MOUNTAIN LION FOUNDATION

Saving America's Lion

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RE: Draft South Dakota Mountain Lion Management Plan 2019-2029

Dear Chairman Jensen, Members of the Wildlife Board, and Director Leif,

The Mountain Lion Foundation respectfully requests that you make substantial changes to the South Dakota 2019-2029 Mountain Lion Management Plan that is currently in draft. While we appreciate the efforts of South Dakota Game, Fish and Parks (SDGFP) to update the management plan for mountain lions, we want to be certain that valid and reliable science is guiding the plan.

The concerns expressed below are the official position of the Mountain Lion Foundation as we represent our 7000 supporters nationwide.

The draft plan is based on invalid assumptions that mountain lion populations in South Dakota require human intervention in order to control lion expansion and mitigate conflict.

Except in rare instance, mountain lion populations do not require management to control growth, because their populations are self-regulating based on the abundance of prey and the carrying capacity of the land to support prey populations.

Mountain lions occur at low densities relative to their primary prey (Stoner et al. 2006). In order to survive, mountain lions must increase or decrease the sizes of their territories relative to prey populations (Wallach et al. 2015). Lions kill other lions to defend territorial boundaries, or starve without a territory sufficient to meet their needs.

In other words, when prey populations decline, so do mountain lion populations. Because of these predator-prey dynamics, mountain lion populations do not need to be managed by humans.

And recreational hunting is the wrong tool for addressing conflicts, because hunting targets the wrong lions.

Trophy hunting targets large adult lions with established territories and habits. Those lions are not only the least likely to come into repeated conflicts with humans, but their stable presence reduces the number of young dispersing lions most likely to enter human-occupied areas and to attack domestic animals.

Recent science has demonstrated that because hunting results in a younger overall age structure, hunting pressure can predictably increase the number of conflicts with humans and domestic animals (Creel and Rotella 2010, Ausband et al. 2015, Darimont et al. 2015, Cooley et al. 2009).

A study in Washington State showed that, as wildlife officials increased quotas and lengthened hunting seasons, mountain lion complaints increased rather than decreased. The heavy hunting pressure resulted in a higher ratio of younger males in the population as a result of immigration and emigration (Tiechman et al. 2016). Contrary to popular belief, hunting mountain lions results in an increase in complaints and livestock depredation due to disruption of their social structure, and increased immigration of young dispersing lions (Tiechman et al. 2016, Peeble et al. 2013).

Conflicts with mountain lions are exceedingly rare, and coexistence is possible.

Throughout the West, people have learned to live alongside lion populations with little conflict. The same could be true in South Dakota if the state were to make a more concerted effort to bring valid biological and behavioral information about mountain lions to the attention of the public. With such additional understanding, the public will recognize that conflicts with mountain lions are exceedingly rare, easily resolved, and that the value of mountain lions is significant.

When conflict does occur, intervention can occur at the level of a specific lion, rather than at the population level, for more cost-effective and biologically sustainable conflict resolution. It makes much more sense to assess what might be done to limit the behavior of particular lions when and where a conflict happens, rather than to try to control entire populations in the vain hope that the unwanted behaviors of specific lions will be limited.

When one looks beyond simple counts of mountain lions, it becomes clear that a scientific assessment of the stability of subpopulations, age and sex ratios, and health and stability of breeding populations is essential. A rise in numbers alone might be indicative that stable breeding populations have been disrupted and replaced by unsustainable numbers of young dispersing lions fighting over territory and likely to create conflicts. Counterintuitively, if hunting were to cease, social structures and population size might stabilize and conflicts become less common.

Recreational hunting of mountain lions results in additive and unsustainable mortality and a high risk of potential extirpation for the mountain lions of South Dakota.

Even though it is an ineffective tool, trophy hunting is unfortunately the greatest source of mortality for mountain lions throughout the majority of their range in the United States (WildFutures 2005). Hunting mountain lions results in additive mortality – rates that far exceed what would happen in nature – and can lead to population instability and decline (Vucetich et al. 2005, Eberhardt et al. 2007, Darimont et al. 2015).

In order to sustain viable populations of mountain lions, prevent human-wildlife conflict, and avoid compromising the long-term viability by failing to account for all human-caused sources of mortality, hunting of adult lion populations should not exceed the intrinsic growth rate of the population of interest (Beausoleil et al. 2013).

The intrinsic growth rate for mountain lion populations is established by researchers to be between 15-17% (Robinson and DeSimone 2011). Assuring that human-caused mortality is limited to well below this threshold facilitates the maintenance of home ranges and social stability, reducing the likelihood of increased conflict with humans and population decline (Maletzke et al. 2014).

Additionally, trophy hunting of mountain lions leads to an increase in kitten mortality in heavily hunted populations (Stoner et al. 2006, Wielgus et al. 2013). Killing an adult female with kittens results in the death of her dependent young by dehydration, malnutrition, predation and exposure;

even those who are at least six months to a year old (Stoner et al. 2006). This impacts a population's ability to recruit new members if too many adult females are removed, making the population less resilient to hunting and other causes of mortality, both human-caused and natural (Anderson and Lindzey 2005).

The previous quota far exceeds the sustainable threshold of 12-14% for **total** anthropogenic (human-caused) loss within a population that is widely accepted by western state agencies and the majority of mountain lion researchers (Beausoleil et al. 2013). In terms of this threshold, the word sustainable means that should anthropogenic mortality exceed the threshold over time, populations will decrease, and eventually extirpation will occur. As this management plan will remain in effect for a decade, and because lion populations in South Dakota are so low, any error in determining the likely percentage of anthropogenic mortality has potentially dire consequences.

SDGFP currently estimates that there are anywhere from 111 to 970 mountain lions. Managing lions through the use of trophy hunting with a population that is potentially as small as 111 individuals is gambling with the future of lions in South Dakota. If the actual mountain lion population falls along the lower end of the confidence interval, then the previous quotas of 60 hunting permits would represent a 54% loss to the population, exceeding the 12-14% threshold set by experts by more than 40%.

Although suitable habitat exists for mountain lions in the prairies of South Dakota, the hunting of mountain lions outside of the Black Hills is unlimited in quota and season length. The quota setting has failed to consider that uncontrolled killing outside of the hunting zones can increase lion mortality substantially.

The agency has also failed to consider other forms of anthropogenic mortality, including vehicle strikes, incidental snaring or trapping, poisoning, poaching, and public safety removal which all must be included in order to effectively stay below the extirpation threshold.

Using hounds to pursue mountain lions is unethical and is not considered to be fair chase.

Hounding is an inhumane and outdated sport that has been banned in two-thirds of the United States. Hounding poses significant risk to the hounds as well as to young wildlife, including dependent kittens and cubs, who may be attacked and killed by hounds (Lindzey et al. 1992, Logan and Sweanor 2001, Elbroch et al. 2013). Hounds also disturb or kill non-target wildlife and trespass onto private lands (Hristienko and McDonald 2007). This practice is not fair chase and is highly controversial, even among hunters (Posewitz 1994, Teel et al. 2002, WildFutures 2005).

Fair chase hunting is based upon the premise of giving the animal an equal opportunity to escape from the hunter (Posewitz 1994). Using hounds, especially those equipped with GPS collars, provides an unfair advantage to hunters.

Many proponents of hound hunting claim that hunters can be more selective using this technique. Since hunters can get so close to a treed animal, hound hunting advocates assert that hunters can determine the sex, size, and general age of an animal before determining whether or not they are permitted to harvest that individual. Knowing the sex and other demographic status of the individual being hunted could be helpful in maintaining a viable population. However, a review of 30 years of records from game managers throughout the western United States found that, although technically feasible, most hunters could not tell the size and sex of an animal up a tree. Hunters had roughly 50% accuracy when determining sex; the same as if they had determined the sex with a coin toss.

We recognize that there is pressure to reduce mountain lion populations in order to satisfy deer hunters that they will not be competing with mountain lions for deer, and note that reduction

of mountain lion populations will not increase ungulate populations unless lion populations are decreased unsustainably.

Hunting mountain lions has long been thought to bolster populations of game species like mule deer, while reducing competition for this shared resource.

On the East Coast of the United States, it has become clear that when mountain lions are extirpated entirely, deer populations do increase. However, it is not true that simply decreasing the number of mountain lions relative to deer populations will cause deer populations to increase or remain healthy over the long term. Mountain lions and deer have co-evolved to create a natural balance. Suitable available habitat will continue to determine deer numbers (even given limited long-term impacts from mountain lions), and lion numbers will fluctuate in response, unless mountain lions are nearly extirpated.

In other words, an agency cannot adjust prey numbers by reducing predators without risking extirpation of the predator population.

A recent study evaluated the impacts that heavy hunting of mountain lion has on mule deer and elk. The study found that heavy hunting pressure on these apex predators had the opposite effect on mule deer (Elbroch and Quigley 2019). As trophy hunters often target the large, dominant male, they inadvertently reduce the age structure of mountain lions in the area, leaving younger, less experienced lions on the landscape. According to the study, these younger predators typically selected for mule deer instead of larger prey species like elk. As a result, the researchers noted that, despite increased survival of fawns and females, the removal of mountain lions did not yield a growth in the mule deer population. Instead, they suggested that hunting may actually be increasing the number of mountain lions that specialize in targeting deer.

Killing mountain lion kittens dependent upon nursing mothers is not acceptable to most South Dakotans. However, current hunting rules make orphaning very common.

While it is not permitted in South Dakota to kill any females accompanied by spotted kittens, dependent young may not always be in the presence of their mother, and spotted kittens have been taken by hunters in the state. Without kittens in her presence, a hunter may not be aware that a female has offspring and may kill her. As mountain lions offspring are dependent on their mothers for survival up to around 18 months of age, the loss of their mother prior to reaching adulthood would likely result in the death of her young, even if they are around a year old.

A recent study has shown that delaying the start of hunting seasons until December 1 would protect about 91 percent of kittens from perishing as a result of being orphaned by hunters (O'Malley et al. 2018). By better aligning any hunting seasons with denning periods, hunters will have the best opportunity to identify females with kittens. This, ultimately, will benefit both mountain lions and hunters that want to ensure that their populations remain healthy into the future.

While we appreciate that the Department took this date into account for the hunting of mountain lions in the Black Hills Unit, this is not the case in other areas of the state. Landowners on their own land do not count toward the quota outside of the season dates for the Black Hills Hunting Unit.

Based on the information above, the Mountain Lion Foundation respectfully requests that:

- **The Department provide a comprehensive annual assessment of anthropogenic mortality in South Dakota, readily available to the public in a timely manner and well in advance of proposed changes to lion policy.**

There is substantial and generally unavoidable human-caused mortality of mountain lions due to vehicle strike, incidental snaring or trapping, poaching, hunting on tribal lands, conflicts with domestic animals, public safety removal and other causes which have not been quantified in the draft plan. Because these numbers contribute the threshold for sustaining a mountain lion population without risk of extirpation, the Department and Commission should err on the side of caution to maintain the small breeding population of lions in South Dakota.

This will require that the Department assess anthropogenic mortality more effectively, and make these numbers available for public scrutiny on a timely annual basis.

- **South Dakota suspend mountain lion hunting entirely, given the relatively small amount of available habitat in the state, high anthropogenic mortality, and the value of mountain lions to South Dakotans and to recolonization of eastern states.**
- **Restrict killing of mountain lions in all parts of the state to department issued permits or actions targeting individual lions in specific situations where it will demonstrably and effectively resolve a serious conflict.**
- **Hold multi-state discussions with other neighboring state agencies so that lions may recover in their historic ranges.**
- **If suspension of hunting is rejected, we ask that at a bare minimum the Department and Commission reconsider quotas annually and reduce quotas to below the 12% sustainable limit, less the full tally of annual anthropogenic mortality described above.**
- **Delay the start of all mountain lion hunting seasons in *all* areas until December 1 to protect dependent kittens from being orphaned by hunters, and that killing of mountain lions throughout the remainder of the state be similarly restricted to reduce orphaning.**
- **Eliminate the use of hounds to pursue mountain lions as a socially disruptive, inhumane and unethical practice.**
- **If the Commission decides to continue to allow the use of dogs then, at the very least, GPS collars should be prohibited as the practice does not align with fair chase values.**

Thank you for your consideration. Please make this comment letter a part of the official record regarding this decision.

Respectfully,

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