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South Dakota Game, Fish and Parks Wildlife Commission
523 East Capitol Avenue
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Via Email and Facsimile: Chuck.Schlueter@state.sd.us, wildinfo@state.sd.us

Re: Opposition to proposal to “establish an experimental mountain lion hunting season with 2 units”

On behalf of the Mountain Lion Foundation and our members and supporters in South Dakota, we present these comments on the South Dakota Game, Fish and Parks Commission and the (GFP)¹ proposal to establish a sport hunt of mountain lions (*Puma concolor*) in the Black Hills and to allow private landowners west of the Missouri River to kill one lion per year on their property. The Mountain Lion Foundation (MLF) is a national non-profit conservation and education organization dedicated to conserving mountain lions throughout their range in the United States.

THE PROPOSAL ISSUED BY GFP IS NOT BASED ON ANY SUPPORTABLE SCIENTIFIC OR CONSERVATION DATA, AND IS IN VIOLATION OF GFP'S LEGAL DUTIES AND OBLIGATIONS, AND ON THAT BASIS MLF STRONGLY OPPOSES THE PROPOSAL PUT FORTH BY GFP.

Based on (1) the fact that this mountain lion population was removed from the South Dakota threatened and endangered species list only two years ago and (2) the substantial deficiencies in the scientific understanding of this population, and (3) consultation with wildlife and conservation biology experts, MLF concludes unequivocally that the proposed hunting season is ill-conceived, biologically unjustifiable and reckless. The proposal appears to have nothing to do with sound science, appropriate management or thoughtful conservation. The proposal may be motivated by a perceived threat from mountain lion presence in South Dakota, or a desire to provide recreation to a select few, or to limit the range of mountain lions in western South Dakota to the Black Hills. Whether or not there is any such motivation, the proposed hunting season is contrary to the legislative mandate of the GFP. GFP has a duty to regulate “[t]he conservation, protection, importation, and propagation of wild animals ...” SDCL 41-2-18(1), (2). Based on information currently before the GFP, a hunt would violate GFP’s duties to all South Dakotans. *See State v. Moschell*, 677 N.W.2d 551, 560 (2004) (“SDCL 41-2-18

¹ For purposes of these comments, in referring to “GFP” the Mountain Lion Foundation addresses actions taken by both the Division of Wildlife, Department of Game, Fish and Parks, as well as the Game, Fish and Parks Commission, in connection with the proposed mountain lion hunting season.

provides sufficient guidance for the GF&P. The Legislature clearly expressed a will to protect our state's wildlife.") In fact, the level of mortality that could result from the proposal may place the viability of this small and geographically isolated population at risk, perhaps to the point that the population could again become extinct. This real potential is in clear violation of GFP's requirements.

Thus, based on the currently available data, it would be an arbitrary and capricious act to approve the hunt. The hunt would interfere with the rights and privileges of the citizens of South Dakota, if approved without the benefit of additional research and findings. Specifically, GFP has insufficient information with respect to the mountain lion's population numbers, population density, carrying capacity, habitat preservation, and other factors relevant and necessary to a valid scientific analysis of such a program. Without additional data, the proposed hunt would be subject to injunctive and declaratory relief in a court of law. *Homestake Mining Co. v. Board of Environmental Protection*, 289 N.W.2d 561, 562 (1980).

Our primary concerns with the proposal are as follows:

1) Without a comprehensive conservation plan for mountain lions in South Dakota, the hunt cannot be supported by any limited scientific data that may exist now or in the future;

2) There is currently an absence of sufficient scientific research, analysis, review or reporting to justify the proposal, and the very scientific studies GFP relied on in creating the proposal do not support the proposed hunt;

3) There has been no attempt to consider the cumulative impacts of the proposed hunt on the mountain lion population in the Black Hills, and without such consideration the entire mountain lion population is threatened;

4) There is a real potential for extirpation of the Black Hills mountain lion population resulting from the high levels of mortality that are already built in to the proposal and because on its face, the proposal allows for an unlimited number of lions to be killed, despite the very limited number of mountain lions currently believed to live in South Dakota.

5) There is no evidence supporting the proposition that the proposed hunt will reduce human-lion contact or conflict.

We discuss these points below.

1. THE GFP NEEDS TO DEVELOP A COMPREHENSIVE CONSERVATION PLAN

The Draft Mountain Lion Management Plan provided to the public for review this past spring argues that mountain lions "play an important role in the ecosystem" and contribute "significantly to the quality of life in South Dakota and therefore must be sustained for future generations." (South Dakota Mountain Lion Management Plan: 2003 – 2012, Version 05-2 3rd Working Draft, p. 12 (Draft Plan)). We agree. Yet, despite these assertions the Draft Plan was noticeably lacking any focus on how GFP would ensure the persistence of mountain lions in the Black Hills for future generations. Indeed, the Commission's proposal could have exactly the opposite effect.

As the Draft Plan noted, mountain lion management policies and methodologies that are not supported by an adequate scientific foundation have been increasingly challenged. Courts reject administrative actions, like the Draft Plan and the Proposal, that are undertaken without sufficient scientific support. As the human demographics of the American West continue to change and increase in cultural complexity and interest in issues of ethics and social values in wildlife management spread to a broader spectrum of the public, a greater proportion of the public is increasingly scrutinizing mountain lion management policies in light of how they address issues concerning ethics, fair play, and humaneness. These developments in our understanding of the ecological role of mountain lions and the public's increasing interest in mountain lion management – as well as the requirement to rely on verifiable scientific data -- requires a significant reorientation in how wildlife agencies manage and conserve mountain lion populations. (*See, e.g.,* Torres et al. 2001).

The mountain lion is the only large native obligate carnivore sustaining viable populations across most of the western United States. (Logan and Sweanor 2001). As a keystone predator, mountain lions play an integral ecological role (Logan and Sweanor 2001). The elimination of mountain lions can lead to significant changes in the landscape and a concurrent loss in biodiversity and ecological integrity. (Terborgh *et al.* 1999). Because mountain lions are a strongly interactive species within the natural landscape, conservation biologists argue that wildlife agencies should strive to maintain population sizes that are ecologically effective, rather than simply those that are minimally viable. (Soule et al. 2005).

In their seminal book, *Desert Puma: evolutionary ecology and conservation of an enduring carnivore*, mountain lion scientists Ken Logan and Linda Sweanor described the two major factors threatening the long-term maintenance of self-sustaining mountain lion populations — overkill and habitat loss. While these two factors affect a multitude of species, the low fecundity of mountain lions and their need for expansive ranges makes them particularly vulnerable to local and regional extinctions. Mountain lions require large swaths of connected habitat to survive and have become an important indicator of the health of our ecosystems. In recent years, the western U.S. has experienced a rapid loss and degradation of wildlife habitat due to a variety of anthropogenic factors. Human domination of the natural landscape, and the ever-expanding encroachment of human activities into wilderness areas, continues to place heavy pressure on native wildlife. The human population in the 11 western states where mountain lions currently sustain viable populations has increased by nearly 20% since 1990 (U.S. Census 2000) and is the fastest growing region of the country.

South Dakota, and GFP under its mandate, has the responsibility to enact a scientifically-based management and conservation program that promotes coexistence between humans and mountain lions and ensures the long-term conservation of the species in the Black Hills. Accordingly, GFP should present a strongly articulated vision of how they intend to conserve mountain lions in South Dakota, including a focus on conserving adequate habitat and landscape connectivity to ensure that the Black Hills contain viable and ecologically effective mountain lion populations into the future. Unfortunately, by putting forth the current Proposal, GFP has sent the clear signal that it

has no intention of using either science or common sense with regards to mountain lions in the state and is thus failing in its responsibility to both mountain lions and the public.

2. THERE IS A LACK OF SCIENTIFIC JUSTIFICATION OR SUPPORT FOR THE PROPOSAL.

Mountain lions are an elusive, solitary and largely nocturnal species, and this means the collection of valid and valuable population data can only be accomplished by detailed and extended analysis. Mountain lion researchers have long acknowledged the difficulty in ascertaining the status, demographics or trends of regional mountain lion populations. Many western state wildlife agencies have admitted, albeit sometimes reluctantly, that their official estimates are more akin to “guesses.” South Dakota’s neighboring state of Wyoming has put forth no official estimate of its mountain lion population for precisely this reason. For the South Dakota mountain lions, by the admission of the very scientists GFP relies upon, there is no reliable data on the size or vigor of the population. Still, despite this lack of scientifically defensible population estimates and the continuing loss, degradation, and fragmentation of mountain lion habitat, GFP’s Proposal constitutes a landscape-level decision that focuses on sport hunting and a reliance on lethal control to address human/lion conflicts. At present, the U.S. is conducting the highest level of intentional mountain lion kills ever recorded. (Torres et al. 2001). GFP’s addition to those numbers should not begin without valid data to support it.

Mountain lions were classified as a threatened species in South Dakota until 2003 – demonstrating the delicate nature of their existence in the state. In 2003, they were reclassified as a big game animal. Research into this small and isolated population was begun in 1998; while important information has been gleaned from this research there is still too much scientists do not understand about the mountain lion population in the Black Hills. In the Draft Plan, GFP acknowledged that there were significant deficiencies in information, arguing that research is needed “to gather information on mountain lion survival, dispersal, densities and population trends,” and that “[i]t is critical to understand factors that influence the population dynamics of the species in this unique landscape.” Continued research, GFP admits, is *necessary* to “**be able to determine the long-term viability of the population...**” (Emphasis added). Thus, GFP has already agreed that more empirical information about the Black Hills mountain lion population must be gathered to inform conservation and management efforts to ensure the future of the species in the Black Hills. This concession demonstrates the need for further scientific data collection before anything like a recreational hunt can be authorized.

GFP’s initial proposal to enact a recreational hunt in the Draft Plan of up to 20 mountain lions (with a female subquota of 4) was not supported by sound scientific reasoning. The Draft Plan failed to provide any substantive discussion of the science behind the decision to enact a hunting season or any justification as to how the proposed quota was determined. Rather, the Draft Plan referred to a 2003 unpublished dissertation by a South Dakota State University Student (Fecske 2003). Our review of Fecske (2003) reveals that GFP have selectively reported the author’s results while omitting some of her most important conclusions and caveats. For example,

- 1) The Draft Plan (p. 41) states that “Fecske’s (2003) research suggests that the current mountain lion population in the Black Hills is around its carrying capacity.” Yet, Fecske (2003:85) specifically stated that “**I did not have evidence that cougars in the Black Hills were at [carrying capacity].**” (Emphasis added.) Rather, she notes that her findings of “lower cougar densities and larger annual home ranges of adult male cougars [in the Black Hills] **could** indicate the population in the Black Hills has not reached biological carrying capacity and/or that habitat quality is poorer than that of other populations” (Fecske 2003:81) (emphasis added).
- 2) The population estimate provided by Fecske (2003) was not based on research of an adequate section of the estimated population. Instead, it was only a theoretical simulation model based on the activity of only 12 radio-collared animals. The author specifically notes that “**because all scenarios used to estimate the cougar population were based on limited data, caution should be taken when interpreting until additional information (e.g., population trends, survival parameters) is obtained on the population**” (Fecske 2003: 85) (emphasis added). Thus, Fecske specifically stated her research was not reliable for exactly the use GFP has now used it for.
- 3) Population estimates derived by Fecske (2003) were based on several unproven assumptions, including that several aspects of the Black Hills mountain lion population (*i.e.*, percent of overlap of male territories, initial number of kittens and yearling cougars, estimates of kitten, subadult and adult survival) were similar to those found in New Mexico by (Logan and Sweanor 2001). And Fecske (2003:85) acknowledges that her population estimates may be inaccurate because “it is possible that population parameters differ from those in New Mexico.” However, in the Draft Plan the GFP offers no such caveats and the reader is led to believe that these are accurate estimates are based solely on data from South Dakota.
- 4) The Draft Plan argues that sighting trends and confirmed mountain lion mortalities are supporting evidence that the population is at carrying capacity. However, the Mountain Lion Management Guidelines (2005: 49) state that sightings and depredation events (which add to mortality) “are not reliable ways to index cougar populations” because they can be influenced by a number of factors including media coverage, changes in prey abundance and distribution, trends in recreational use and other factors.

These examples completely undermine GFP’s assertion that the proposed mountain lion season is supported by sound scientific information. Rather they demonstrate the absolute necessity of undertaking additional comprehensive research of the population, and that beginning a hunt on the basis of the current lack of evidence would be a decision not based on any acceptable scientific conclusions.

Finally, mountain lions in the South Dakota Black Hills are part of a population that extends into Wyoming, yet there appears to be no consideration of how management of mountain lions in Wyoming affects the population in South Dakota.

3. THE PROPOSAL DOES NOT CONSIDER CUMULATIVE IMPACTS ON THE MOUNTAIN LION POPULATION IN THE BLACK HILLS AND COULD NEGATIVELY AFFECT THE VIABILITY OF THE POPULATION

Scientists have identified habitat loss and excessive levels of human-caused mortality, or overkill, to be the primary threats to the long-term viability of mountain lion populations. (Logan and Sweanor 2001). The most vulnerable populations are those that are small and geographically isolated (Beier 1995), just like the population in the Black Hills. Development and fragmentation of wildlife habitat can sever the linkages between core habitat areas, thereby isolating cougar populations. Isolation prevents interchange among neighboring populations, threatening loss of genetic heterozygosity as a result of inbreeding. This eventually leads to extinction. Human-caused mortalities in fragmented habitats may pose the most serious threat to long-term cougar viability (Murphy et al. 1999). It is not necessary to kill every individual in the population to increase the likelihood of extinction. A population may become functionally extinct if the number of individual animals falls to a level at which the population is unable to maintain itself due to health, age, lack of breeding age individuals, lack of genetic interchange with other populations, or other reasons.

Additionally, Anderson (2003) found that this population had a lower genetic heterozygosity than the closest other populations, suggesting it has lower rates of immigration than neighboring populations. Immigration of mountain lions from other populations is vital to the genetic health and persistence of the Black Hills mountain lion population (Fecske 2003).

Further impacting this targeted population is the fact that in recent years human development and activity in the Black Hills has increased dramatically, which has and will continue to affect the demographics and dynamics of the mountain lion population as their habitat becomes further degraded and fragmented. Placement of roads across mountain lion habitat divides populations, allows greater access by humans, and greatly increases the likelihood that vehicles will kill or maim lions and their prey. In 2004, twenty five mountain lion mortalities were reported, and at least 19 of the mortalities were verified or suspected to have been caused by humans. (Draft Plan, p 33). Fecske (2003) found that 88% of mortalities were caused by humans primarily in the forms of roadkill and removal of mountain lions that came into conflict with livestock, domestic animals and less frequently humans. It is likely that the mortality resulting from the proposal will be additive to other forms of mortality such as road kill and depredation kills and not compensated for by a decrease in other forms of mortality (Cougar Management Working Group 2005). These facts, while reported by GFP, are effectively ignored in its Proposal.

Thus, there are a number of factors that threaten the South Dakota mountain lion population with extinction – factors the Proposal does not consider when choosing to establish the hunt and allow the killing of an indefinite amount of additional lions.

Without a cogent and detailed analysis of those factors, the institution of a sport hunt is an abrogation of the duties of GFP to conserve and protect the state's wildlife.

If non-recreational hunting related mortality in 2005 reaches that of 2004 (already 18 lions have been reported killed this year), and if the hunting quota of 30 is reached, then 55 mountain lions would have been killed in the Black Hills alone. Importantly, this estimate does not include those animals killed by landowners given licenses under the proposal, which could be a significant number. Additionally, since the proposal comes in the form of a general season, in which there will be no limits on the number of licenses issued in the Black Hills Unit, it is possible if not likely that the number of lions killed as part of the hunting season will exceed the quota of 30 (see Cougar Management Guidelines Working Group 2005). Yet, the Draft Plan did not investigate the cumulative effects of habitat loss, degradation, and fragmentation and human caused mortality on mountain lion populations.

4. THE PROPOSAL AS WRITTEN COULD CAUSE EXTINCTION OF THE BLACK HILLS MOUNTAIN LION.

The Proposal added a second segment of the proposed hunt that had not existed in the Draft Plan. That is, if adopted the Proposal would establish a "Western Prairie Unit" hunt which allows for an *unlimited number of lions to be killed*. Under this part of the Proposal, every landowner west of the Missouri River (but outside the Black Hills) is entitled to kill one mountain lion on his land. While GFP seems to think this does not threaten the Black Hills mountain lion, it obviously does.

Many landowners have land abutting the Black Hills. There is the clear possibility that Black Hills mountain lions could roam onto these adjacent lands given that mountain lion home ranges are not delineated by political boundaries and individuals can move in excess of 30 miles each day. These lions would then be subject to the Western Prairie Unit hunt – which has no limit at all. Thus, the real number of Black Hills mountain lions that could be killed under the Proposal is far in excess of thirty, and is actually only limited by the number of mountain lions in the Black Hills in the first place. Of course, this is a number neither GFP nor any other scientist has ever confirmed. But by providing licenses to landowners outside of the Black Hills and west of the Missouri River, GFP's proposal could extirpate mountain lions outside of the Black Hills – literally eliminating them. Even if they were not exterminated, the number of lions that could be killed would be in excess of even GFP's most liberal estimate. This would significantly reduce the Black Hills population by removing individuals whose home ranges extend beyond the Black Hills Unit. It could also cut off immigration by mountain lions into the population from the South Dakota side – an important factor in maintaining the health and genetic diversity of the current population.

The GFP's proposal to allow the killing of 30 lions in a sport hunting season -- with an additional unknown number to be killed by private landowners -- is scientifically unjustifiable. Neither the Draft Plan nor the Proposal appears to have considered any of the cumulative impacts of other causes of mortality on the mountain lion population. Neither the Draft Plan nor the Proposal seems to have considered the kills that might occur under the Western Prairie Unit hunt. Given the lack of solid information on the status of the population and the potential for high levels of additive mortality, the

Proposal will most likely adversely affect the viability of the mountain lion population in the Black Hills. Indeed, given the significant lack of biological information on the mountain lion population as admitted by GFP, any intentional increase in current levels of human-caused mortality is inappropriate and a threat to the viability of the mountain lion population.

5. THERE IS NO EVIDENCE THAT THE PROPOSAL WILL REDUCE HUMAN/MOUNTAIN LION CONFLICTS

In the Draft Plan, GFP asserted that one purpose of enacting a recreational hunting season was to attempt to reduce conflicts between mountain lions and humans, and specifically to reduce the threat of attacks on humans. However, there is no support in any scientific literature for the argument that a mountain lion season may be an effective solution for dealing with problems caused by mountain lions. Many distinguished mountain lion scientists, as well as at least one state agency, have noted that recreation hunting of mountain lions has *no effect* on issues related to public safety problems or to depredations. The Cougar Management Guidelines specifically stated that “sport hunting has not been shown to reduce risk of attacks on humans:”

Sport hunting is occasionally proposed as a tool to reduce the risk that cougars will attack humans. There is no scientific evidence that sport hunting achieves this goal. In rare cases where a cougar exhibits dangerous behaviour and needs to be removed, this job is best done by a professional to expeditiously track and kill the individual cougar, rather than via sport hunting.

Assuming that mortality from sport hunting is at least partially additive to other sources of mortality, hunting must reduce cougar density. Proponents of hunting use this reasoning to argue that sport hunting -- by reducing cougar density -- must also reduce risk of attack on humans. However, hunting may shift cougar population toward young animals, which are more likely than adult cougars to attack humans (Beier 1991). Further, the public may not support efforts to reduce regional populations in a questionable effort to reduce a minuscule risk.

Arguments for decreasing cougar density often focus on scenarios of cougars lurking near human homes and settlements. Because few cougars are more than 1 home range width from some sort of human settlement, this argument may be nothing more than a rhetorical device to promote regional hunting. Sport hunting of cougars near the densest human settlements is difficult because houndsmen are reluctant to hunt these areas (due to the risk that dogs will be killed on paved roads), and private landowners or local laws often prohibit hunting. Furthermore, although cougar attacks do occur close to human settlements, they do not seem to be concentrated there (Beier 1991).

(CMGWG 2005:80). Other scientists and agencies have made similar statements, for example:

- In a letter to the Oregon Senate in 1995, lion researchers Ken Logan (now Carnivore Researcher with the Colorado Division of Wildlife) and Linda Sweanor argued that “sport hunting would not be an effective risk-reducing strategy.”
- Paul Beier, an expert on cougar attacks, wrote in a letter to State Senator Mike Thompson of Oregon in 1996: "It is not valid to initiate hunting on the grounds that it will reduce risk of cougar attacks on humans. Quite simply, sport hunting will not reduce the risk of cougar attacks on humans."
- The Montana Department of Fish, Wildlife, and Parks, wrote in the Final Environmental Impact Statement on the Management of Cougars in Montana (1995): "Short of total eradication, livestock losses will still occur in occupied lion habitat, depending on terrain, stocking rates, and availability of alternate prey...The most effective means of controlling depredation are those aimed at eliminating individual depredating cougars."

ADDITIONAL CONSIDERATIONS

The proposal has been billed as an “experimental” hunt, but the proposal bears no resemblance to a true experiment. Scientific experiments include a prior hypotheses, an experimental design, and a description of how the hypotheses will be tested. Yet none of these necessary components of a real experiment are in evidence. Therefore it is patently disingenuous to refer to the Proposal as “experimental.”

In conversations with conservation advocates, GFP have admitted that the real purpose of the hunt is for recreation and that there is no expectation that it will reduce conflicts. If GFP wants to engender public trust in their actions, they should be honest in describing the intentions of their proposals.

Conclusion

Public opinion studies undertaken by GFP demonstrate that a majority of South Dakotans show strong support for the presence of mountain lions in the Black Hills. (Gigliotti *et al.* 2002). GFP has stated that the conservation of mountain lions in the Black Hills is one its goals, and indeed, it is one of its legislative mandates. (SDGFP 2005). Yet the Proposal under consideration is unjustifiable, unsupported by sound science, and biologically reckless. We request that the South Dakota Game, Fish and Parks Commission withdraw the Proposal and, if a hunt is desired, that additional scientific research be completed, and data collected, to determine if a hunt is justified based on all relevant factors.

Sincerely,

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Lynn Sadler
President and C.E.O.

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