

BLACK HILLS GROUP - SIERRA CLUB

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Division of Wildlife
S.D. Department of Game, Fish & Parks
3305 W. South Street
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ATTN: Mike Kintigh

RE: South Dakota Mountain Lion Management Plan

After reviewing the proposed South Dakota Mountain Lion Management Plan and attending two of the public meetings on the Management Plan, and having discussed the Management Plan with a number of our members (both hunters and non-hunters), the Black Hills Group of the Sierra Club wishes to make the following comments and recommendations with respect to the proposed Mountain Lion Management Plan:

1. We note that the cover sheet for the Management Plan classifies it as an "adaptive management system game program." The concept of adaptive management has been around since the 1970s. It is an explicit and analytical process for adjusting management and research decisions to achieve management objectives. However, it is not a simple or intuitive process. The success or failure of adaptive management is dictated by the quality and quantity of monitoring that occurs both before and during the implementation of the project. True adaptive management will require ongoing monitoring which generates objective qualitative data that will enable GF&P to determine if and when it is necessary or advisable to adjust the Management Plan in order to achieve its goals and objectives. This will require an agency commitment to fund and carry out a quality mountain lion research program.

We are aware of the research Dorothy Fecske and Professor Jenks have done on mountain lions in the Black Hills, and we heartily support the continuance of that research. Our reading of the proposed Mountain Lion Management Plan left us with the distinct impression continued research in the Black Hills is uncertain, and perhaps contingent on the Commission adopting an experimental mountain lion hunting season in 2005 in order to secure funding for mountain lion management and research.

The Mountain Lion Management Plan repeatedly cites the need for continued research implying that insufficient data exists with respect to aspects of mountain lion management. Despite apparent knowledge gaps GF&P intends to rely upon adaptive management to insure the existence of a viable lion population in the Black Hills. This is an incorrect application of the adaptive management process; it is at odds with the definitions of adaptive management provided in scientific literature. Under the proposed

Mountain Lion Management Plan's direction GF&P will correct mistakes in the management plan based on new information from research or failed practices, which have already been implemented. This is an unscientific approach. It is a reaction to trial and error rather than a structured, experimental approach to reducing uncertainty.

2. As previously stated, the Black Hills Group of the Sierra Club is very supportive of continuing mountain lion research in the Black Hills. We wish that the research by Fecske and Jenks was readily accessible for public review. Most of what we know of their research comes from *Conservation Digest* articles and presentations by GF&P staff from the Regional Office in Rapid City. We are aware of the new estimates of population numbers, and have seen maps containing GPS tracking data for individual lions, and the home range territory maps that were apart of the public meetings on the Mountain Lion Management Plan. This is interesting stuff. It is a shame that the public cannot easily access this research.

Fecske and Jenks have made a very good start. We concur with the Mountain Lion Management Plan's goal of continuing and broadening that research. We believe future research should be conducted on the present population's reproductive rates and the susceptibility of the Black Hills mountain lion population to habituation, disturbance and displacement, and the impacts of habitat fragmentation.

Studies reveal that mountain lions gradually habituate to humans. The habituation process begins when humans move into mountain lion habitat for recreational purposes and to build residences and lions begin to feed on human refuse, pets, or natural prey attracted by human presence (McBride and Ruth 1988, Aune 1991). Aune (1991) summarizes that changes in feeding behavior due to habituation carries the risk of humans becoming an alternative prey species; however, Beier (1992) believes there is no substantial evidence relating an increase in lion attacks to lions that have become habituated to humans.

The question about how Black Hills mountain lions are habituating to humans is continually thrust into the news, with last week's report of the mountain lion that had been videotaped in the city park across the street from Deadwood's City Hall being the most recent example. The Mountain Lion Management Plan contains some information about investigations into human/lion interactions, but the data reported does not indicate whether there were repeated sightings of mountain lions in the same area, or the proximity of the sighted lion to human residences and activities. With the expansion of subdivisions into mountain lion habitat and deer winter range, the question of habituation needs more research.

The impact of human activities and disturbances on lion home ranges also needs research. The research of Jalkotzy and Ross (1995) indicates that in areas where human activity is variable lions adapt well to human recreational activities. Lions did not abandon their core areas to avoid humans and lion movements tended to match ungulate movements. Most lion activity is confined to late evening/early morning hours when humans are least active. Jalkotzy and Ross concluded that human activities in localized areas do not deter lions from utilizing the area, but the impact of human disturbances on the lion population requires additional research.

A study of mountain lion reaction to human activities and logging in Utah and Arizona documented lions modifying their behavior to avoid human disturbance. It was

concluded that continuous, concentrated human presence or residence eliminated the use of the habitat by lions (Van Dyke, et al. 1986).

Another area requiring research is that of the impact of habitat fragmentation on the Black Hills mountain lion population. Last year the Chief of the Forest Service listed fragmentation as one of the four critical issues facing the entire national forest system. It is also critical to mountain lions. Fragmentation and degradation of habitat from human development and disturbances pose the most serious threat to mountain lion populations (Murphy 1998). Travel corridors for dispersing sub adult lions can be affected or eliminated (Beier 1995). Reduction or elimination of the vertical and horizontal cover necessary for lions to stalk their prey can affect lion home range territories, and female home range size is dependent on available den sites and security cover (Murphy 1998).

The subdivision and development of the Black Hills continues at a break-neck pace. Private ranching inholdings in the Black Hills National Forest continue to be subdivided as the highest and best use of the land. The media has reported that the development pressure now extends to the Forest Service land. A sale of federal land is being promoted in order to expand Hill City.

Given the situation the Black Hills is facing, research on the effects habitat fragmentation has upon the mountain lion population is essential to any management plan for the species.

3. The Sierra Club is not opposed to sport hunting. The Club views hunting as a legitimate wildlife management tool when the harvest is warranted on the basis of scientific data. We do not believe there is sufficient data to warrant an experimental mountain lion hunting season in the Black Hills in 2005.

Carnivores: Effects of Recreation on Rocky Mountain Wildlife (1999), alludes to a number of problems arising from hunting lions which, from the remarks of GF&P staff at the public meetings, we believe GF&P is generally aware. We will quote that source at length and provide the full literature citations at the end of our comments:

The recreational hunting of lions is usually the greatest source of mortality for hunted lion populations (Murphy 1983, Logan et al. 1986, Ross and Jalkotzy 1992, Murphy 1998). In addition to the intended mortality of the hunted lion, additional mortality of kittens may occur when hunters do not identify the female as lactating, especially during fall hunts when hounds are not used and when kittens are accidentally mauled by hounds (Barnhurst and Lindzey 1989). Whereas pursuit-only seasons have been regarded as nonconsumptive, the physiological effects of chasing mountain lions are poorly understood (MFWP 1996). Harlow et al. (1992) found a lowered plasma cortisol profile in mountain lions put through simulated pursuit, indicating an altered physiological response of the adrenals to the stress of repeated chases. Also, the long-term consequences of hunting on the social organization of lions are unknown. Lion hunting for recreational sport does not mimic natural mortality patterns, as hunters tend to select for large, experienced males (Sweaner 1990, Logan et al. 1996, Murphy 1998). Twenty-six percent of the female lions in New Mexico produced 50% of the population's kittens, and

47% of the adult males sired these litter (Logan et al. 1996). Only nine males sired 23 litters in Wyoming (2 males sired 14 litters) (Murphy 1998). The consequences of lion hunting on the reproductive potential of a population are unknown.

Before an experimental season can be implemented much more research needs be undertaken. The foregoing raises questions about the proposed hunting mode, impacts on reproduction, and impacts to the population's social structure.

We are not convinced by the GF&P conclusion that 20 lions can be taken in an experimental season without detrimental impacts to the population. The number strikes us as arbitrary, especially since we found no detailed explanation for the decision in the Mountain Lion Management Plan and heard none at the public meetings. Indeed, Point 2 on page 42 of the Mountain Lion Management Plan implies this is an adaptive management decision; GF&P proposes to "learn from management decisions and actions." As we pointed out in section 1 of these comments, this turns the scientific adaptive management process on its head.

We are also critical of the many assumptions that are being made. Habitat fragmentation is increasing daily and habituation is ongoing. It is assumed that natural mortality, traffic deaths, and elimination of problem lions will remain constant and not increase. That assumption may be wholly unwarranted.

GF&P does not have the data necessary to determine carrying capacity for a viable mountain lion population in the Black Hills. Carrying capacity inquiries are handled with, "we think" and "best guess is" type statements. We believe the Fescke and Jenks research supports the agency's current population estimate of 165 lions; but there appears to be no data to support any determination that number exceeds the area's carrying capacity and a hunt is justified.

So far as we can tell, the reason to provide an experimental hunt is based in politics rather than science. When hunting seasons are implemented for reasons other than sound game management, there is a danger that the hunted specie's population will be threatened by investment overkill. This is especially true of rare big game species like the mountain lion. Investment overkill results when hunting is done for profit or in a manner that requires a financial return to guides and outfitters because of their investment in equipment, dogs, pack animals, lodges, etc. The pressure to maintain the season and bag limits becomes so intense that science is eliminated from the decision-making. Science only becomes a consideration again after the population crashes. We have already had a taste of this with the old Black Hills buck season.

The Black Hills Group of the Sierra Club makes the following recommendations with respect to mountain lion management in the Black Hills:

1. The Mountain Lion Management Plan's objectives and strategies should be retained and expanded. We would like to see more specific research needs identified and justified under Objective 3, and we would like to see the public education plans expanded under Objective 4.

Overall the Plan should contain more scientific data and discussions of the conclusions in peer-reviewed research materials. Not only can the public learn from it, it is essential to evaluating proposed management practices.

Management guidelines should be based upon biological parameters and take into consideration the problem this area has with habitat fragmentation and the impacts that flow from it.

2. We endorse the GF&P response protocols in Attachment A. Lion/human conflicts will continue and we would urge the agency to consult with the research biologists to see what additional data could be gathered in these responses, and then seek the additional funding to implement that research.

3. GF&P should become a stronger advocate for the avoidance of human encroachment into ungulate seasonal ranges. Additionally, GF&P should take a stronger leadership role in advocating the Forest Service implement area and road closures on the Black Hills National Forest, protect and preserve stalking and security cover in lion habitat areas and travel corridors, and restrict snowmobiles and ORVs to designated routes.

4. Scrap the plans for an experimental hunting season in 2005. There is not sufficient data to support it and there has not been sufficient consideration of published research on such a season.

In the event that it is politic that a hunting season be opened, we would urge the Commission implement the type of season supported by the Black Hills Sportsmen. Hunters would enter a pool (at a significantly higher license fee than \$10) for an opportunity to be drawn to hunt in those cases where lions are identified for removal under the GF&P response protocols. The hunt would take place with the dogs used by the GF&P. We believe this type of hunt, on an experimental basis, would afford GF&P the best opportunities to gather further research data on the Black Hills mountain lion population.

Thank you for this opportunity to comment.

Sincerely yours,

BLACK HILLS GROUP/SIERRA CLUB

/s/ Jim Margadant

/s/ Mahla Bach

Jim Margadant, Conservation Chair
Mahla Bach, Conservation Committee

JFM/lm

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