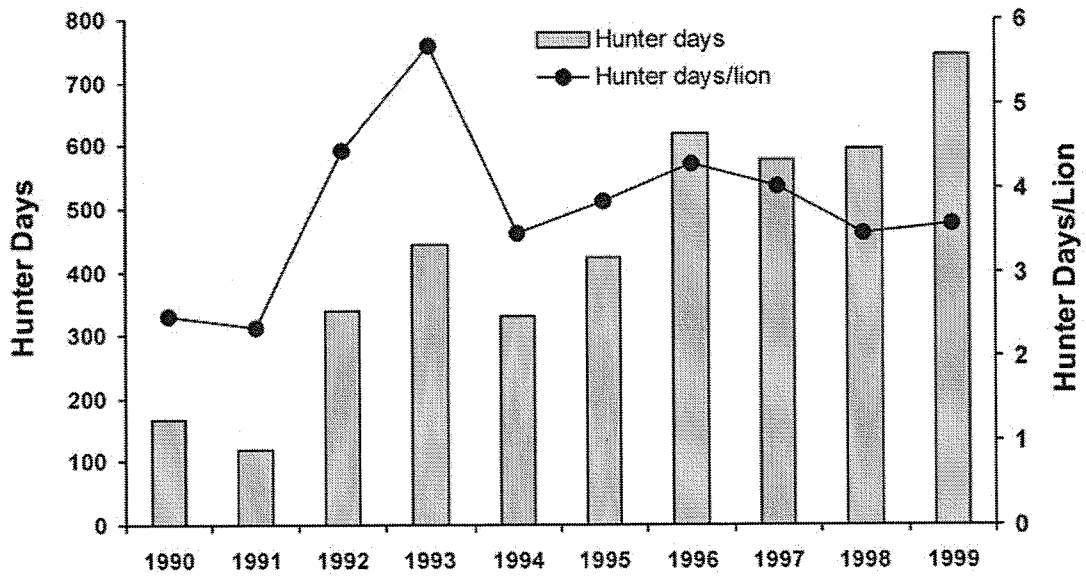


Figure 2. The number of mountain lion hunter days and the number of hunter days per lion harvested in Wyoming from 1990 to 1999.

PUBLIC ATTITUDES

In 1995, the Game and Fish contracted with the Survey Research Center at the University of Wyoming to determine attitudes and knowledge of Wyoming residents on mountain lions and mountain lion management (Gasson and Moody 1995). Of the approximately 500 respondents, over 71% believed lions were a benefit to Wyoming. Attitudes toward mountain lion hunting were generally supportive, with 49.6% agreeing or strongly agreeing that mountain lion hunting should continue and 29.3% disagreeing or strongly disagreeing. The remaining respondents were either neutral or did not answer. However, most (57%) disagreed or strongly disagreed that hunting lions with dogs should continue as a legal method of take. Only 25.3% of respondents agreed or strongly agreed. The remaining respondents were neutral or had no answer. A large majority (80.7%) agreed or strongly agreed that mountain lion hunting seasons should be modified to avoid killing or running females with kittens. Only 8% disagreed or strongly disagreed. Respondents were also opposed to a pursuit season, with 71.1% disagreeing or strongly disagreeing to running lions with dogs but not killing them.

CONCLUSIONS

Both the number of mountain lions harvested and the number of hunter days have increased steadily over past 10 years. Recent responses from houndsman surveys and increasing hunter harvest indicate that the number of mountain lions in Wyoming is at least steady and may be increasing in most areas of the state. Future research may shed more light on the population status and the effects of hunting on lions in Wyoming. Although more than half of Wyoming residents surveyed do not agree with the use of dogs in lion hunting, the vast majority of lions harvested in Wyoming are taken with the aid of dogs. In the future, this divergence could generate a call for changes in mountain lion management policies in Wyoming.

LITERATURE CITED

- Gasson W. and D. Moody. 1995. Attitudes of Wyoming residents on mountain lion management. Planning rep. #40, Wyoming Game & Fish Dept., Cheyenne. 7 pp.
- Lindzey, F.G. 1987. Mountain Lion. Pages 657-668 in M. Novak, J.A. Baker, M.E. Obbard, and B. Malloch, eds. Wild furbearer management and conservation in North America. Ontario Ministry of Natural Resources and Ontario Trappers Association, Toronto, Canada. 1150 pp.
- Logan, K.A. and L.L. Irwin. 1985. Mountain lion habitats in the Bighorn Mountains, Wyoming. Wildlife Society Bulletin 13:257-262.
- Wyoming Game & Fish Department. 1997. Mountain Lion Management Plan. Wyoming Game & Fish Dept. 30 pp.