

From: [bdarcy](#)
To: [FWP Wildlife](#)
Subject: [EXTERNAL] Mountain Lion quotas
Date: Wednesday, April 20, 2022 8:28:49 PM

The proposed methodology, outlined in your request for comments, for determining mountain lion quotas, hunting areas, and seasons seems very well thought out. I would be very much in favor of this approach.

Good luck ,

Bill Darcy

From: [Jim Chamberlain](#)
To: [FWP Wildlife](#)
Subject: [EXTERNAL]
Date: Saturday, April 23, 2022 2:06:46 PM

Leave the mountain lions alone! Do not hunt them, unless of course our esteemed governor wants to pussy hunt a mountain lion. Mountain lion hunting is inhumane. All they want is a deer now and then.

From: [Pete](#)
To: [FWP Wildlife](#)
Subject: [EXTERNAL] lion quotas
Date: Wednesday, April 20, 2022 5:07:59 PM

I feel that the FWP should allow unlimited quotas for South Fork, Middle Fork and Antelope drainages for a period of years to help in the release of the Bighorn Sheep. It is a costly adventure trapping, and relocating them and to feed them to the lions seems to me and all those I talk to that you are wasting funds!! Pete Rogers 423-5332

From: [Joel Aimone](#)
To: [FWP Wildlife](#)
Subject: [EXTERNAL] Mtn Lion
Date: Thursday, April 21, 2022 6:56:48 AM

Reasonable plan.

From: [Todd Samson](#)
To: [FWP Wildlife](#)
Subject: [EXTERNAL] Mt Lion Quotas
Date: Wednesday, April 20, 2022 6:13:54 PM

I am for the proposal as long as the quotas promote a sustainable harvest.

Todd M Samson

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Mr. Todd M Samson
6th Grade Earth Science



From: michael.colpo
To: CommissionerRegion1@mtfwf.org; CommissionerRegion2@mtfwf.org; CommissionerRegion3@mtfwf.org; [KC Walsh](mailto:KCWalsh); CommissionerRegion5@mtfwf.org; CommissionerRegion6@mtfwf.org; CommissionerRegion7@mtfwf.org
Cc: [FWP Wildlife](#)
Subject: [EXTERNAL] mountain lion quota comments for the commisssion
Date: Sunday, May 15, 2022 7:55:23 AM
Attachments: [Mountain lion comments on quota.docx](#)

Commissioners, These comments for your consideration are mostly directed at Region 5, but have bearing statewide pertaining to Big horn sheep predation and mtn lion populations . Thanks, Mike Colpo

Mountain lion comments on quota:

I commented on this subject in Dec as this proposal was put forward by Region 5 Biologist that took LMU 560, 520 and 510 and combined these units into LMU 525 that each had a combined quota of 17 and as LMU's were combined and total quota proposed is 15 (sub quotas of 9 female and 6 male). In my opinion at the very least the quota for combined area should remain the 17 (10 female and 7 male) Due to the increase in cat numbers as we as hounds man see in this LMU560 alone is having an adverse effect on the ungulate populations we are definitely seeing it in mule deer and whitetails especially when you free cast your dogs when snow conditions are poor for finding tracks along the roads and trails letting the dogs pickup cats on their own the number of deer bones they are picking up is getting unprecedented from anything we've seen in recent history.

Also, along the lines of ungulate predation the new LMU 525 combines all three unlimited sheep areas 500, 501 and 502 in which the sheep population have not gone up over the years even though domestic sheep have left the landscape many years ago and we also know habitat in these areas has an impact for these populations to not increase greatly. Also, mtn goat populations have declined in these areas noted by each year moose, sheep and goat regulations come out and especially noted with goat tags that have declined in a few of these areas along with low moose numbers for several years when there were more tags in past years. We have YNP to our south that has many lions traveling in and out the park and the lions from LMU 525 and surrounding areas traveling back and forth in search of females all year predating on these ungulate populations. The traveling males are probably having a summer impact on these populations in the high country and we know from winter sightings of tracks seen by snowmobilers recreating where those sheep winter in the upper main Boulder that lions are taking those sheep wintering in that high country area. YNP and MTFWP as far as I've been told do not share mtn lion data so we don't really have a handle on lion numbers in this area, but we do know that lion movement happens due to YNP collared lions being taken in Montana.

We also have in LMU 525 the increased sightings and lion conflict all the way to the Yellowstone River the areas northern boundary and in the town of Big Timber. In a conversation with the Sherriff of Sweetgrass County Alan Ronneberg who is also a sheep rancher has stated " That lions are becoming a public nuisance do to the conflicts and sightings within the county"

With these examples being pointed out by observations in the field and information that we know that we can raise these quotas to have measurable impact on lion populations to affect ungulate populations in a positive way by taking more lions until we get the desired effect of ungulate population increase and then ease back on lion take to get the balance we are looking for. But as of right now we have an unbalance that needs addressed. In talking with other hounds man, sportsman and trappers that are on the landscape that quota number should be at least in the 25 range in this vast area for starters to see where that will lead in recovery of these important ungulates. In the past LMU 560 before the merger of these 3 areas into LMU525 had a historic high of 14 lions on the quota and has recently been at 8 lions with 4 male and sub quota of 4 female and has been met every year with good weather conditions. LMU 500 across the Yellowstone River to the north was recently combined has a quota of 23

and it took 22 lions this past season with not a lot of good snow conditions again proving the number of lions are on the rise on the landscape.

We agree there needs to be a higher female take but given that we really don't know what the lion population is and with the fact that Region 1 came out with higher numbers that was previously thought one would conclude that is probably the case in LMU 525 that we still need a higher male take due to traveling males from YNP and other areas that have a negative impact on localized ungulated populations.

In closing across Montana we have critical ungulate populations especially Big Horn sheep whether in the Breaks or the surroundings areas of YNP that have seen an uptick of predation and more and more sightings of tracks and lions themselves that we need to address this issue and bring back balanced management of the predator prey relationship. But as we know the only solution is to put out foot on the gas and increase the take of mtn lions for a period until we achieve that goal.

From: [Paige Munson](#)
To: [FWP Wildlife](#); [FWP Region 7](#); [FWP Region 1](#); [FWP Region 2](#); [FWP Region 5](#); [FWP Region 4](#); [FWP Region 3](#); [FWP Region 6](#)
Cc: [Josh Rosenau](#)
Subject: [EXTERNAL] Mountain Lion Foundation Comments for the Proposed Mountain Lion Regulations for 2022-2023
Date: Thursday, May 19, 2022 3:19:11 PM
Attachments: [Montana FWP 2022-23 Proposed Regulations Comments.pdf](#)

Thank you for the opportunity to comment on the Proposed Mountain Lion Regulations for 2022-23 and future management decisions for mountain lions in Montana. On behalf of our members in Montana, the Mountain Lion Foundation's scientific staff developed a number of suggestions which we hope will be helpful. We would be pleased to discuss these suggestions in more detail during in upcoming meetings. Please don't hesitate to contact us if we can be of assistance.

Warm regards,

Paige Munson, State Policy Associate, Field Biologist
she/her/hers
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MOUNTAIN LION FOUNDATION

Saving America's Lion

The mission of the Mountain Lion Foundation is to ensure that America's lion survives and flourishes in the wild.

May 16, 2022

Montana Fish Wildlife & Parks
1420 East Sixth Avenue
P.O. Box 200701
Helena, MT 59620-0701

RE: Review of the 2022-23 Season Setting: Hunting Regulation Changes

Dear Commission members and staff,

We write to you, on behalf of our Montana members, for the review of the *Proposed 2022-23 Mountain Lion Regulations*¹, based on the recent LEPOC report regarding mountain lion management. The current LEPOC (Lion Ecoregional Population Objective Committee) report has identified nine objective to be achieved by management of the mountain lion population in Montana's Region 1 and Region 2: 1) minimize excessive ungulate predation 2) assist recruitment in struggling populations (supposedly equivalent to reducing lion populations) 3) maintain a healthy lion population as a natural part of the ecosystem 4) minimize human-lion conflict (livestock/pet) 5) maximize mountain lion hunter opportunity and harvest 6) maximize satisfaction for recreational lion chasing (nonharvest) 7) maximize satisfaction for ungulate hunters 8) maximize satisfaction of ungulate hunters 9) maximize social acceptance of lion hunting.² The proposed management strategy aims to reduce the mountain lion populations in Montana, which is unnecessary for ungulate population management, unlikely to aid struggling ungulate populations, and may lead to detrimental environmental effects. Furthermore, population reduction is less effective than nonlethal strategies to reduce conflict.³ Reduction of the population may increase hunter satisfaction in the short term, but may reduce it in the

¹ Proposed 2022-2023 Mountain Lion Regulations. 2022 Montana Fish, Wildlife & Parks.

² Gude, J., Wakeling, B., Messmer, D., Parks, M., Anderson, N. Bradley, L., and Ebinger, M. 2022. Northwest Lion Ecoregional Population Objective Committee: Spring 2022. FWP Science Team, Montana Fish, Wildlife & Parks, Missoula.

³ Treves, A., Krolfel, M., and McManus, J. 2016. Predator control should not be a shot in the dark. *Frontiers in Ecology and the Environment*. 14(7): 380-388.

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long-term as has been seen in the past by hunters advocating for reduced quotas for mountain lions.⁵

We ask the Department to include the following provisions for managing mountain lions in Montana:

- 1. Use metrics that do not rely on harvest to assess the mountain lion population**
- 2. Shift management objectives for the mountain lion population from reduction to sustainability**
- 3. Find alternatives to support ungulate populations other than wildlife removal**
- 4. Address human-lion conflict through non-lethal solutions**
- 5. Broaden the range of viewpoints included in the LEPOC by including more diverse stakeholders in the committee**

We find these recommendations to best align with current cougar research; the FWP's mission to provide for the stewardship of the fish, wildlife, parks, and resources of Montana, while contributing to the quality of life for present and future generations;² and the stated management objectives to conserve mountain lions as a functional and valued part of Montana's wildland ecosystems.³

1. Use metrics that do not rely on harvest to assess the mountain lion population

The LEPOC report relied upon harvest data in order to derive a harvest prescription that aims to reduce Montana's mountain lion population by 12.5 percent, and this prescription is currently being proposed by the FWP.^{1, 2} Harvest data is not an effective tool for assessing a mountain lion population, as hunters are not random upon the landscape nor are they random in the animals they choose to kill. Data from harvest should only be supplementary, and is not adequate in measuring or predicting population trends for mountain lions.

Montana FWP utilizes an integrated population management (IPM) approach using spatial capture recapture surveys (SCR) and resource selection function (RSF) to estimate the abundance and availability of habitat or mountain lions in Montana. The methods used for SCR monitoring uses biopsy darts, hair, and scat samples for genetic identification.^{4, 5} We recommend that the FWP make decisions regarding the mountain lion population using these types of surveys and habitat suitability analyses designed to specifically assess the population, as opposed to harvest data.

⁴ Montana mountain lion monitoring and strategy. 2019. Montana Fish, Wildlife, and Parks.

⁵ Proffitt, K. M., J. F. Goldberg, M. Hebblewhite, R. Russell, B. S. Jimenez, H. S. Robinson, K. Pilgrim, and M. K. Schwartz. 2015. Integrating resource selection into spatial capture-recapture models for large carnivores. *Ecosphere* 6(11): Article 239.

2. Shift management objectives from population reduction to population sustainability

Mountain lion populations do not typically require management to control growth, since their populations are self-regulating. This regulation is due to their social structure and territoriality, the limit of prey abundance, and the carrying capacity of the land to support prey populations.⁶ Hunting of mountain lion populations results in additive mortality that can exceed the mortality rate of what would be experienced in the absence of hunting. This increased mortality can cause instability and decline in the population.⁷ In order to maintain a stable mountain lion population, anthropogenic mortality (from depredation, poaching, public safety removals, etc.) should not exceed the intrinsic growth rate for mountain lions in an un hunted population of 1.12 to 1.15. Hunting that exceeds the growth rate can lead to population decline in mountain lion populations. Their decline can trigger increases in deer and elk populations that can deplete vegetation through overgrazing, and a loss of carrion that supports diversity of vertebrate scavengers. Thus, this loss can cause landscape-level changes from diminished biodiversity.^{8,9}

It is unlikely that reducing the mountain lion population in Montana will accomplish the objective to aid ungulates. Reduction efforts may lead to ecosystem degradation to habitat, biodiversity, and the already struggling ungulate populations of Montana. A population reduction may not even occur, if migrating males move into emptied territories, resulting in a population skewed toward young male lions.¹⁰ These young males are the most frequent source of conflict.

3. Find alternatives to support ungulate populations other than wildlife removal

Mountain lion prey distribution and abundance, mainly mule deer, limit cougar populations. Their prey is limited by access to quality forage. Mountain lion populations typically respond to changes in mule deer populations with a four-year lag.¹¹ Drought resulting from climate change has been shown to be a limiting factor to cougars through bottom up effects. Stoner et al (2018) found a positive relationship between mule deer population size and primary plant productivity. Mountain lions decreased their home range size when primary plant productivity

⁶ Wallach, A. D., I. Izhaki, J. D. Toms, W. J. Ripple and U. Shanas. 2015. *What is an apex predator?* *Oikos* 124(11): 1453–1461.

⁷ Robinson, H. S., and R. M. DeSimone. 2011. The Garnet Range mountain lion study: Characteristics of a hunted population in west-central Montana. Federal Aid in Wildlife Restoration Project W-154-R, Helena, MT.

⁸ Beschta, R. L. and W. J. Ripple. 2012. *The role of large predators in maintaining riparian plant communities and river morphology.* *Geomorphology* 157-158: 88-98.

⁹ Elbroch, L. M., C. O'Malley, M. Peziol, H. B. Quigley. 2017. *Vertebrate diversity benefiting from carrion provided by pumas and other subordinate, apex felids.* *Biological Conservation* 215: 123-131

¹⁰ Dellinger, J. A., K. K. Macon, J. L. Rudd, D. L. Clifford, S. G. Torres. 2021. *Temporal trends and drivers of mountain lion depredation in California, USA.* *Human Wildlife Interactions* 15(1): 162-177.

¹¹ Laundre, John W, L. Hernandez, and S. G. Clark. 2007. Numerical and Demographic Responses of Pumas to Changes in prey abundance: Testing current predictions. *The Journal of Wildlife Management.*

increased.¹² Therefore, as primary plant productivity declines in response to drought, cougar home ranges increase. This in turn causes cougars to have increased energy expenditures, reduced survival and reproduction, and lower population densities when there is prey scarcity.

Montana is currently experiencing widespread drought across the state.¹³ The resulting decline in quality forage is likely to impact prey populations through bottom up effects. If ungulates are malnourished they will be more vulnerable to all forms of mortality, including predation. There is no reliable evidence to support the reduction of carnivore populations to bolster their prey. Research on the recruitment of elk in western Montana, found that the highest indicator for increased recruitment was higher levels of summer precipitation. Predator abundance had minimal effects, and the authors warned against making any management decisions for predator species in regards to ungulates without more robust data.¹⁴ The ungulate population is unlikely to experience higher levels of recruitment from the reduction of the mountain lion population.

4. Address human-lion conflict through non-lethal solutions

When addressing human-lion conflict, mitigation strategies are usually assessed in lethal and non-lethal categories. Lethal methods generally rely upon targeted removal of “problem” animals or population reduction of the mountain lion population. Nonlethal strategies are broader, including night penning, wildlife guardian dogs, protective enclosures, fladry, and other various animal husbandry practices and deterrent methods. Lethal removal of carnivores is generally less effective at reducing conflict with carnivores than nonlethal methods. Lethal methods have even been seen to have counterproductive effects resulting in increased conflict with carnivores, whereas counterproductive effects from nonlethal methods have never been observed.

Additionally, conservation and wildlife management extend beyond purely biological sciences to the social sciences as well. The sentiments of the complainants and the general public must be considered when implement predator control methods, even if lethal and non-lethal tests performed equally well (while as of now the latter is superior). Wildlife is considered to be a public resource, and the lethal removal of these animals without sound evidence can erode that public trust. The ecological consequences of the control methods must also be considered.^{Error!}
^{Bookmark not defined.3} Mammalian predators have a disproportionate positive impact on the systems they are a part of through trophic cascades.^{810,911} Lethal removal of predators should not be used lightly, considering the social and ecological consequences.

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¹² Stoner, D. C., J. O. Sexton, D. M. Choate, J. Nagol, H. H. Bernales, S. A. Sims, K. E. Ironside, K. M. Longshore and T. C. Edwards Jr. 2018. *Climatically Driven Changes in Primary Production Propagate Through Trophic Levels*. *Global Change Biology* 24(10): 4453-4463.

¹³ Blandford, Troy. 2022. Montana County Drought Status. Water Information System Contact Information. Montana State Library. https://mslservices.mt.gov/geographic_information/maps/drought/

¹⁴ Paterson JT, Proffitt K, Rotella J, Garrott R 2019. An improved understanding of ungulate population dynamics using count data: Insights from western Montana. *PLOS ONE* 14(12): e0226492. <https://doi.org/10.1371/journal.pone.0226492>

Population reduction is unlikely to aid in reducing conflict, but may lead to detrimental ecological and social effects. We recommend that the FWP rely on nonlethal methods to address conflict, as they are less damaging and more effective.

5. Broaden the range of viewpoints included in the LEPOC by including more diverse stakeholders in the committee

We commend the FWP's efforts to engage the public in management decisions. The LEPOC included lion outfitters, hound handlers, livestock producers, deer hunters, elk and sheep hunters, and the public. The LEPOC report acknowledges that it did not solicit opinions from mountain lion researchers due to the limited committee size of twelve members.² There are benefits to soliciting members from specialized groups within the hunting community, however the majority of members in the committee were from a hunting specific background, with only two seats allocated towards livestock producers and the public each. No positions were allocated to voices for wildlife conservation, landscape conservation, or animal welfare.

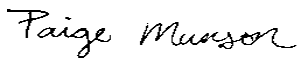
Other agricultural producers, outdoor recreation groups, and local conservation groups also have vested interests in the mountain lion population. Furthermore, all members of the public are stakeholders in the public resource that is wildlife, and if efforts are made to include the public in these decisions it is best served by a committee representative of that public. An objective identified in the LEPOC is to improve social acceptance of mountain lion hunting.² Social acceptance is more likely to be achieved by allowing more members of the public to be a part of decision making process regarding mountain lion hunting.

In review we ask the Montana Fish, Wildlife & Parks to address the items listed below and outlined in this letter in the review of the *Proposed 2022-23 Mountain Lion Regulations*¹:

- 1. Use metrics that do not rely on harvest to assess the mountain lion population**
- 2. Shift management objectives from population reduction to population sustainability**
- 3. Find alternatives to support ungulate populations other than wildlife removal**
- 4. Address human-lion conflict through non-lethal solutions**
- 5. Broaden the range of viewpoints included in the LEPOC by including more diverse stakeholders in the committee**

Thank you for your consideration of our recommendations to make changes to the proposed *Proposed 2022-23 Mountain Lion Regulations*¹ Please include these comments as a part of the official record regarding this decision.

Sincerely,



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Josh Rosenau
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