COLORADO
Parks and Wildlife
Department of Natural Resources

Director's Office
1313 Sherman St., Suite 618
Denver, CO 80203
P 303.866.3203 | F 303.866.3206

May 9, 2019

To: The Colorado Parks and Wildlife Commission

From: Terrestrial Section, Colorado Division of Parks and Wildlife

Subject: Division response to citizen petition to prohibit bobcat trapping in Colorado

The Petitioner makes a variety of allegations supporting her request to prohibit recreational and commercial trapping, and hunting of bobcats in Colorado. Many of the allegations relate to matters within the Division's biological and game-management expertise. In this response, we identify significant allegations we believe are inaccurate or incomplete, and provide additional evidence to inform the Commission's decision. We offer no response to allegations outside the Division's expertise.

To the extent the Commission is interested in the Division's opinion, we do not believe there is adequate scientific evidence to support the Petition.

Citizen Petition Paragraph 1:

> *Recreational and commercial hunting and trapping of bobcats severely threatens the safety of Canada Lynxes in Colorado. Bobcats exist and overlap in endangered Canada Lynx territory in Colorado. Both species are elusive, strikingly similar in appearance, and attracted to the same prey such as snowshoe hares, mice, and other rodents. They are medium sized cats with ear tufts, and short, bobbed tails. Their coat colors may vary from reddish brown to gray. Although lynxes are typically thought to have more gray coloration, bobcat coat color can change from brown to gray in the winter causing them to appear almost identical in appearance to lynxes, which is one of the only features a hunter can use to differentiate a bobcat from a lynx, especially when at a distance or in deep snow. Ear tufts and facial ruffs are not a reliable means of distinguishing the two species either, since heavily furred bobcats will have longer ear tufts and prominent facial ruffs similar to lynxes. Furthermore, regulation #302.A and #302.B allow hunting and trapping of bobcats during periods of limited visibility and at night, which makes distinguishing the two species virtually impossible.*

Division Response:

1) There is no evidence that hunting and trapping bobcats severely threatens the safety of Canada lynx in Colorado.

    a. There are no records of a bobcat hunter or trapper taking a lynx in Colorado after the species was reintroduced in 1999. The Commission's regulations require bobcat hunters and trappers to present any bobcats or their pelts to the Division for inspection. Ch. W-3, #324(B)(2)(A). The regulations also require bobcat hunters and trappers (among others) to report any lynx accidentally captured, injured, or killed. Ch. W-10, #1002(B)(3). Despite these requirements, there are no records of bobcat hunters or trappers taking lynx in Colorado.

    b. There is no evidence that incidental trapping significantly threatens Colorado's lynx population. In a 2017 species status assessment, the United States Fish and Wildlife Service (FWS) reported "there is no evidence that incidental trapping has had population-level impacts on lynx in the DPS range," which includes Colorado.[1] In discussing western Colorado's lynx population, the FWS cited an Interagency Lynx Biology Team finding that "[i]ncidental capture of lynx is possible, but unlikely."[2] The FWS summarized its analysis of the current conditions for lynx in western Colorado by stating, "there are currently many more resident lynx in this unit than likely occurred historically, and many more than were known or suspected at the time the [population segment] was listed."[3] Notably, the FWS allows incidental take of two lynx per year by bobcat hunters in Colorado. This limit was set in 2002 and has never been met.

2) The Commission's regulations minimize the risk of mistaking lynx for bobcat at night. Specifically, the regulations establish a Canada lynx recovery area, Ch. W-3, #300(A), and provide that "night hunting permits for bobcat will not be issued on public lands in the Canada lynx recovery area where Canada lynx are known to be present," Ch. W-3, #303(E)(8).

---

[1] Species Status Assessment for the Canada Lynx Contiguous United States Distinct Population Segment (p. 59) (https://www.fws.gov/mountain-prairie/es/species/mammals/lynx/SSA2018/01112018_SSA_Report_CanadaLynx.pdf).

[2] *Id*. at 166.

[3] *Id*.

Citizen Petition Paragraph 2:

> *Canada Lynxes are listed as threatened and have been protected by the federal Endangered Species Act since 2000. Indeed, it is illegal to harm or kill a Canada Lynx. The species was reintroduced into CO with radio collars starting in 1999 after they had been extirpated due to trapping and the fur trade. Trapping continues to be a significant cause of mortality of Canada lynxes: In areas where trapping of Canada lynxes is permitted, mortality rates have been noted to range from 50 to 90%, and in areas where Canada lynxes are protected, mortality rates have been noted to range from 0 to 27%, increasing when mothers with dependent young are trapped. Lynxes are attracted to bait set for bobcats, and can be harmed, injured or killed when caught in traps. Trappers are only required to check traps once every 24 hours. Lynxes can suffer from dehydration, exposure to the elements, trauma, fractures, wounds, stress, anxiety, and/or capture myopathy (severe muscle damage as a result of struggling and exertion) and harm may not be immediately apparent or may take days to weeks to manifest. In addition, after the reintroduction of lynxes in Colorado, CPW follow up monitoring revealed gunshot to be one of the leading causes of death between 1999 and 2007. Although CPW did not have any details regarding these gunshot incidents when I submitted a Colorado Open Records Act (CORA) request, it is likely that some of the shot lynxes were mistaken for bobcats since they had been federally protected since 2000.*

Division Response:

1) In 2000, the FWS listed the contiguous United States distinct population segment (DPS) of the Canada lynx as a threatened species under the Endangered Species Act. In its most recent five-year review, the FWS recommended removing this lynx DPS from the list of endangered and threatened species.[4]

2) There is no evidence that trapping is a significant cause of mortality of Canada lynx in Colorado.

    a. As noted above, there are no records of a lynx being captured in a bobcat trap since the species was reintroduced.

[4] Canada Lynx (*Lynx Canadensis*) 5-Year Review: Summary and Evaluation (p. 7) (https://www.fws.gov/mountain-prairie/es/species/mammals/lynx/SSA2018/01112018_5YR_Signed_CanadaLynx.pdf).

b. The Petitioner cites lynx mortality rates in areas outside Colorado, and there is no evidence these mortality rates apply in Colorado. Unlike some areas outside Colorado, the only furbearer trapping allowed in Colorado is live trapping with cage or box traps. Ch. W-3, #303(E). Under the Commission's regulations, hunters are required to check traps every 24 hours and certain lures and baits "meant to attract felids are not permitted in the Canada lynx recovery area or on properties known to be occupied by Canada lynx." Ch. W-3, #302(B)(2). In the course of a 12-year study in Maine, researchers documented 52 lynx "caught in cage traps multiple times (339 captures) without any injuries requiring veterinarian care."[5]

c. Between 1999 and 2007, there were 102 recorded deaths of Canada lynx in and around southwestern Colorado. Of those, 14 were caused by gunshot. There is no evidence that any of the gunshot-related deaths was the result of otherwise lawful bobcat hunting or trapping.

Citizen Petition Paragraph 3:

Persons obtaining a small game license in order to hunt in Colorado are only required to have gun safety education but are not required to read the United States Fish & Wildlife Service's brochure How to Avoid Incidental Take of Lynx While Trapping or Hunting Bobcats and other Furbearers or have any training regarding differentiating a lynx from a bobcat. Hunters and even trained professionals can have great difficulty differentiating bobcats from lynxes.

Division Response:

1) The Division provides educational materials to alert hunters of the presence of lynx and to help citizens, sportsmen, and sportswomen correctly identify the species to avoid accidental take. These materials include:

   a. a color photo of Canada lynx in the Division's small game brochure;

   b. a webpage dedicated to identifying lynx; and

   c. a brochure titled "Avoiding Incidental Lynx Take While Trapping and Hunting."[6]

---

[5] Incidental Take Plan for Maine's Trapping Program (p. 68) (https://www.fws.gov/mainefieldoffice/PDFs/Lynx_ITP_submitted_to_USFWS_10_28_14_with_FINAL_minor_amendments_09242015.pdf).

[6] http://cpw.state.co.us/Documents/Hunting/SmallGame/AvoidLynxTake.pdf

2) The Division's biological field staff (biologists, wildlife managers) have been trained to identify and distinguish lynx from bobcats. Each bobcat mortality form used at mandatory CITES checks includes information for distinguishing lynx and bobcat, and a color photo and similar information are given to all Division staff that check and seal harvested bobcats. We have no records of any misidentification of lynx as bobcat during these checks.

Citizen Petition Paragraph 5:

> *Regulation #324.A which allows bobcat hunting annually from December 1st until the end of February threatens pregnant bobcats, bobcats with dependent young, and lynxes with dependent young. Bobcat breeding season occurs in early winter, may occur as early as December 12 and extends until April or later. After a gestation period of approximately 63 days, female bobcats give birth to an average of two to three kittens, producing only one litter per year. The young are weaned at two months, but stay with their mothers until they are one year old learning how to survive. Bobcats have low reproductive rates, are not sexually mature until one to two years of age, and provide extended parental care for their young, thus making their population extremely vulnerable to the effects of hunting and trapping. Canada lynxes breed in March or April, giving birth to only 1 or 2 kittens in May, June, or July. Lynx kittens also remain with their mothers for extended periods, at least 9 to 10 months, learning crucial survival skills such as where and how to find shelter and food. Mother lynxes who are injured or killed during bobcat hunting and trapping season would cause orphaned, dependent lynx kittens to die of starvation or exposure to the elements.*

Division Response:

1) The literature indicates the majority of bobcat mating in the Rocky Mountain states takes place in March.[7]

2) The bobcat season in Colorado is December 1 to February 28. Bobcat literature from other Rocky Mountain states (namely, Wyoming, Idaho, Montana, and Utah) suggests bobcats generally give birth in April and May, with a small proportion of new kittens observed in March and later in the summer. [8]

---

[7] Crowe, D. M., *A model for exploited bobcat populations in Wyoming*, J. Wildlife Mgmt. 39(2), 409 (1975).

[8] Bailey, T., *Den ecology, population parameters and diet of eastern Idaho bobcats*, Proceedings of the Bobcat Research Conference, Front Royal, Virginia (Oct. 16-18, 1979);

3) Lynx parturition (birth) dates occur well after the close of bobcat season. From 2003-2007 (when lynx reproduction was intensely monitored during the Colorado reintroduction project) all dens and newborn kittens were detected in May and June.[9] There are no known instances of lynx being captured in bobcat traps in Colorado, or of any loss of young dependent lynx resulting from orphaning from hunting or trapping.

Citizen Petition Paragraph 7:

> *Hunting and trapping of bobcats is threatening the genetic diversity, demographics, and long term survival of the bobcat population. In fact, bobcat numbers have historically declined dramatically in several areas of the United States due to poor management and unlimited hunting and trapping. The population status of bobcats in Colorado is unknown and CPW does not currently have a reliable method for evaluating bobcat demographics and population trends within the state. The only recent research done on bobcats is a non-invasive genetic sampling study that was conducted mostly in Boulder County in which data is still being analyzed. There are no recent studies in other areas of the state, such as the southeast or southwest regions, which have been experiencing higher 3-year average mortality densities than the northeast region. Evaluating bobcat abundance by Harvest per unit effort (HPUE) is unreliable due to variability of data and reporting errors. Since 2002 there has been a significant increase in annual bobcat mortality in Colorado, which is mostly due to harvesting by hunters and trappers. During the 2002-03 season 562 bobcats were harvested, and during the 2016-17 season 1811 bobcats were harvested. The most recent data regarding Bobcat Mortality Density in Colorado indicates that the 3-year average mortality density has increased statewide and within all four geographic regions (NE, NW, SE, SW) from the preceding 3-year average. The current management of bobcats by CPW appears to be based largely on bobcat population data that was collected from 2009 to 2011 and is not taking into account the increased pressure that bobcats are facing due to high harvest levels in recent years. Bobcat hunters and trappers are also preferentially selecting larger animals, specifically older males. The most recent data indicates that there is indeed a higher percentage of males being harvested in Colorado. Bobcats are slow reproducers, and male bobcats don't*

Brainerd, S. M., *Reproductive ecology of bobcats and lynx in western Montana*, Thesis, University of Montana (1981); Crowe, D. M., *A model for exploited bobcat populations in Wyoming*, J. Wildlife Mgmt. 39(2), 408-415 (1975); Gashwiler, J. S., et al., *Breeding habits of bobcats in Utah*, J. Mammalogy 42(1):76–84 (1961).

[9] Shenk, T.M., *Post-release monitoring of lynx reintroduced to Colorado*, Job Progress Report July, 1-57, Colo. Div. of Wildlife (2007).

reach sexual maturity until they are 18 months of age, which makes their selective removal a severe threat to the overall stability of the population. Scientific evidence shows that the selective removal of large, older, breeding males from the population prevents valuable genes from being passed on to future generations, is known to alter social dynamics, sex ratios, age structure, and negatively affects population growth. The bobcat gene pool is being artificially altered and reduced which severely threatens and destabilizes the long term viability of the species. In addition, the negative impacts of human development, habitat loss, and fragmentation need to be considered in long term planning in Colorado since wide ranging carnivores such as bobcats are significantly impacted by these factors.

Division Response:

1) The literature suggests bobcat populations in North America are increasing.[10] Bobcat are adaptable carnivores. They are the most common North American wild cat species, and are widespread in North America and throughout Colorado.

2) Since 2012, the Division has used five bobcat management guidelines to maintain long-term, self-sustaining bobcat populations in Colorado:

    a. Annual mortality density. As a guideline, annual mortality density should not exceed 2.55 bobcat mortalities per 100 km^2. We assume an average population density of not more than 15 bobcat per 100 km^2 across modeled habitat; a mortality threshold of 2.55 bobcat per 100 km^2 equates to 17% of that average population density. Colorado's three-year average mortality density through 2016-2017 is approximately 1.3 bobcats per 100 km^2, which is well below the mortality density threshold.

    b. Harvest gender composition. As a guideline, female harvest composition should not equal or exceed 50% for more than two consecutive years at any spatial scale. Data suggest males are more vulnerable to harvest than females and are usually more prevalent in harvest records. As harvest rate increases, females become more prevalent in harvests as the relative number of males declines. Managers focus on harvest strategies that maintain females in the population rather than males because reproducing females are most important for sustaining populations. Because an increase in the proportion of females harvested would

[10] Roberts, N. M., et al., *Bobcat population status and management in North America: evidence of large-scale population increase*, J. Fish & Wildlife Mgmt. 1(2), 169-74 (2010).

presumably decrease productivity, this is a method of monitoring population impacts. The 50% threshold is not currently met at any monitoring scale.

c. Harvest Per Successful Unit Effort (HPSUE). As a guideline, there should be no more than two consecutive year-to-year increases in the hunt days per bobcat harvested at any spatial scale. The HPSUE measures the effort hunters need to put forth to harvest each bobcat. Presumably, increasing or decreasing effort per bobcat harvested should be related on a broad scale to the relative abundance of bobcats. Since cage-trapped bobcats can be released and bias the HPSUE, we will use hunted bobcat data and not live-trapped animal information. The HPSUE required five years to collect baseline data, so the upcoming 2017-2018 analysis will be the first year this is applied.

d. Prey abundance. As a guideline, statewide three-year cottontail rabbit harvest and cottontail rabbit harvest per hunter should not drop more than 10% below the fifteen-year average. Cottontail rabbits are a primary prey item for bobcat. Although a wide variety of factors can influence cottontail rabbit harvest in Colorado, there is a moderate correlation between rabbit harvest and bobcat harvest. Rabbit harvest can provide information regarding food availability for bobcats and therefore some indication of bobcat population trends. Data through the 2016-2017 season places the most recent three-year average cottontail rabbit harvest at just below the fifteen-year average, while the harvest per hunter is 6% below the fifteen-year average. Therefore, recent cottontail rabbit abundance appears to be average and probably not influencing bobcat population trends.

e. CPW manager knowledge and professional judgment. During the course of work activities, wildlife managers and biologists gain anecdotal information about the status of bobcat populations based upon their own observations and the observations of landowners, hunters, trappers, other agency personnel, and other recreationists. On an annual basis, managers and biologists are polled regarding their perceptions of bobcat population status. Polling responses are converted to numeric values ranging from +2 (increasing) to -2 (decreasing), averaged, then analyzed at different geographic scales. No survey results were available in 2016-2017, and 2015-2016 survey results showed only one bobcat unit with a declining manager survey average.

3) These metrics are designed to provide information on the size and health of bobcat populations. We do not consider any single metric conclusive, but

evaluate them together to determine overall population trends. To safeguard Colorado's bobcat populations, if the majority of these metrics exceed the management guidelines in more than two of the seven bobcat management areas in a given year, we will re-examine and may recommend adjusting the regulations governing bobcat seasons, harvest methods, or bag limits.

4) As explained in the 2016-2017 Colorado Furbearer Management Report,[11] these metrics do not exceed the management guidelines at any spatial scale (and have not since 2012). Indeed, the guidelines suggest Colorado's bobcat populations are stable and may be increasing in some areas. Colorado's bobcat season timing and length, limitations on methods of take, and the annual data collected from mandatory check of every harvested bobcat supports the management of a viable bobcat population. There is no evidence that bobcat harvest must be reduced or eliminated to sustain bobcat populations at any spatial scale in Colorado.

Citizen Petition Paragraph 10:

Bobcats should not be killed by the minority for fun or profit. Colorado's natural resources are a public trust to be preserved for present and future generations, instead of being exploited by a few. This is one of the concepts of The North American Model of Wildlife Conservation, a model that most wildlife agencies, including CPW, purport to follow. The Model also states: "The concept of a sportsman can be summarized as one who, when hunting game: • does so primarily for the pursuit or chase; • affords game a "sporting" chance (fair chase); • seeks knowledge of nature and the habits of animals; • derives no financial profit from game killed; • will inflict no unnecessary pain or suffering on game; and • will not waste any game that is killed." The current management system of bobcats in Colorado is not compatible with this Model.

Division Response:

1) Bobcat harvest in Colorado is highly regulated and sustainable. The biological data collected from hunted and trapped bobcats (which could not be obtained otherwise without significant expense) provides conservation benefits by informing management decisions. We believe "trapping and furbearer managements play an important role in modern wildlife conservation and contribute not only to sustaining furbearer populations, but healthy populations of many other species as well."[12]

[11] https://cpw.state.co.us/Documents/Hunting/SmallGame/Statistics/2016-2017_Furbearer_Report.pdf

[12] White, H.B., et al., *Trapping and furbearer management in North American wildlife conservation*, Int'l J. Envtl. Stud., Vol. 72:5, 756-69 (2015).

Citizen Petition Paragraph 14:

> *Bobcats naturally reduce rodent populations which is beneficial for the majority of Colorado residents. This helps eliminate the need for toxic rodenticides that recent literature shows are significantly and indiscriminately poisoning non-target species such as domestic pets and wildlife.*

Division Response:

1) Bobcats are one of several mammalian, avian, and reptilian predators in Colorado that eat rodents. And as explained in the most recent Colorado Furbearer Management Report, bobcat populations are stable or increasing at all spatial scales and are found in nearly all habitat types in Colorado.