March 22, 2007

Parks and Open Space Advisory Committee  
Boulder County  
P.O. Box 471  
Boulder, Colorado  80306

Re: Mountain Lion (Puma concolor) study on Boulder Open Space

Dear Parks and Open Space Advisory Committee:

On behalf of Sinapu and our 1,000 members, we thank you for this opportunity to comment. We believe that a study in Boulder County is a useful idea to consider, but we caution that you move forward only after a more deliberative process has occurred.

According to a survey that was published by the Colorado Division of Wildlife (DOW) (Corona Research Inc. 2005), Coloradoans are not particularly worried about mountain lions [Exhibit 1]. According to the survey, people are far more worried about being injured by other means such as being attacked by another person, falling, or lightning strikes (Corona Research, Inc. 2005).

One statistician determined that the risk factor of being attacked by lion is approximately equal to getting struck by lightning and winning the lottery. The risk of an attack is miniscule; therefore, we cannot let an overdeveloped sense of urgency, which is based in a culture of fear, drive this study. The study must be based in empirical science and rationale, not trepidation.

1. The DOW Should Develop a More Solid Study Plan:

In a ten-page document called Human-Mountain Lion Interactions (March 2005), the Division of Wildlife (DOW) mapped out a methodical policy for addressing mountain lions. The purpose states, “It is the policy of the Division of Wildlife to direct all problem mountain lion management effort at the individual lion deemed to be a nuisance, depredating or dangerous, and to manage all human-lion interactions in a consistent manner” [Exhibit 2].

This thoughtful and prudent premise must also inform how the DOW’s proposed study of mountain lions in Boulder Open Space is undertaken. While the DOW
has provided the public with a brief outline of its proposal for this hearing, this committee and the County Commission must insist that a more developed prospectus be developed, one that clearly lays out the purpose, objectives, and the scientific questions that this study intends to discover. The 26-page prospectus that Ken Logan, PhD, created on behalf of the DOW for his study on the Uncompahgre Plateau, Colorado demonstrates the caliber of inquiry that the DOW is capable of, but has failed to develop here [Exhibit 3.]

If Boulder County determines to move forward with this study, we hope that at a minimum, the DOW collects baseline data with clear outcomes that can better inform management decisions. We suggest the following data be collected:

- What are the DOW’s protocols for its determination to haze a lion? Is it okay for the DOW to haze a lion that may be in close contact with humans, but has not exhibited any aberrant behavior?
- What is the population size/density in the study area? What are the lions’ home ranges sizes on the Front Range? How is that informed by their prey base and/or human disturbance?
- What does lion natality look like (i.e., how many kittens are born, survive, and disperse)? What kind of recruitment to the lion population occurs on the study area?
- What effect do lions have on their prey on the Front Range? (Distribution, predation, recruitment?)
- How do human development/roads/recreation affect puma populations? What and where are lions’ movement corridors? Is dispersal hemmed in by roads and development?
- Are lions avoiding people?
- Is the DOW working to increase its co-existence educate efforts for people in the study area?

If the study proposes to manipulate the populations (i.e., hazing, relocation, removal of individuals) then decision makers need to be aware that these manipulations may cause unintended consequences such as creating vacancies in lion habitat that invites in younger animals who may be more likely to have conflicts with humans and pets. If animals are hazed out of their territories, what are the outcomes? Do we create a vacancy for another cat? What if a “problem cat” replaces a lion which had no conflicts with humans or pets?

2. Assessing the Risk of Manipulating the Population or Hazing Individual Lions:

Mountain lions maintain territories called "home ranges." If the lion in a home range is removed or killed, then the vacancy likely will attract a younger, dispersing lion (Lambert et al. 2006) [Exhibit 4]. Younger lions are more likely to have negative interactions with humans than are older animals (Beier 1991). Pumas in the age group of 1 to 3 years are the most likely to be involved in conflicts with humans (Murphy et al. 1999).

In areas where humans heavily exploit lions and source populations are available, young lions replace the adults killed. Conversely, unhunted puma populations tend to contain older animals, have a lower rate of reproduction, and lower juvenile survival compared to moderately or heavily hunted populations (Anderson et al. 1992, DeSimone et al. 2005, Lambert et al. 2006).

According to a host of mountain lion biologists, “no scientific evidence” exists that suggests that sport hunting reduces the risk of lions attacks on humans (Cougar Management Guidelines Working Group et al. 2005) [Exhibit 5]. Can the same be extrapolated if the DOW relocates and cat? If the DOW relocates or
hazes an animal out of its territory, the agency may create a vacancy for another animal? What if the cat is a mother with dependent kittens? Will the kittens be orphaned and die? Kittens are totally dependent upon their mothers from between 6 to 10 months.

What if the DOW relocates a lion? This could potentially put a cat into the territory of another, which may result in intraspecific strife (a cat fight) and perhaps mortality as adult lions do not tolerate each other well. (Mountain lions are solitary animals and generally only come into contact with each other when a female is in estrus or when she has dependent kittens.)

In sum, exploiting lion populations (i.e., removing individuals from the population either through relocation or by killing) can potentially exacerbate negative interactions with humans, because the lions' social structure is disrupted. Killing or removing older, established lions may actually increase conflicts with humans because killing resident lions creates open territories for transient, young animals.

3. Mountain Lions Rarely Interact with People—Education Campaigns are Key to Preventing Conflicts:

Mountain lions typically avoid people (Sweanor et al. 2003) [Exhibit 6—a Nature article], and so hunting them to prevent future attacks is a notion unsupported in the scientific literature (Cougar Management Guidelines Working Group et al. 2005).

In Colorado, since 1890, there have been only two confirmed fatalities from lions and both took place in the 1990s—one in Rocky Mountain National Park and one in Idaho Springs. (We do not subscribe to the notion that Boulder was a training ground that led to the death of Scott Lancaster in Idaho Springs. See Environmental Law debate between David Baron and the undersigned, Exhibit 7.) Nationwide, 17 fatalities have occurred since 1890. Added to that, there have been approximately 100 non-fatal attacks in the nation in the past 100 years (Beier 1991, 1992, Fitzhugh 2003), including the attack of a 7-year-old boy in Boulder Open Space in April 2006.

The numbers of attacks is very low because mountain lions do not view people as prey. If they did, there would certainly be more attacks, because mountain lions are skilled ambush predators, and are capable of taking down an animal many times their own size, such as adult elk (Hansen 1992, Logan and Sweanor 2001). Furthermore, common sense precautions in lion country, such as traveling in groups, mindfulness of small children’s proximity, and aggressively facing down a lion can curtail or reduce risks (Beier 1991, Fitzhugh 2003). Coloradoans are largely unafraid of mountain lions (Coronado Research Inc. 2005) because of multi-year educational efforts led by the DOW and Sinapu. (The undersigned has given approximately 60 mountain lion talks in Colorado since 2004 and has reached hundreds of people, either directly at those events, or indirectly through print and radio media). Informational campaigns are effective at modifying people’s behavior so that risks are curtailed.

4. Hounding Lions in Open Space—Insist on Leashes:

In order to capture and radio collar lions, the DOW has proposed to allow hounds to bay mountain lions (chase them up into trees or onto cliffs). To prevent packs of lion-hunting hounds running at large, killing, injuring, disturbing, or stressing other wildlife, the hounds should be kept leashed. Hounding dogs have
inadvertently killed lion kittens (Anderson et al. 1992, Logan and Sweanor 2001), and leashing the hounds will likely prevent those unintended consequences.

5. Mountain Lion Refuges—Important Biological Havens:

On most of Colorado’s public lands, lion hunting is allowed. Therefore, some places like the Front Range must be kept as lion sanctuaries. Conservation biologists emphasize the importance of maintaining safe havens or refuges for mountain lions; refuges offer lions population long-term persistence and the idea of refugia is one of “the most robust concepts of modern ecology” (Weaver et al. 1996). Refuges maximize natality, minimize mortality, and prevent overexploitation of lion populations (Weaver et al. 1996).

Biologists distinguish between "source" and "sink" populations. Where lions are hunted, those sub-populations decline, creating sink areas. In contrast, where lions have ample habitat and prey and are not exploited, those sub-populations are considered "source" sub-populations. The young cats disperse from the source areas to the sink areas. Exhibit 8 shows the DOW’s management plan for this area.

Because lion hunters prefer trophy-quality animals, it is important to establish hunt-free refuges for lions both for the long-term benefit of lion populations. In refuges, the animals with the greatest genetic fitness pass down their traits because they are not removed from the population (Logan and Sweanor 2001). The progeny of these fit lions disperse—which benefits the genetic rigor of the entire meta-population. If all lions were hunted everywhere important genetic characteristics would be forever lost (e.g. Coltman et al. 2003).

6. Large Carnivores in Ecosystems Contributes to Species Richness and Ecosystem Functionality:

Large carnivores in ecosystems contributes to the richness and complexity of animal life and indirectly to ecosystem function (e.g. Crooks and Soule 1999, Henke and Bryant 1999, Smith et al. 2003). Mountain lions modulate prey populations (Logan and Sweanor 2001). In one recent study where lions were reportedly absent, authors argue that a desert riparian ecosystem collapsed because of overgrazing by deer. As a result, the numbers of plants and animals in that ecosystem declined. In an adjacent area, where lions were present, the stream was in better health, and the numbers of plant and animal species were far greater (Ripple and Beschta 2006).
Thank you for giving Sinapu this opportunity to comment. If you need further studies or information, do not hesitate to contact us.

Sincerely,

Wendy Keefover-Ring, Director
Carnivore Protection Program

cc:
Tom Mayer, Ben Pearlman, & Will Toor
Boulder Board of County Commissioners

Bibliography


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