



THE HUMANE SOCIETY  
OF THE UNITED STATES

# State of the Mountain Lion

A call to end the trophy  
hunting of America's lion



Front cover: A wild mountain lion in Montana. **ImageBroker/Alamy Stock Photo**



Hollywood mountain lion. National Geographic photographer Steve Winter makes this iconic image with his carefully-placed, remote camera and captures a radio collared mountain lion in Griffith Park, California. **Steve Winter**

## Abstract

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State of the Mountain Lion: A Call to End Trophy Hunting of America's Lion details the current plight of mountain lions (*Puma concolor*)—who are also commonly known as cougars, catamounts and panthers—across the United States. This report provides a valuable resource to support the long term protection and conservation of mountain lions with never-before amalgamated materials, including:

*Geographic information system (GIS) maps that identify potential suitable habitat and optimal population sizes for mountain lions, by state*

*A detailed legal review of mountain lion regulations in every U.S. state*

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The report highlights major threats to the species, including rampant trophy hunting which kills thousands of mountain lions each year in the U.S., and reports on the tens of thousands legally killed over the past three decades.

The HSUS's *State of the Mountain Lion* delves into mountain lion biology, current state-management efforts and the majority public's highly positive perceptions of this iconic species. The report dispels commonly held myths and provides valuable coexistence strategies for residents, recreationists and ranchers.

Mountain lions, once the most common large mammal in North and South America, are restricted to breeding populations in only 16 states. The report details how they are managed in those jurisdictions, which includes the West, parts of the Midwest and Florida. *State of the Mountain Lion* provides important policy recommendations for decision makers to better protect mountain lions and conserve the species for future generations.

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## Executive summary

Mountain lions (*Puma concolor*) are, for most Americans, an iconic species and a symbol of wild nature. Highly sentient and familial, a mother will spend up to 24 months raising and provisioning her kittens before they disperse to find their own home ranges. Biologists are starting to unravel how complex and interactive lion families are — within families and with other family groups.

Once distributed across the U.S., breeding populations of mountain lions exist in only a fraction of their historic range in 16 states, including in the western U.S., with small populations in the Midwest, and two contested subspecies, one in Florida (*Puma concolor coryi*), and the other on the eastern seaboard and in Canada (*Puma concolor cougar*). Even though most Americans value mountain lions, they are predominantly threatened by human-caused activity, primarily trophy hunting and habitat loss.

### State oversight of mountain lions

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though most Americans value mountain lions, they are predominantly threatened by human-caused activity, primarily trophy hunting and habitat loss.

*State of the Mountain Lion* provides a comprehensive review of the status of mountain lions in the U.S., including their natural history, current state management, population size and major threats. It presents a series of key strategies for addressing the challenges faced by these animals, leading to achievable changes that will support the conservation and protection of mountain lions now and for future generations. This is increasingly necessary now more than ever to assist wildlife managers and decision makers who may be able to better protect the species for their long-term survival.

### Trophy hunting and habitat loss are the major threats to survival

Mountain lions face persistent threats, including trophy hunting, habitat loss, poisoning and predator control.

Trophy hunting is the practice of hunting animals where the primary motivation is to display animal parts or for bragging rights but not subsistence. It typically involves collecting body parts such as heads, hides or furs, and even the whole stuffed animal and it is by far the most pervasive threat mountain lions face. Each year, trophy hunters

kill thousands of mountain lions, especially by hounding, and in some states through the use of steel-jawed leghold traps and wire snares. From 1984-2014, trophy hunters killed more than 78,000 mountain lions in the U.S.

Trophy hunting is viewed as controversial as it often goes against the public's interest in wildlife conservation. The large majority of U.S. residents are not hunters, and even fewer are trophy hunters.

### Lack of habitat threatens the species

Aside from trophy hunting, habitat loss and fragmentation is the next biggest threat to long-term survival of mountain lion populations. Mountain lions have been pushed to the far reaches of remaining wild spaces as a result of human population growth and development. This is troubling, as mountain lions and their primary prey require large habitats to survive.

The U.S. human population is expected to grow to nearly 400 million by 2050, meaning more development, resulting in increased habitat and corridor loss. Roads, in particular, are a major mortality factor for small populations of mountain lions in fragmented habitat, such as the Florida panther and isolated populations

in southern California. Roads cause other problems too. They fragment once-pristine areas, increasing vehicle-animal collisions or providing access for trophy hunters and poachers.

Not only are wildlife habitats getting smaller, they are also increasingly disconnected from one another, reducing the ability for mountain lions to disperse. This poses a major threat to the long-term survival of mountain lion and other wildlife populations that require dispersal to gain access to food, territories and mates—increasing the viability of subpopulations. The loss of safe passages between suitable habitats is threatening the long-term survival of populations across the U.S. as they become increasingly isolated.

### Predator control disrupts populations

Landowners or state or federal agents kill mammalian carnivores with the goal of protecting domestic livestock or wild ungulates (i.e., mule deer or desert bighorn sheep) from predation, or ostensibly to protect human safety.

The direct and indirect effects of trophy hunting and predator control are numerous, and involve immense suffering for the animals. This constant persecution threatens the social structure of mountain lions, their ability to recruit members to their population, and even population viability due to a lack of gene flow. Some of the most

significant effects of trophy hunting and predator control include:

- *Disrupting the social structure of a population when a resident male is killed.*
- *Subadult male influx into a population, which causes intraspecific strife on mothers and can result in infanticide on the kittens from the previous sire.*
- *Indirectly killing multiple kittens and, at times, their mothers, leaving dependent kittens to die of starvation, predation or exposure.*

### A view into potential population size

Reliable data detailing the size and trends of mountain lion populations is significantly lacking within the states where the animals reside. Understanding the size of a state's mountain lion population is essential for wildlife managers to properly conserve the species and prevent mountain lions from being over-hunted and exploited. This can lead to wildlife agencies permitting over-hunting by setting annual hunting quotas that are too high to maintain the conservation of the species. Unfortunately, dismissal of the need for accurate population estimates while permitting high levels of trophy hunting has become the norm for mountain lion management.

Current population estimates across the U.S. are often unreliable, based largely on anecdotal evidence instead of empirical data, lacking in trend analyses and are highly variable. Because mountain lions are cryptic and expensive to study, models using high-quality habitat and prey data can be substituted.

The Humane Society of the United States, with the aid of Bird's Eye GIS (geographic information system), identified for the first time potential lion habitat as well as the potential abundance of

adult mountain lions if they existed at their most suitable density (see Appendix A). The project identified potential habitat and abundance for all 16 states in which breeding populations of mountain lions exist. While not every area will have the same density, this estimate can be used as an average (for purposes of gross estimation) for all habitats in which adult mountain lions occupy a home range.

The results suggest that, in current states with breeding mountain lion populations, there is sufficient home and resources for over 43,000 adult mountain lions in the western and midwestern U.S. Additionally, habitat across Florida could support over 470 adult mountain lions (panthers).

Our estimated adult mountain lion population is generally much higher than current estimates from state agencies, suggesting that mountain lions face too-high levels of suppression due in most part to trophy hunting. Almost every state could support larger mountain lion populations at healthy densities. This report provides a state-by-state review of potential mountain lion population size as well as current regulations and recent policy changes (see Appendix B).

### Coexistence strategies

The ability for humans to coexist with large carnivores, including mountain lions, is becoming increasingly necessary as humans continue to expand into their habitat. As this occurs, we must be willing to share habitat or we risk reducing these species to small, fragmented populations that are far more susceptible to localized extinction.

The best available research shows that mountain lions pose little threat to humans, pets, livestock and wild ungulates. We must stop persecuting

lions for crossing our paths, such as by entering human communities, and work to protect their much-needed habitat and prey species so that they may be able to find and grow into healthy, wild ecosystems.

Fortunately, people can learn to prevent risks and help conserve these iconic species. Mountain lion attacks are quite rare and generally can be avoided with proper precautions and following specific steps outlined in the report.

## A call to action: Six needs for mountain lion persistence

Mountain lions must be protected and conserved as an intrinsically valuable species as well as one that holds significant benefits to humans, other wildlife and entire ecosystems. Conserving mountain lions, and the large areas of habitat they require, benefits the overall health of our country's last remaining wild spaces.

Current policies in most states where mountain lions exist allow for the intense targeting of the species, cause significant suffering of individual lions, and harm their long-term persistence on the landscape. For these animals to survive, reform is needed.

### 1 Protection from direct human interference

The actions of people threaten to destabilize lion populations across the U.S., jeopardizing the species' long-term survival. Trophy hunting, predator control and the cruel methods used to kill these animals must end and doing so will provide the most immediate benefit to long term survival.

### 2 State wildlife agency reform

Reforming state wildlife agencies has a multitude of benefits for humans and wildlife, including mountain lions. State wildlife agencies are largely funded by a small stakeholder group. Additionally, wildlife boards and commissions are overwhelmingly made up of representatives who support trophy hunting. This has led to the continued management of mountain lions for hunting opportunities despite not having support from the majority of the public. Policies that overhaul ideologies by state wildlife agencies, including individual personnel and entire institutions, as well as diversify funding sources and stakeholder representation, will better represent the public and improve management of mountain lions.

### 3 Protected species designation

State wildlife agencies should establish or maintain protected species designations for mountain lions in states where they currently do not exist or do not have an established population. Policies to designate mountain lions as a protected species in certain states across the U.S. would support reduced persecution of the species and promote the future expansion of lion populations into their historic range.

### 4 Improved habitat protection and safe passages

Ensuring mountain lion populations have access to large, contiguous habitat without the threat of human interference or development should be a priority for state lawmakers and the general public. Doing so is not only good for mountain lions; it can protect other wildlife and entire ecosystems. As a keystone species, mountain lions help regulate wildlife populations and maintain the overall health of the habitats in which they live. To conserve mountain lions, policies should focus on creating and maintaining refugia as well as safe passages that ensure habitat connectivity.

### 5 Humane mountain lion response

Far too many lions are unnecessarily killed each year by state and federal officials for entering human communities or killing pets and livestock. Potential conflicts can be easily prevented or reduced. Moreover, agencies can adopt humane policies to improve how conflicts are managed, saving the lives of mountain lions who pose little or no threat to humans, pets and livestock through these areas without harm and to avoid encounters with humans whenever possible. While conflicts with mountain lions are rare, all states should create and implement humane protocols to address conflicts, especially those states with established lion populations.

### 6 Improved public perception and engagement

Public support for mountain lion conservation is essential for the species' long-term persistence in the U.S. Support for wildlife conservation at the state and federal level requires strong public support to achieve beneficial legislative and regulatory action. While perceptions and values toward mountain lions have changed in many areas over time, negative perceptions still permeate, preventing large scale protections. Addressing myths, reducing unnecessary fear stirred by the media and providing effective coexistence tools to the public living and recreating in lion territory are essential for the species' long-term protection and conservation. Additionally, these steps can further improve human perceptions of mountain lions and, subsequently, their willingness to actively promote the species' protection. This requires reliable, influential public outreach and education that can be easily digested and implemented.

**State of the Mountain Lion can be used as a resource for policymakers, wildlife managers, advocates and the public to better protect mountain lions in their communities and across the country. Action must be taken now to ensure the long-term persistence of mountain lions in our few remaining wild spaces.**

## Sandy's story: A mountain lion on the move

“  
*America's lion deserves to thrive in our country's remaining wild places, free from threat posed by people.*  
 ”

In March 2015, biologists with the British Columbia Ministry of Forests, Lands and Natural Resource Operations were conducting research in the southeastern part of the province. They caught a young, female mountain lion and fit her with a GPS collar. The group named her Sandy and released her back into the wild so they could track her movements and study her behavior. Months later, Sandy made national news<sup>1</sup> when her movements were reported: She had travelled all the way into central Montana, some 450 miles from her original location.

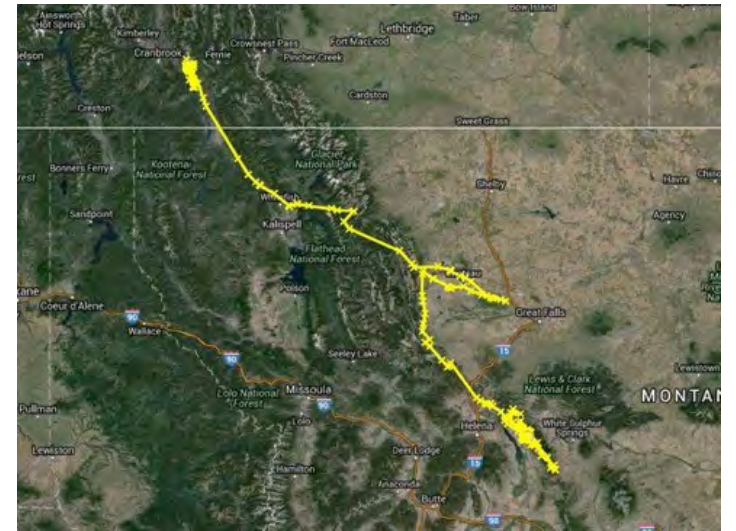
Sandy's rare journey drew great interest from biologists as well as the general public in the U.S. and Canada. While young male mountain lions must disperse from their natal areas to prevent inbreeding in a subpopulation<sup>2</sup>, it is rare for a female to travel such a distance from her home range<sup>3</sup>. Moreover, the researchers' use of GPS to track this long journey made Sandy's trek an extraordinary opportunity to better understand mountain lions. But like so

many mountain lions, Sandy's journey was cut short by a trophy hunter who shot and killed the much-revered cat. The hunter brought Sandy in for inspection by Montana Fish, Wildlife & Parks on December 14th, just days after she gained international publicity<sup>4</sup>. Media outlets referred to Sandy as “America's Cecil” in honor of the iconic African lion who was killed in Zimbabwe by an American trophy hunter just months before Sandy's death.

Though Sandy's life ended tragically and prematurely, her story provided a wealth of insight into mountain lions and what we must do to help them thrive in the U.S. The long journey Sandy took across hundreds of miles demonstrates just how connected many of North America's mountain lion populations can be. These incredible animals occupy very large territories and interact with one another at scales we are only beginning to understand. By understanding their social structure and dispersal patterns, we can more effectively protect and conserve mountain lions in the U.S. and across borders.

Sandy's story is also emblematic of a bigger issue. Overhunted as trophies throughout the majority of their range, mountain lions are constantly and overwhelmingly targeted by humans. Habitat loss and fragmentation--due to land development for housing, roads and energy resourcing--are also significantly threatening the survival of mountain lions. These threats not only directly and indirectly kill lions, they also reduce their ability to disperse to new ranges, decreasing genetic diversity. These are just some of the many ways humans are preventing mountain lion populations from being restored in their current and historic ranges.

Sandy's life and death should provide a catalyst for change. As the attitudes and values of Americans shift toward a more compassionate view of wildlife, so too must our public policies, particularly at the state level. Mountain lions should be conserved for their intrinsic and ecological value instead of killed by trophy hunters for sport and self-gratification. America's lion deserves to thrive in our country's remaining wild places, free from threat posed by people.



The yellow indicates the route Sandy took from south of Cranbrook, British Columbia to east of Helena, Montana. (Photo Credit: British Columbia Ministry of Forests, Lands and Natural Resources Operations.)



A camera trap catches a mountain lion returning to feed on an elk carcass. A mountain lion will usually drag a kill to a safe spot, conceal it with brush, and return to it to feed over the course of several days, Gros Ventre Mountains, Wyoming. **Steve Winter**

## The natural history of mountain lions in the U.S.

Mountain lions (*Puma concolor*) – also known in the U.S. as cougars, pumas, panthers and catamounts – are large felids, or cats, native to the Americas. The mountain lion, an iconic species, represents wild nature and persists on a landscape increasingly threatened by human encroachment. They have learned how to live among us after centuries of suppression by humans seeking to dominate their once-pristine habitats.

In the U.S. today, mountain lions—often referred to here as “lions”—are known to exist in only a fraction of their historic range in the Americas. While rare on the landscape, lions are able to survive in an incredibly diverse array of ecosystems and benefit many of the plants and animals that surround them through an

ecological phenomenon known as a trophic cascade, in which the presence or absence of predators results in changes in predator and prey populations through a food chain, often resulting in dramatic changes in ecosystem structure and nutrient cycling.



### The distinguished look of a mountain lion: physical characteristics

Mountain lions are the fourth largest cat in the world and the second largest native North American cat after the jaguar. The sexes look alike, though males are 30 to 40 percent larger than females. Though sizes vary greatly throughout the cats' geographic range, a typical adult male will weigh 110 to 180 pounds and an adult female 80 to 130 pounds. Exceptional individuals have exceeded 200 pounds, but this is rare. Males measure six to 9.5 feet from nose to tail tip and females 5.2 to 7.2 feet.<sup>5</sup> Mountain lions have characteristically long tails relative to their body size, serving to counter-balance their movements. In the wild, mountain lions typically live less than 12 years.<sup>6</sup> While the coloring of adult mountain lions can vary by individual, region and season, they tend to be tawny, reddish-brown, or grayish-brown in color, with creamy white accents on the chin, throat, chest and belly.<sup>7</sup> Mountain lions also have dark brown or black accents on the sides of their muzzles (almost resembling a moustache), backs of their ears and at the tip of their long tails. Kittens are born with black spots on reddish-brown to grayish-brown colored coats.<sup>8</sup> The spotting helps camouflage kittens and keep them protected from predators. The spots fade into dapples, or light brown spots, after their first nine months of age and then slowly disappear entirely, usually around two years of age when lions reach sexual maturity.<sup>9</sup>

**Where mountain lions roam: habitat & range** Mountain lions live in a wide variety of habitats such as forests, deserts and mountain ranges. Even so, they tend to prefer rough terrain with moderately dense, low vegetation.<sup>10</sup> Lions require three essential habitat characteristics:<sup>11</sup>

- Freedom from excessive human interference
- Adequate prey, including large ungulates
- Ambush or stalking cover

Mountain lions require large habitats and maintain home ranges that overlap with each other. Lions are not a densely populated species because their prey, such as deer and elk, often occur at low densities.<sup>12</sup> Lion populations decline when their prey populations decrease, or by competition from other native carnivores for limited prey.<sup>13</sup> This makes the species sensitive to both bottom-up (e.g., prey declines) and top-down (e.g., human persecution) influences.<sup>14</sup>

**Edge Zones** Mountain lions need cover to stalk and hide near open spaces to run and tackle prey. Biologists call these intersections between cover and open space “edge zones” and contend that sufficient edge zones in a mountain lion's home range may be more important than density of prey. Prairies, dense forests and wide-open spaces prove unsuitable for mountain lions to hunt.<sup>15</sup>

**Home Range** A lion's home range is a fixed area that includes necessary resources for life, such as hunting opportunities, water resources and denning sites where mother lions can rear their kittens.<sup>16</sup> Lions who occupy home ranges are referred to as “residents.” Home ranges are an important component of lion survival, supporting their ability to consistently find prey, locate mates and successfully rear young.<sup>17</sup>

Male mountain lions generally occupy larger home ranges than females. In a long-term study in the San Andres Mountains of New Mexico, researchers found that male lions averaged an annual home range of 193.4 km<sup>2</sup> (approximately 75 square miles) with a range of 59.3 - 639.6 km<sup>2</sup> (approximately 23 - 247 square miles). Females, on the other hand, averaged an annual home range of 69.9 km<sup>2</sup> (approximately 27 square miles) with a range of 13.1 - 287.4 km<sup>2</sup> (approximately five - 111 square miles).<sup>18</sup>



Top Image Yellowstone Cougar Project/National Park Service

Bottom Image Mountain Lion leaping from rock to rock. All Canada Photos/Alamy Stock Photo

Male ranges usually overlap or encompass a few female ranges but only occasionally overlap those of other resident males. Female home ranges commonly overlap each other.<sup>19</sup> Mountain lions, especially in arid habitats, require large territories to obtain their nutritional needs. Their large-bodied prey (e.g., deer or elk) are widespread and intermittently dispersed because their forage is diffuse too.

While individual lions vary in the size of their ranges, they all share the need for large spaces to call home. An estimate for mountain lion density is roughly two individuals per 100 km<sup>2</sup>.<sup>20</sup> Therefore, conserving large, connected habitats is fundamental to the long-term survival of mountain lion populations in any region.

**Historic Range:** Mountain lions were once broadly distributed throughout the Western Hemisphere.<sup>21</sup> The species once ranged from northern Canada to the tip of South America, and from the Pacific to the Atlantic.<sup>22</sup> This geographic distribution is testament to their incredible tenacity. They are able to occupy a wide variety of biomes, including boreal foothills, temperate mountains and forests, tropical rainforests, grasslands and deserts.<sup>23</sup>

European settlement into what is now the United States led to massive declines in mountain lion populations across most of their historic range. By the late 1800's, mountain lion populations in the eastern U.S. were extirpated or severely reduced as a result of widespread human persecution, declining access to habitat and a significant loss of white-tailed deer (80 Fed. Reg. at 34596). By the early 1900s, populations in the western U.S. were also seriously diminished.<sup>24</sup>

**Current range** Today, the mountain lion spans 28 countries in North, Central and South America.<sup>31</sup> In the United States, breeding populations of lions are acknowledged by agencies in 15 western states and Florida (Figure 1). This represents about half of the mountain lion's historic range.<sup>32</sup> Many other states have occasional sightings of mountain lions but these are likely independent males who can roam hundreds of miles in search of their own territory.



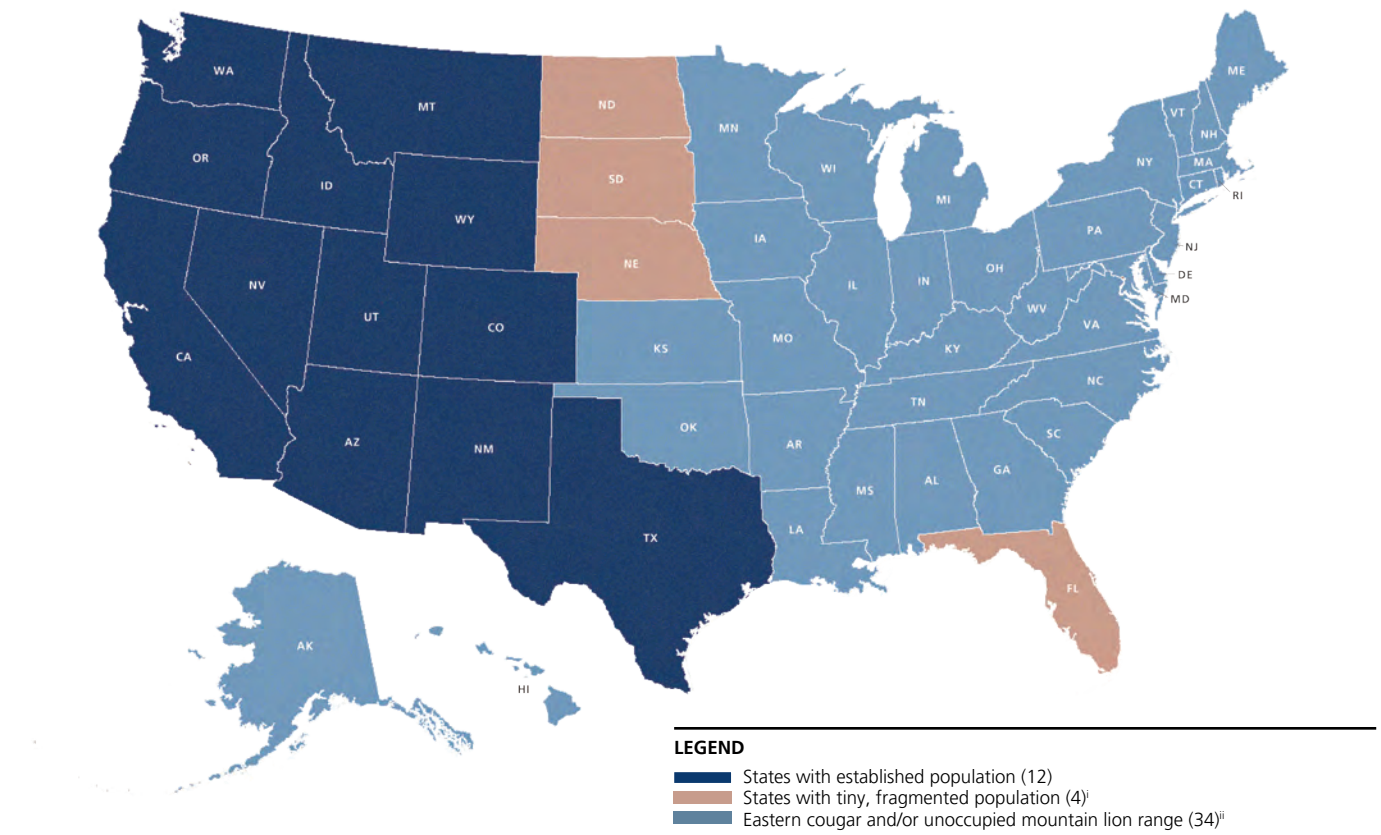
Mountain Lion standing on rock  
Moodboard/Alamy  
Stock Photo

Despite significant habitat loss and historic persecution, small numbers of mountain lions continue to persist in the eastern U.S. because the species is capable of surviving in suboptimal habitats.<sup>25</sup>

Florida is currently home to a small population of lions known as the subspecies 'Florida panther' (*Puma concolor coryi*). The Florida panther is a highly isolated population that was listed as endangered by the U.S. Fish and Wildlife Service (USFWS) under federal law in 1967.<sup>26</sup> Today, the Florida panther is considered one of the most endangered mammals in the eastern U.S., with only 120-180 individuals remaining.<sup>27</sup>

Mountain lions east of the Mississippi River (aside from the Florida panther) are referred to as the subspecies "Eastern cougar" (*Puma concolor cougar*) and were listed as endangered under the Endangered Species Act in 1973.<sup>28</sup> While Eastern cougars have suffered significant population declines and loss of range, there is evidence that pockets of Eastern cougars have persisted in the eastern U.S. and Canada and therefore are not extinct.<sup>29</sup> Yet in 2015, the USFWS proposed delisting the subspecies from the Endangered Species Act, declaring it extinct.<sup>30</sup>

FIGURE 1 U.S. mountain lion range



**Unique communities: characteristics of a mountain lion population** Mountain lion populations are characterized by potentially breeding, interacting individuals who share a defined region at a defined timeframe.<sup>33</sup> Populations are separated by areas that do not support resident lions, such as rivers or areas of human development.<sup>34</sup> Dispersing subadults will cross these areas to reach new populations, linking the groups and dispersing genetic materials.<sup>35</sup> This regional perspective of multiple, yet connected, populations is considered a "metapopulation."<sup>36</sup>

The specific characteristics of a mountain lion population, including density and age/sex structure, will inevitably vary from region to region depending on a variety of factors such as abundance of resources, levels of trophy hunt mortality and habitat quality and fragmentation. Yet extensive research has determined certain commonalities across many U.S. populations.

**Mountain lion populations are self-regulating** Mountain lions depend on access to adequate resources for survival and reproduction. While the species is able to rely on a variety of prey species and habitat types, they still require extensive space to meet their needs and reduce conflicts with humans as well as other lions. Like other large-bodied carnivores, mountain lions are self-regulating, or self-limiting, meaning that lions regulate their own numbers through a series of behavioral traits (e.g., producing few offspring and offering extended parental care and intra-specific competition) and land-tenure systems that place an upper limit on population densities.<sup>37</sup>

Mountain lions are able to regulate their own numbers, supporting sufficient access to resources by preventing overpopulation while maintaining their social structure and the ability to breed with one another.<sup>38</sup> An abundance or lack of mountain lions on a landscape, typically caused by trophy hunting and loss of habitat and fragmentation, can harm this ability to self-regulate and threatens the stability of a region's metapopulation.

**Mountain lion population age and sex structure** The age and sex of a mountain lion influences its survival, reproductive capacity, social status and its capacity for reproduction.<sup>39</sup> The proportion of male to female mountain lions varies between populations but is most commonly 1:2 or 1:3 adult males to adult females.<sup>40</sup> Adult resident males will often mate with more than one female. Adults keep stability in a mountain lion society, without them, social chaos ensues.

While the age structure of a lion population can also vary widely, a healthy population will include more adult lions than any other age group because of high mortality rates of subadults and kittens. A long-term study from the San Andres Mountains region in New Mexico found that, on average, the mountain lion population is composed of 61 percent adults (have bred or are 24 months or older for males, 21 months or older for females), six percent subadults (independent but have not bred) and 33 percent kittens (still dependent on their mothers).<sup>41</sup>

i. Florida panthers (*Puma concolor coryi*), endangered subspecies, face threats to persistence; no hunting allowed.

ii. Studies confirm that endangered Eastern cougars (*Puma concolor cougar*) continue to persist in the East and Canada.



### A carnivorous diet: prey types & hunting methods

**Prey Types** Mountain lions are considered “obligate carnivores;” that is, they solely eat meat, unlike omnivores or “facultative” carnivores such as coyotes and bears, which eat varying amounts of plant-based foods. Additionally, male and female lions select different prey depending on season and the lion’s body size.<sup>42</sup> In most habitats, deer are mountain lions’ primary prey.<sup>43</sup> Mountain lions will commonly prey on other ungulates such as elk, moose and bighorn sheep, as well as smaller mammals such as rabbits, porcupines and skunks.<sup>44</sup> Mountain lions tend to prey on the most abundant species, likely contributing to their adaptability and capacity to survive in a variety of ecosystems.<sup>45</sup> However, in areas where human development has encroached onto lion habitat, this has also caused conflict. On occasion, mountain lions have been known to prey on livestock,<sup>46</sup> domestic horses, dogs and cats.<sup>47</sup>

Females will also shift to rarer prey as a result of an influx of subadult males<sup>48</sup> in an area. When a dominant male lion is removed from an area, such as through trophy hunting, subadult males will immigrate, or move into, that area, often causing an increase in the local lion population.<sup>49</sup> Females with kittens avoid subadult males, who may kill kittens fathered by another male. In some regions of the U.S., females will do so by moving to higher elevations and switching from abundant, primary prey in lower elevations to rare, sensitive and threatened secondary prey at higher elevations, such as bighorn sheep.<sup>50</sup>

**Built to hunt** Mountain lions are known for their remarkable physical abilities, are capable of reaching sprinting speeds of 50 mph and leaping up to 40 feet. Lions are considered “ambush predators” because they stalk and ambush their prey, unlike wolves or coyotes who are “coursing” predators, running long distances on open terrain.<sup>51</sup> Mountain lions have webbed skin and fur between their toes to muffle walking sounds. During their normal walking gait, their claws are retracted, but the claws are extended for acceleration and used for traction and to seize prey.<sup>52</sup>

Ambush predators like domestic cats, mountain lions, lynx and bobcats have relatively small lung capacity. As a result, they sprint shorter distances but have far greater prey-capture success rates than do wolves or coyotes, the “coursing” carnivores.<sup>53</sup> Mountain lions typically attack their prey at the shoulders, neck, or face and kill bites are often located on the throat or nape of the neck.<sup>54</sup>

Felids (cats) have other advantages over canids (dogs): they use their claws both to climb trees and grapple prey.<sup>55</sup> Felids have relatively longer canines than the canids.<sup>56</sup> In comparison, canids kill using only their jaws and teeth; thus their head size is large compared to their body size.<sup>57</sup> On the other hand, a mountain lion has a more compact skull and can deliver a greater bite force than a similarly sized dog and thus they require less muscle mass to produce the same bite force.

**The Cache** Mountain lions carry their prey to secure locations. When they have eaten their fill, they “cache,” or hide, the uneaten portions of the prey with snow, leaves, twigs, or other vegetation both to prevent spoilage and deter scavengers.<sup>58</sup> Lions will repeatedly return to the cache and feed on a single kill for days, depending on the size of the prey.<sup>59</sup>

for up to nine months and even beyond. In new research, biologists suggest that kittens up to 12 months of age are probably incapable of dispatching prey animals on their own.<sup>65</sup>

When kittens get older and are self-sufficient, typically between 12 and 24 months of age, they become independent and are considered “subadults.” It is during this life stage that mountain lions disperse from their natal areas (where they were born and raised) and attempt to find a new home range.<sup>66</sup>

Dispersal plays a significant role in the population dynamics of mountain lions, enabling juveniles to immigrate to new territories occupied by different populations.<sup>67</sup> This “recruitment” into a new population increases genetic diversity and enables a population to remain stable or grow.<sup>68</sup> Dispersal also has the benefit of reducing resource competition between lions as young lions move into new territories not currently occupied by other individuals.<sup>69</sup>

Almost all male offspring and 20 to 50 percent of female offspring disperse.<sup>70</sup> Females rarely disperse long distances.<sup>71</sup> Females who don’t disperse are “philopatric” meaning that they establish home ranges that overlap with or are adjacent to their natal areas.<sup>72</sup> Researchers believe these non-dispersing females prefer to remain in an area with which they are already familiar, including the habitat’s natural resources and their social ties with surrounding females.<sup>73</sup> Dispersal distance varies for each individual, but males generally range from 23 to 276 km, whereas females generally range from nine to 140 km.<sup>74</sup>

The dispersal period is a tumultuous stage for subadult lions and often results in death for these individuals. During this time, mountain lions are exposed to new, unknown areas and dangers; they have low survival rates.<sup>75</sup> They often perish from anthropogenic causes such as trophy hunting or vehicle collisions. They also suffer from intraspecific strife, or conflict with other mountain lions, typically from older male lions killing interlopers who immigrate into their territories.<sup>76</sup> Dispersing lions are also often killed by wildlife officers when the animals enter the boundaries of a human community. While some states now employ strategies to haze away or even remove and relocate these young lions out of harm’s way, most states still kill the individuals.

**The intrinsic and ecological value of mountain lions** The major threats to mountain lions’ persistence come from human causes; as such, we must endeavor to do more to support their long-term conservation. But this often leads to conflicting views as to why, and how, we must conserve the species. These views are rooted in how humans value wildlife and nature as a whole. Mountain lions hold extrinsic value: they provide benefits to humans, other wildlife and even entire ecosystems. Yet, like all wildlife, they also hold intrinsic value: they have value in their own right, aside from the benefits they provide, or instrumental value, to others.<sup>77</sup> The idea that wildlife possess intrinsic value is widely supported by the broader public, signifying the need for current wildlife conservation strategies to incorporate intrinsic value as a foundation for action.<sup>78</sup>

In addition to intrinsic value, mountain lions hold great ecological value.<sup>79</sup> Mountain lions are vital to their ecosystems and provide a variety of benefits to other wildlife either directly or indirectly. Their protection and conservation has ripple effects throughout their natural communities. In Zion National Park, researchers found that by modulating deer populations, mountain lions prevented overgrazing near fragile riparian<sup>80</sup> systems. The result was more cottonwoods, rushes, cattails, wildflowers, amphibians, lizards and butterflies, as well as deeper, but narrower stream channels.<sup>81</sup> They carrion left from lion kills feeds scavengers such as bears and raptors, enhancing biological diversity.<sup>82</sup> Mountain lions, as with most large carnivores, are also considered a keystone species because they

help drive the ecosystems in which they live.<sup>83</sup> As a large predator, mountain lions regulate many of the other species in their communities, including herbivores, who then regulate the plant community.<sup>84</sup>

Wildlife managers and biologists consider mountain lions to be an ‘umbrella’ species – by protecting lions and their large habitat, a wide array of additional plants and animals in this habitat will also be protected.<sup>85</sup>

Mountain lions can also help maintain the health and viability of ungulate populations by preying on sick individuals, reducing the spread of disease. For example, a study in Rocky Mountain National Park, researchers found lions preyed on mule deer infected with chronic wasting disease.<sup>86</sup>

Predation on deer by mountain lions can also provide significant socioeconomic benefits to humans. Recent research has shown that, in South Dakota, mountain lions reduced vehicle collisions with deer by nine percent between 2008 and 2012, preventing an estimated 158 collisions and saving residents approximately \$1.1 million annually in counties with established mountain lion populations.<sup>87</sup> Moreover, if lion populations were restored in eastern states, it could result in more than 700,000 fewer vehicle collisions with deer over a 30-year period, leading to 21,400 fewer injuries and 155 fewer deaths and a savings of more than \$2 billion.<sup>88</sup>

The removal of mountain lions initiates changes in ecosystem structure and often loss of biodiversity. However, conserving mountain lions and the large areas of habitat they require benefits a variety of plants and animals and maintains the overall health of our country’s remaining wild spaces. Additionally, lions’ presence on our landscape can help maintain sustainable, healthy deer populations and significantly reduce human injuries and deaths caused by vehicle collisions with deer.

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A four-month old kitten sits atop her elk dinner. As the sole survivor of a wolf attack that killed her two siblings, local the biologists studying her named her *Lucky*. **Steve Winter**

**The dependent kitten: rearing of young** Female mountain lions spend 44-83 percent of their lifetime raising kittens.<sup>60</sup> A female mountain lion is not sexually mature until she is between 27 and 29 months old.<sup>61</sup> They produce few kittens, giving birth to approximately three kittens every two years.<sup>62</sup> While mountain lions can give birth year round, their peak birthing season is in summer to early fall, peaking in July, August and September.<sup>63</sup> Kittens are born very small, with their ears and eyes closed and are barely able to move.<sup>64</sup> They are totally reliant upon their mother until they are at least six months old, but they may be wholly dependent

## State management of mountain lions

Wildlife agencies are the gatekeepers of how nearly all mountain lions are managed in the United States, with the USFWS managing recovery of subspecies protected under the Endangered Species Act. Their decisions shape species population and viability, including whether or not to end, open, or expand trophy hunting. Unfortunately most states rely on a management system that often prioritizes a trophy hunting minority over a general public that has become increasingly opposed to the trophy hunting of lions.

**History of mountain lion management** By the early 20th century in the United States, mountain lions and other large native carnivores, such as wolves and grizzly bears, were largely eliminated from their historic ranges because of a federal government program aimed at their extermination (overseen by the “USDA-Wildlife Services”),<sup>89</sup> legal bounties issued by state and local governments and unregulated killing by the general public.<sup>90</sup>



Mountain Lion on a mountainside in Winter  
Vince Burton / Alamy Stock Photo

Next page Mountain lion and reflections, near Sandstone, Minnesota  
Terry Allen / Alamy Stock Photo

As a result, mountain lions largely disappeared from the U.S. except in parts of the intermountain West, Texas, Florida and portions of the East.<sup>91</sup> Not until the 1930s and 1940s did biologists begin to uncover the importance of top carnivores in ecosystems and start to shift people’s thinking about them.<sup>92</sup> By the 1950s and 1960s, both the scientific community and the public began to change their attitudes toward native carnivores.<sup>93</sup>

Starting in the mid-1960s and by the early 1970s, western states finally ended their bounties on mountain lions and changed their status from “varmint” to “big game” mammal in most states where they reside. They then restricted mountain lion hunting for the first time, with the exception of Texas, where lions are, to this day, not afforded any protections from hunters or trappers and where even the killing of spotted kittens is still permitted.

During the 1980s, however, state agencies began allowing higher levels of trophy hunting, likely as a result of perceived needs to manage mountain lion populations and the reliance on hunting fees to pay for state agency costs. By the early 1990’s, the trophy hunting of mountain lions had increased radically across the West.<sup>94</sup> The current data show that levels of mountain lion persecution from trophy hunters are at an all-time high (Figure 4). Record numbers of mountain lions have been killed in the U.S. just in the past decade.<sup>95</sup> Recorded sport hunter kills from recent decades far exceed the number of mountain lions killed during most states’ bounty eras.<sup>96</sup>

Today, mountain lions are primarily managed for trophy hunting in most states where the species still exist. Despite public sentiment<sup>97</sup> and an increasing number of biologists decrying the level of persecution of large-bodied carnivores,<sup>98</sup> most state management focuses on maximizing trophy hunting opportunities.

**Contemporary state wildlife management** In the U.S. and a variety of former British colonies, wildlife are considered public trust assets.<sup>99</sup> In legal terms, wildlife are owned by no person, but rather, held in trust by governments for the benefit of present and future generations,<sup>100</sup> a concept that underlies contemporary state wildlife management. The public trust doctrine can be traced back to the 13th Century Magna Carta in England and was recognized by the U.S. Supreme Court in a 1842 ruling (*Martin v. Waddell*, 41 U.S. 367). There have been numerous efforts since then to expand the doctrine from land protection to wildlife protection.<sup>101</sup> The public trust doctrine provides a foundation for state and federal governments to protect, conserve, allocate and control wildlife for the benefit of the public.<sup>102</sup>

Governments in every U.S. state manage wildlife through the formal establishment of administrative agencies. These agencies typically consist of two major components: a department (or division), comprised of professionally-trained scientists, managers and program administrators and a commission (or board). Wildlife commissions/boards have decision making authority over the rules and regulations governing the conservation, management and “harvest” of wild animals,<sup>103</sup> and are typically comprised of political appointees—appointed by state governors with confirmation from a state legislative body. These unelected officials frequently lack the scientific knowledge needed to inform the development of policy alternatives, and may be biased toward particular interests (e.g., hunting and agriculture).<sup>104</sup>

Indeed, contrary to the tenets of the public trust doctrine, many state wildlife agencies are politically and financially deferential to a limited



group of stakeholders—typically hunters, trappers, anglers and agricultural interests.<sup>105</sup> Wildlife commissions often defer to recommendations from hunting and agribusiness stakeholders, leading to biased decisions that favor the interests of these groups<sup>106</sup> over other wildlife stakeholders, such as national park visitors and wildlife watchers.<sup>107</sup> Moreover, some states require some portion of commissioners to come from certain interest groups (e.g., hunting, fishing, or agriculture) or empower these groups in other ways. For example, in Arizona, representatives of hunting and ranching interests (called the Commission Appointment Recommendation Board) nominate candidates and the governor must choose only from those nominees.<sup>108</sup>

The commission bias has become increasingly problematic for wildlife agencies as societal attitudes and values have shifted away from traditional “utilitarian” concerns toward greater concern for the welfare of wildlife.<sup>109</sup> The majority of commissions, however, are still dedicated to managing lions and other large carnivores for trophy hunting and predator control—even as wildlife watchers, park visitor numbers and recreational wildlife dollars overtake numbers of hunters.<sup>110</sup>

**Mountain lion management goals** Each state with mountain lion populations varies in its mountain lion management goals and methods (Table 2). Management goals, as outlined by state wildlife agency mission statements, vary in their rationale for protecting and conserving wildlife. While some states focus on protecting wildlife for their multiple benefits, others view their goal as managing wildlife solely for human use. Still, most states share central commonalities, including the tendency to manage primarily for trophy hunting and predator control objectives.

**Management for trophy hunting** States, and even different management units within a single state, vary their management of mountain lion hunting practices, specifically in how many lions can be killed and at what time of the year. The most common management techniques are the setting of hunting quotas and seasons.

“Hunting quota” refers to a set limit on the number of animals who can be trophy hunted in a year or hunting season. Quotas usually differ by management unit and may include a sub-quota for females, such as 50 percent of the overall quota, to prevent severe population decline and reduce the chance of killing a mother with dependent kittens. Wildlife agencies typically close mountain lion hunting in a management unit if the area’s hunting quota has been met. Studies show that hunting quotas should not exceed the intrinsic growth rate of the population in order to prevent overhunting.<sup>111</sup>

Few wildlife agencies work toward this goal, however. Most have much higher quotas or no reliable population estimates from which to base sustainable quotas. Many states use mortality data—or how many lions were killed in previous years—and mountain lion sightings to determine quotas, which are unreliable methods for counting a lion population.<sup>112</sup> Such data merely represent the number of encounters with humans and may vary based on human activity. For example, an increase in development or trophy hunters in lion territory could influence the estimated size of a lion population. States also use perceived threats to livestock or ungulate populations, or the potential for negative human interactions as a metric to establish hunting quotas. Again, these measures are often subjective and contrary to the best available science. Additionally, some states, such as Arizona and Texas, do not establish lion hunting quotas at all, or set quotas at unreasonably high levels, even for tiny populations such as those in North Dakota and South Dakota.



*Image above* A dead mountain lion, shot on the last day of the hunting season, hangs in a cooler at the South Dakota Game, Fish, and Parks office. The hunter claimed it was killing the wild turkeys on his property. **Steve Winter**

*Image below* For some, mountain lions are prized trophies. Lion hunters admire the taxidermist’s lion mount, Black Hills, South Dakota. **Steve Winter**

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quotas at all.  
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Mountain lion kitten stands on a rock, Monument Valley, Arizona-Utah border. **J&C Sohns / Alamy Stock Photo**

(See Table 2 for a breakdown of hunting quotas by state and Appendix D for a breakdown of estimate lion population size by state.)

States vary in times of year when they allow the trophy hunting of mountain lions. Some states, such as Arizona, permit year-round hunting of lions. All states with lion hunting permit the practice in winter months, so that trophy hunters are able to track lions in the snow. Hunters are better able to pursue lions in the snow because tracks retain smell, which can be traced by hounds far better than on dry ground. Seasons typically end in spring in order to reduce potential disturbance to wild ungulates who hit their peak birthing periods during this time.<sup>113</sup>

Some states do not allow trophy hunting of mountain lions during the peak birthing period in summer and fall. However, lions give birth year-round, so it is still likely that females with dependent kittens will be killed.<sup>114</sup> In response, some states have taken steps to help hunters identify females and avoid killing them if possible. Colorado, New Mexico, Montana and Utah have instituted mandatory hunter education courses, which include information on how to identify and avoid killing female lions, for anyone interested in buying a hunting license.<sup>115</sup> See Appendix B for a state-by-state review of state management for trophy hunting.

**Managing mountain lions to reduce conflicts** In addition to trophy hunting, mountain lions are managed by state wildlife agencies with the intention of reducing conflicts with people, pets and livestock. In all states where mountain lions exist, individuals who feel threatened by a lion or who consider their pets or livestock in danger, may destroy the

“offending” lion, or ranchers and state agencies may call upon the U.S. Department of Agriculture’s Wildlife Services to kill them—even on federal public lands such as on national forests, designated wilderness areas and Bureau of Land Management lands.

While attacks on humans are quite rare, mountain lions preying upon pets is common, especially as new housing developments increasingly encroach on lion habitat.<sup>116</sup> Providing pet owners with information on how to protect their pets is of the utmost importance in reducing this conflict.

Most mountain lion “depredation permits” are issued in response to the killing of domestic sheep and in areas where livestock are raised next to or within mountain lion habitat.<sup>117</sup> Similar to attacks on pets, the best approach in reducing this conflict is to provide ranchers with information regarding domestic animal protection. (See Appendix E for a comprehensive overview of depredation laws by state.)

**Managing mountain lions to “protect” wild ungulate herds** Almost all states claim to manage mountain lions to reduce their perceived threats to ungulates, particularly species popular among hunters such as deer, elk and bighorn sheep. For example, in Colorado, Nevada and New Mexico, department employees, Wildlife Services and contracted hunters and trappers will remove lions from areas where they may be preying on game populations such as mule deer and bighorn sheep.<sup>118</sup>

This is often done with the intention of reducing lion predation and boosting game species populations for increased human hunting

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recreation. For example, in Arizona and New Mexico, lions are lethally removed from areas prior to the introduction or transplant of certain game species such as bighorn sheep.<sup>119</sup> New Mexico’s program to kill its mountain lions to enhance bighorn sheep has been met with ethical condemnation in scientific publications, including one titled: “Lions versus Lambs”<sup>120</sup> as well as legal challenge. Despite these admonitions, the agency continues with its controversial practice, irrespective of the growing literature that suggests the futility of such extreme measures.<sup>121</sup>

The notion that killing predators will increase ungulate herds discounts the best available science.<sup>122</sup> Indeed, Nevada, a state that heavily funds predator control to bolster its mule deer herd, includes on its website a “fun fact” that, contrary to popular belief, lion predation may actually improve the health of prey populations.<sup>123</sup> Utah’s 2015 management plan asserts that numerous studies have shown predation alone will not affect population growth in prey species.<sup>124</sup> Yet both of these states still engage in predator-control activities with the rationale that lions limit prey populations.

**Agency funding sources** Perhaps the largest barrier to improving our state wildlife agencies is funding. Wildlife management at the state level is primarily funded by hunters, trappers, anglers and gun owners through license sales and other fees.<sup>125</sup> For example, North Dakota’s entire budget for wildlife management<sup>126</sup> and 80 percent of Wyoming’s budget for wildlife management<sup>127</sup> come from hunting and fishing license sales and taxes. Other common sources include park user fees, private donations, grants, leasing of public land for grazing and the Pittman-Robertson or Federal Aid in Wildlife Restoration Act. This federal law placed an excise tax on the sale of firearms, ammunition products and archery equipment. The funds generated from this tax are allocated to state wildlife agencies for conservation efforts, hunter education and the construction, operation and maintenance of public target ranges. Each year, states receive millions of dollars in Pittman-Robertson funds. In 2016, the USFWS granted nearly \$700 million to states for wildlife restoration from Pittman-Robertson funds.<sup>128</sup>

Indeed, the limited sources of funding for wildlife management have tainted the essential distinction between public interest and special interest, eroding scientific credibility and the public trust.<sup>129</sup> Wildlife agencies primarily funded through hunting opportunities will inevitably be under pressure to appease trophy hunting stakeholders with increased hunting opportunities and lax regulations. For example, increased mountain lion hunting quotas, extended seasons, night hunting and other management proposals frequently appear on the agenda for state wildlife commissions. Under such a paradigm, the values and interests of non-consumptive stakeholders can have little influence over state management of mountain lions or other wildlife.

Fortunately, efforts to diversify funding sources for wildlife agencies are growing. Ballot measures and legislative efforts have successfully introduced new funding sources for some wildlife agencies, including conservation funds, wildlife license plates and tax check-off programs where individuals can donate some of their tax refund to wildlife management. These efforts show that the public is willing to contribute to nonconsumptive wildlife programs. Oregon recently passed House Bill 2402, which creates a task force to find alternative funding sources for fish and wildlife management.<sup>130</sup>

Because of an overall decline in hunting and fishing participation across the U.S. in recent decades, wildlife agencies must identify new sources of funding in order to stay afloat. Moreover, agencies must look to diversify the stakeholders they represent and reevaluate their priorities in order to obtain new funding sources and greater public support.



## The state of mountain lion populations in the U.S.

Reliable data detailing the size and trends of mountain lion populations is significantly lacking within the states where mountain lions reside. Understanding the size of a state's mountain lion population is essential for wildlife managers to properly conserve the species and prevent mountain lions from being over-hunted and exploited. Unreliable data can lead to wildlife agencies permitting the over-hunting of mountain lions by setting annual hunting quotas that are too high to maintain the conservation of the species. Unfortunately, dismissing the need for accurate population estimates while permitting high levels of trophy hunting has become the norm for mountain lion management.



Mountain lion in winter near Glacier National Park, Montana Jim Zuckerman/Alamy Stock Photo

Typically, state wildlife agencies estimate mountain lion populations by tracking mountain lion sightings, depredation events and trophy-hunter kill levels.<sup>131</sup> These are not reliable means of determining a population size or trend because they merely represent the number of encounters with humans and may vary based on human activity.<sup>132</sup> An increase in development or trophy hunting in lion territory could improperly influence population size and trend estimates.

While most states use unreliable methods for estimating mountain lion populations, a number of states do not invest any resources into determining population size. Colorado and Wyoming rely on trends from trophy hunter kill numbers to determine if the lion population is increasing, decreasing, or stable. Colorado has a population estimate but it was published more than a decade ago, and despite the state's own ten-year mountain lion study on the Uncompahgre Plateau at the cost of over \$2.5 million, the wildlife agency's top officials are ignoring its own biologists' science. Likewise, the statewide population estimates from Arizona and California are ancient history. Texas and North Dakota currently do not have any indicator of population size or trend. (See Table 1 and Appendix D for lion population estimates by state.)

The most reliable method to census a mountain lion population involves long-term field studies where animals are captured, marked (e.g., radio collaring) and recaptured (e.g., satellite data).<sup>133</sup> These studies should be coupled with reliable mountain lion habitat suitability studies to determine where lions currently live or could live in the future as well as the quality of their habitat.

**Potential mountain lion population estimates** The Humane Society of the United States, with the aid of Bird's Eye GIS,<sup>134</sup> identified potential lion habitat as well as the potential optimal abundance of mountain lions for a number of states.

**Potential habitat** Bird's Eye GIS identified suitable habitat for mountain lions in all 16 states in which breeding populations have been identified (Figure 2; Appendix D; Appendix A). The potential habitat is based upon the following key habitat criteria:

- Presence of large ungulate prey including deer, elk and bighorn sheep
- Physical ruggedness of the terrain for stalking cover and den sites
- Areas with low road densities and low human disturbance

Using these criteria as well as others (see Appendix A for a more precise methodological discussion), Bird's Eye View GIS detected where potential habitat existed within each mountain lion state (see Figure 2; Table 1). The habitat was broken into five categories: non-habitat (no lions), marginal (very few lions), average (some lions can occupy as home range), good (many lions can occupy as home range, can support a breeding population) and optimum (ideal habitat for home range, can support the most lions).

While the data do not necessarily show where lions currently are, they can tell us where lions could be, now and in the future. This information can inform mountain lion management decisions by helping state agencies better identify habitat that should be protected from development and fragmentation.

**Potential population size** Identifying potential habitat allows managers to estimate potential population size of mountain lions. Currently, most population estimates by states are unreliable and only identify mountain lion populations that are faced with intense pressure. As we

have explored throughout this report, threats such as from trophy hunting and habitat loss and fragmentation suppress lion populations across the U.S. at rates that far exceed what is found in nature. This suppression likely prevents mountain lion populations from growing naturally and sustainably through self-regulation. As a result, researchers have little understanding of what mountain lion population estimates would be if lions were able to live at a natural density and across all potential habitats.

To identify potential mountain lion population estimates in the states with breeding populations, we use our habitat data and the density estimate of 1.7 adult mountain lions per 100 km<sup>2</sup>.<sup>135</sup> This density estimate considers the resources necessary to sustain mountain lions as well as their social structure. While not every area will have the same density, this estimate can be used as an average (for purposes of gross estimation) for all habitats in which adult mountain lions occupy a home range.

The resulting estimates provide an approximate number of adult lions who could exist on the landscape at sustainable levels. While it is impossible to be precise, our potential mountain lion habitat data (Figure 2; Appendix D) suggest that, in current states with breeding mountain lion populations, there is sufficient

home and resources for approximately 43,078 adult mountain lions in the Western and Midwestern U.S. (Table 1). Additionally, habitat across Florida could support approximately 472 adult panthers.

**Comparing population estimates** Our potential adult mountain lion population estimates are generally much higher than current estimates from state agencies, suggesting that current state management practices, primarily permitting trophy hunting, are suppressing lion populations (Table 1). It is important to note that most current state population estimates include mountain lions of all ages. Yet kittens and subadults can experience significant levels of mortality—both naturally and indirectly from human suppression. Based on Logan and Swenor’s (2001) age structure of 61 percent adults,<sup>136</sup> 10 percent subadults and 33 percent kittens for a population, we estimated optimal populations based on habitat and food availability to mountain lions. Using this age structure, we were able to compare our potential population estimates with current state estimates for adults only (Table 1, Appendix D).

**States need reliable mountain lion population estimates** The best available science suggests that wildlife managers must have reliable population estimates for mountain lions before they set any

type of hunting season for the species. Based on over a decade of study, Washington biologists recommended that hunting quotas not exceed 14 percent of the population of resident adult mountain lions.<sup>137</sup> Similarly, a ten-year study by Colorado Parks and Wildlife found that hunting quotas should not exceed eight percent to 12 percent of a population,<sup>138</sup> whereas a study in Montana suggested no more than a 12 percent hunting quota.<sup>139</sup>

States routinely permit much higher levels of killing by trophy hunters. Colorado, ignoring its own long-term study of the effects of trophy hunting on a mountain lion population, permits trophy hunters to kill up to 28 percent of the population in some management units.<sup>140</sup> While Utah’s mountain lion population has been studied for multiple decades,<sup>141</sup> in 2015, the state approved a management plan permitting 20 to 30 percent offtake of its estimated entire statewide lion population in contravention to biologists’ suggestion to use a more “conservative” approach.<sup>142</sup> In 2016, Utah proposed to increase offtake even more, including some units with unlimited trophy hunting. In 2015, South Dakota Game, Fish & Parks suggested that over 32 percent of the entire population could be hunted. These examples show that hunting levels far exceed the eight to 14 percent recommended by three long-term studies of trophy hunting of mountain lions in various regions of the West and Midwest.

**TABLE 1** Potential statewide habitat and population size

State	Potential Habitat Acreage <sup>i</sup>	Potential Habitat km <sup>2</sup>	Potential Adult Population Estimate (1.7 lions/100km <sup>2</sup> ) <sup>ii</sup>	State Agency Population Estimate	State Agency Population for Adults Only (61% of total stated population) <sup>iii</sup>
Arizona	50,693,433	205,149	3,488	2,500-3,000	1525-1830
California	58,099,801	235,121	3,997	4,000-6,000	2,440-3,660
Colorado	42,259,738	171,019	2,907	3,500-4,500	2,135-2,745
Florida	6,860,481	27,763	472	100-180 <sup>v</sup>	91-164
Idaho	39,498,232	159,843	2,717	2,000-3,000	1,220-1,830
Montana	68,918,239	278,902	4,741	2,784-5,156	1,698-3,145
Nebraska	11,014,445	44,574	758	22-33 <sup>v</sup>	13-20
Nevada	34,693,392	140,399	2,387	1,100-1,500 <sup>vi</sup>	1,100-1,500
New Mexico	51,256,837	207,429	3,526	3,123-4,269	1,905-2,604
North Dakota	8,872,915	35,907	610	No estimate	No estimate
Oregon	50,903,266	205,998	3,502	6,200	3,782
South Dakota	14,144,256	57,240	973	185 <sup>vii</sup>	185
Texas	91,088,037	368,620	6,267	No estimate	No estimate
Utah	28,874,486	116,850	1,986	2,528-3,926	1,542-2,395
Washington	27,714,797	112,157	1,907	1,849 <sup>viii</sup>	1,849
Wyoming	48,137,002	194,803	3,312	No estimate	No estimate
<b>Total</b>	<b>626,168,876</b>	<b>2,534,011</b>	<b>43,078</b>		

i. Population estimates only included average, good and optimum habitat. Few if any lions are found in non-habitat and marginal habitat and are typically dispersing subadults, not resident adults.

ii. Based upon Beausoleil et al. (2013) and Quigley & Hornocker (2009).

iii. Based upon Logan & Swenor (2001).

iv. USFWS Florida panther estimate includes adults and subadults only.

v. Nebraska Game and Parks estimate is for the Pine Ridge region only; there is currently no estimate for resident populations in the Niobrara Valley and Wildcat Hills.

vi. Nevada Department of Wildlife mountain lion population estimate is for adult lions only.

vii. South Dakota Department of Game, Fish & Parks mountain lion population estimate is for adults only. The current estimate for all age groups is 245 individuals.

viii. Washington Department of Fish & Wildlife mountain lion population estimate is for adults only.

**FIGURE 2:** Potential mountain lion habitat in the west

# Potential mountain lion habitat



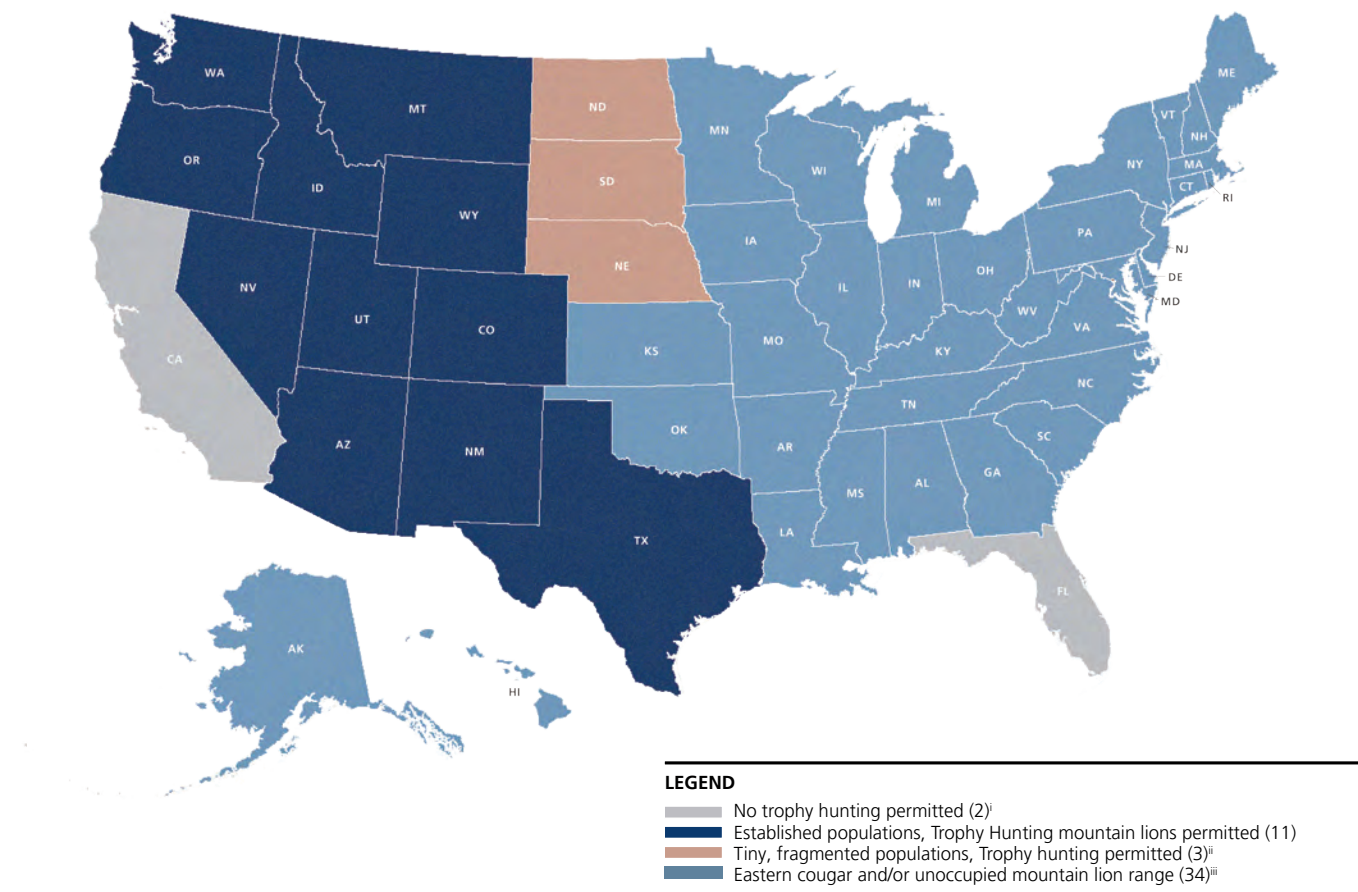
# Trophy hunting and other threats to the species' survival

Mountains lions face various threats to their survival, such as poisoning, disease, vehicle collisions and starvation. However, the species is overwhelmingly threatened by two major human-caused factors: trophy hunting and habitat loss.<sup>143</sup>

**Trophy hunting as history shows** Trophy hunting of mountain lions can threaten their very survival. Trophy hunting is the practice of hunting animals where the primary motivation is to display animal parts, but not for subsistence. Trophy hunters typically display heads, hides or claws and even the whole animal. The effect of trophy hunting is “super additive” meaning that hunting

pressures on lions add to natural mortality, causing total mortality to far exceed what would occur in nature.<sup>144</sup> Regardless, humans continue to exploit the species for their own benefit—mainly through trophy hunting—in most of the states still inhabited by mountain lions, excluding eastern states with possible but unidentified populations (Figure 3, Table 2).

**FIGURE 3** Mountain lion trophy hunting states



**TABLE 2** Trophy hunting regulations by state

STATE	Current Species Status; Year Regulated Hunting Commenced	Permitted Manner of Take				2015 Hunting Quota	Bag Limit <sup>i</sup>	Time to Report Kill	Season Length
		HOUNDING	ARTIFICIAL LIGHTS	ARTIFICIAL CALLS	TRAPPING				
AZ	Game Mammals & Big Game; 1970	■	■	■	■	No quota	1; multiple in some units	2 days	Year-round
CA	Specially Protected Mammal; 1969-1990	☒	☒	☒	☒	N/A	N/A	N/A	N/A
CO	Big Game; 1965	■	■	■	■	665	1	2 days	5.5 Months
FL	Endangered; 1973	☒	☒	☒	☒	N/A	N/A	N/A	N/A
ID	Big Game Animal; 1972	■	■	■	■	No Quota	1/tag; <2	10 days, 5 in some units	~7 Months
MT	Game Animal & Large Predator; 1962	■	■	■	■	687, Unlimited in some units	1	12 hrs	7.5 Months
NE	Game Animal; 2014-2015 <sup>iv</sup>	■	■	■	■	N/A	1	24 hrs	N/A
NV	Big Game Mammal; 1965	■	■	■	■	245	1/tag; <2	3 days	Year-round
NM	Game Mammal & Big Game; 1971	■	■	■	■	749	<4	5 days	Year-Round
ND	Furbearer; 2005	■	■	■	■	Zone 1: 21, Zone 2: unlimited	1	12 hrs	~7 Months
OR	Game Mammal; 1967	■ <sup>v</sup>	■	■	■	970	1/tag; <2	10 days	Year-round
SD	Big Game; 2005	■	☒	■	■	75	1	24 hrs	Year-round *
TX	Nongame; N/A (not regulated)	■	■	■	■	No Quota	No limit	none	No Season
UT	Game Species & Protected Species; 1967	■	■	■	■	429, Unlimited in some units	1	2 days	Varies by Area
WA	Big Game; 1966	■ <sup>vi</sup>	■	■	■	303	1	3 days	8 Months
WY	Trophy Game Animal; 1973	■	☒	■	■	303	1	3 days	Year-round

**LEGEND** ■ No ■ Handheld Permitted ■ Yes ☒ Yes. Private lands only ☒ N/A

\*~3 Months in Black Hills

i. Florida panthers (*Puma concolor coryi*), and Eastern cougars (*Puma Concolor cougar*) are protected from trophy hunting by the ESA. California 1990 ballot initiative banned trophy hunting of mountain lions  
 ii. Nebraska postponed trophy hunting for the 2015-2016 mountain-lion-hunting season because of serious threats to persistence.

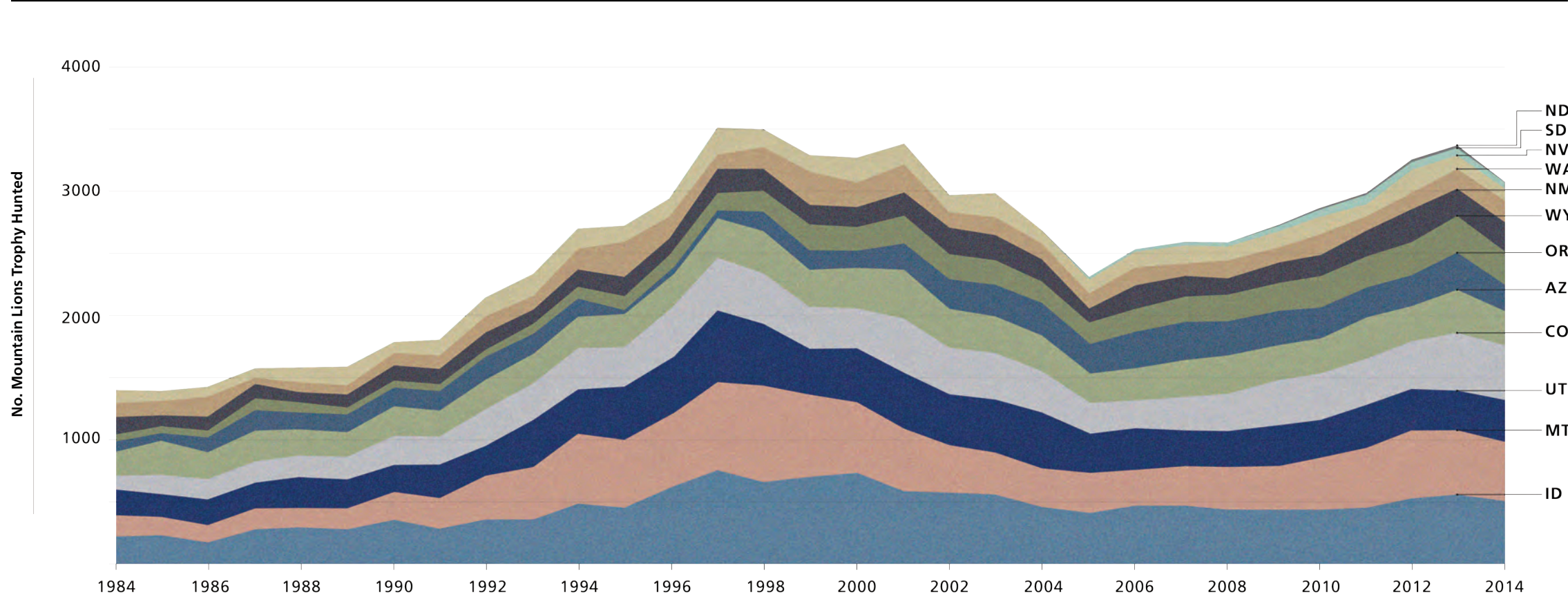
iii. Citizens in Oregon (1994) and Washington (1996) banned hound hunting of mountain lions; legislators in both states, however, partially over-turned the bans by designating special hunting “zones” where hounding is permitted.

i. “Bag limit” means the maximum number of mountain lions who may be legally killed by a hunter in a season.  
 ii. CO permits trapping on private lands for livestock protection—after proof of ongoing damage and on obtaining permits from Colorado Parks and Wildlife.  
 iii. ID allows electronic calls for mountain lions in select hunting units.

iv. After nearly exterminating its entire mountain lion population in one season, the agency temporarily shut down hunting in 2015.  
 v. In Oregon, hounding is permitted in a “target zone” for livestock protection, ungulate bolstering, or human safety.  
 vi. In Washington, hounding is prohibited except with special permits called “Public Safety Cougar Removals.”



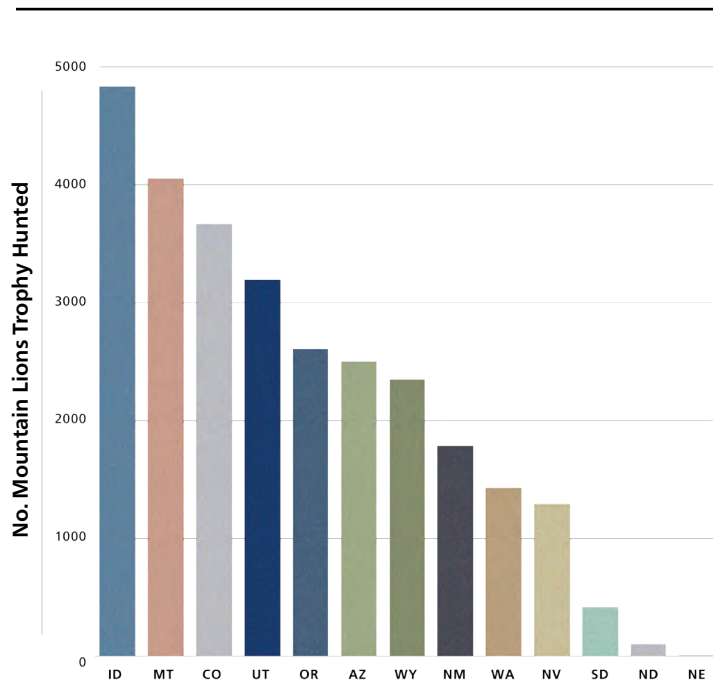
**FIGURE 4** Number of mountain lions trophy hunted 1984-2014 ranked by most to least killed



**TABLE 3** 2016 resident and non-resident mountain lion tag costs<sup>i</sup>

State	Resident License & Tag Cost	Non-Resident License & Tag Cost
Arizona	\$52.00	\$235.00
Colorado	\$42.00	\$351.00
Idaho	\$24.25	\$340.75
Montana	\$19.00	\$320.00
Nevada	\$62.00	\$246.00
New Mexico	\$58.00	\$355.00
North Dakota	\$15.00	(Not Permitted)
Oregon	\$47.50	\$176.00
South Dakota	\$28.00	(Not Permitted)
Texas	\$25.00	\$315.00
Utah	\$92.00	\$323.00
Washington	\$24.00	\$222.00
Wyoming	\$30.00	\$362.00

**FIGURE 5** Total trophy hunt mortality 2005-2014



Over a 30-year period, from 1984-2014, trophy hunters killed more than 78,000 mountain lions in the United States (Figure 4). Between 2005 and 2014, trophy hunters killed approximately 29,000 mountain lions in the U.S. (Figure 5; Appendix C) and an estimated 2,700 more were killed in other countries and traded internationally. In 2014 alone, trophy hunters killed more than 3,000 mountain lions, accounting for almost 84 percent of all human-caused mortality (Appendix C). This figure does not include Texas, where the killing of mountain lions is unregulated and not tracked by the state's wildlife officials.

Between 2005 and 2014, trophy hunters killed approximately 29,000 mountain lions in the U.S. (Figure 5; Appendix C) and an estimated 2,700 more were killed in other countries and traded internationally.<sup>145</sup> In 2014 alone, trophy hunters killed more than 3,000 mountain lions, accounting for almost 84 percent of all human-caused mortality (Appendix C). This figure does not include Texas, where the killing of mountain lions is unregulated and not tracked by the state's wildlife officials.

The direct effects of trophy hunting are numerous and complex. Not only does trophy hunting remove thousands of lions from the landscape each year, immediately reducing their population size, it also threatens their social structure,

their ability to recruit members to their population and even their viability due to a lack of gene flow. Some of the most significant effects of trophy hunting include:

- **Indirectly killing multiple lion kittens.** Adult female mountain lions are the biological "bank account" of the species, and killing them directly or indirectly harms the survival of their kittens. Killing an adult female not only removes her from the population, it also potentially removes the young she is currently raising—who cannot survive without her—as well as future offspring she might have produced.
- **Disrupting the social structure of a population when a resident male is killed.**<sup>146</sup> Killing male lions causes instability in territorial male residency.<sup>147</sup> This leads to immigration and emigration of young males looking for territory and can result in the killing of female lions and/or their young, lowering the survival of the species' biological bank and reducing population growth.<sup>148</sup>
- **Restricting the numeric and genetic flow to lion populations by killing dispersing lions.**<sup>149</sup> Without mountain lion dispersal to other areas, small, isolated populations cannot increase their genetic variability, which may cause a bottleneck in the local diversity.<sup>150</sup>

In states where mountain lion hunting is permitted, trophy hunting is the species' greatest source of mortality.<sup>151</sup> Most of the wildlife agencies in these states refer to lions as a "game species" and permissively sell licenses and tags to trophy hunters for generally small fees (Table 3). California and Florida are exceptions to this rule and do not allow the hunting of lions. Additionally, Texas currently classifies mountain lions as a nongame species and considers them a nuisance animal<sup>152</sup> which allows for the unregulated and unlimited hunting of mountain lions, including kittens.

*Next Page:* A camera trap set up at the mouth of a cave captures F51, a mother mountain lion, and her kitten seeking refuge from the cold, Gros Ventre Mountains, Wyoming.  
**Steve Winter**

<sup>i</sup> Includes general, full price hunting license and tag fees only with the exception of Texas which does not have tag fees for mountain lions. Information gathered from mountain lion hunting regulations on state wildlife agency websites.



Nebraska has a small population of mountain lions, numbering approximately 22 individuals, according to a 2014 study.<sup>153</sup> Nebraska Game & Parks opened a trophy-hunting season on mountain lions in 2014; that ended with the killing of five lions, or almost 25 percent of the population. An additional 11 lions died in 2014 from a variety of causes, such as vehicle collisions and non-target trapping. The trophy hunting of lions in Nebraska has not been authorized for the 2015 or 2016 seasons. However, Nebraska Game & Parks may still legally permit the trophy hunting of mountain lions in future years.

Trophy hunting of mountain lions has been promoted in recent years by various hunting organizations—none more prominent or powerful than Safari Club International. These groups offer awards, certificates and killing contests to reward and encourage trophy hunters. Killing a mountain lion can qualify a trophy hunter for Safari Club International awards such as the Grand Slam North American 29 and the Grand Slam Cats of the World. Trophy hunting awards such as these glamorize and encourage the killing of mountain lions and other wildlife, including threatened and endangered species, in the U.S. and around the world.

**Mountain lion trophy hunting methods are not “fair chase” hunting** Fair chase hunting is predicated upon providing the animal opportunity to escape from the hunter.<sup>154</sup> Mountain lion hunting today involves advanced technology, including packs of radio-collared trailing hounds, two-way radios and off-road vehicles.<sup>155</sup>

Increased road development into America's last wild places has rapidly increased trophy hunters' access to mountain lion populations, making these populations more and more vulnerable.<sup>156</sup> Additionally, trophy hunters have also increased their likelihood of killing mountain lions by using professional outfitters. Trophy hunting outfitters across the U.S. charge their clients thousands of dollars for mountain lion hunts, a steep premium over current state license and tag fees. Outfitters do the work for their clients by tracking lions in a region and employing the best available technologies to find and corner the animals. Their clients simply take the kill shot and claim victory.

**Methods** Most mountain lions are killed either with the aid of hounds or by trapping with cruel steel-jawed leghold traps and wire neck or leg snares (Figure 6). Of the 14 states that allow the trophy hunting of mountain lions,<sup>157</sup> 12 permit the “hounding” of mountain lions (Figure 6; Table 2; Appendix E). Hounding involves chasing by packs of trailing dogs until the mountain lion retreats into a tree or rock ledge to escape, enabling the trophy hunter to shoot the cat at close range. Hounding poses significant risk to the hounds as well as to young wildlife, including dependent kittens, who may be attacked and killed by hounds.<sup>158</sup> Hounds also disturb or kill non-target wildlife and trespass onto private lands.<sup>159</sup> This practice is not fair chase and is highly controversial even among hunters.<sup>160</sup>

Currently, only New Mexico and Texas allow the trapping of mountain lions through the use of steel-jawed leghold traps and wire snares (Figure 6;

Table 2; Appendix E). Texas allows the unlimited killing of mountain lions by trapping. Even spotted kittens are fair game. Trappers go onto private lands in Texas and capture mountain lions and often leave them to languish in the traps from exposure, dehydration, or starvation.

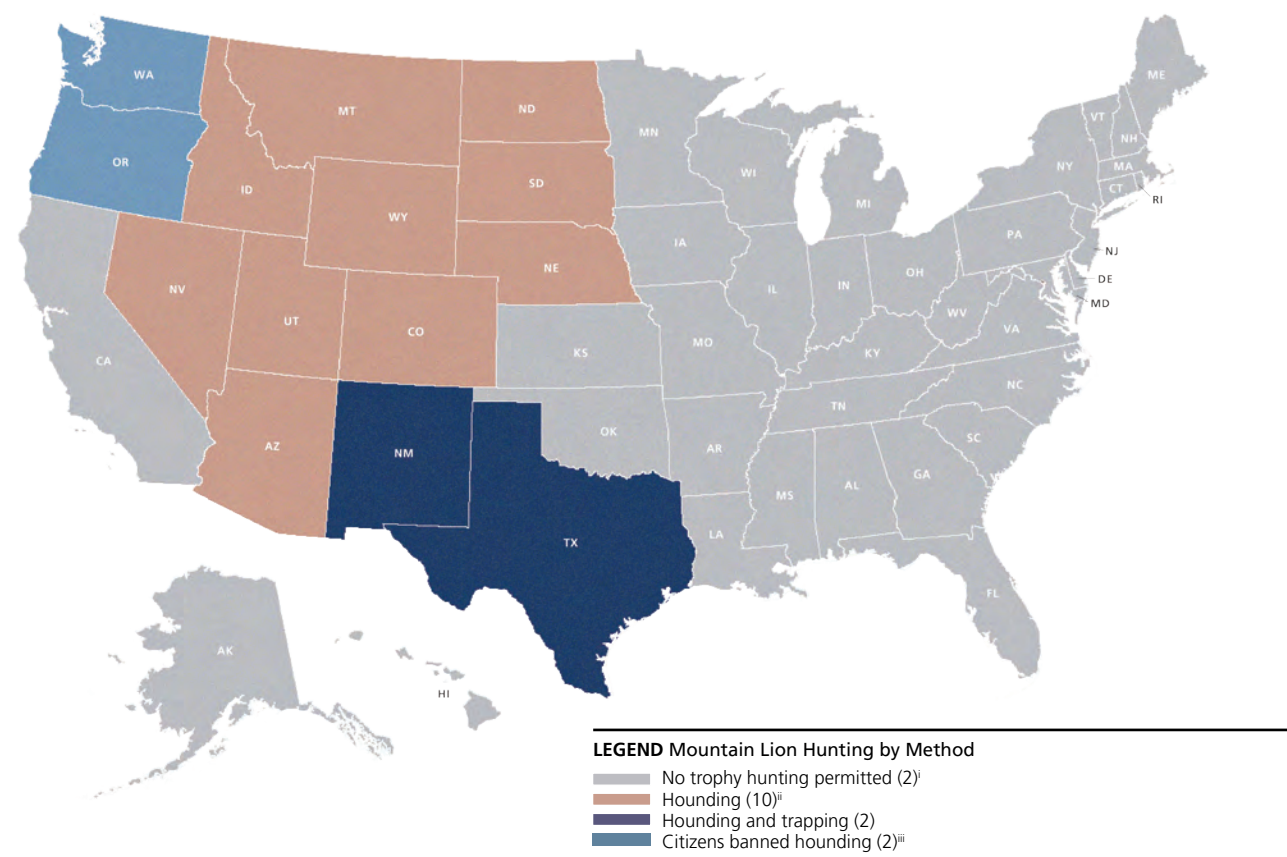
As part of an undercover trapping investigation in New Mexico, Born Free USA documented illegal trapping activities, including the capture and deaths of spotted mountain lion kittens in leghold traps.<sup>161</sup> In 2015, New Mexico wildlife officials expanded trapping from private lands to nine million acres of state trust lands, despite polling indicating opposition by New Mexico voters by three to one margins.<sup>162</sup> Even before the expansion of mountain lion trapping onto state trust lands, endangered Mexican wolves were routinely caught in traps set for coyotes. In 2016, The Humane Society of the United States and Animal Protection of New Mexico sued the state and federal government for mountain lion trapping in the state because it jeopardizes endangered species as well as nursing female lions and their spotted kittens.

Trapped animals struggle to break free, resulting in significant suffering and severe injuries, if not fatalities.<sup>163</sup> Most traps or snares can cause serious injury and distress, including broken legs, dislocated shoulders, lacerations, torn muscles, cuts to mouths and gums, broken teeth, fractures, amputation of digits and even death. Trapped animals endure psychological stress and/or pain, starvation, dehydration, or predation.<sup>164</sup> Entrapped animals can also suffer from hypothermia<sup>165</sup> or heat exposure, particularly in hot, arid states such as Nevada and Texas. Traps and wire snares do not discriminate between species and often catch non-target animals, even endangered species.<sup>166</sup>

In a study designed to understand and minimize injuries to mountain lions who were snared as part of other mountain lion research projects, authors unintentionally caused serious or even fatal injuries to about seven percent of the cats they captured.<sup>167</sup> While struggling to get free, mountain lions received broken limbs, lacerations from surrounding vegetation, damage to their teeth, tissue swelling and skin damage.<sup>168</sup> Some subjects severed or chewed off one or more toes, and one animal died from a fatal lumbar-spine injury during her struggles.<sup>169</sup> Despite known injuries from traps, Logan et al. (1999) reported fewer injuries to mountain lions by traps compared with other studies where hounds were used.<sup>170</sup>

Despite the fact that trapping mountain lions is permitted in only two states, records show that mountain lions are routinely trapped inadvertently in other states where their trapping is illegal.

**FIGURE 6** Mountain lion trophy hunting by method



i. Florida panthers (*Puma concolor coryi*), and Eastern cougars (*Puma Concolor cougar*) are protected from trophy hunting by the ESA. California 1990 ballot initiative banned trophy hunting of mountain lions

ii. Nebraska postponed trophy hunting for the 2015-2016 mountain-lion-hunting season because of serious threats to persistence.

iii. Citizens in Oregon (1994) and Washington (1996) banned hound hunting of mountain lions; legislators in both states, however, partially over-turned the bans by designating special hunting “zones” where hounding is permitted.

## State trapping records

### Idaho

Records from Idaho show that in one year, the 2011-12 wolf-trapping season, 13 non-target mountain lions were captured.<sup>171</sup>

### Montana

Montana records show 148 mountain lions died in traps set for other species, including in traps set for wolves, for the period 1993 to 2015. In 2015, a former houndsman found a mountain lion paw left in a wolf trap—meaning the cat either twisted its leg from its paw or chewed off the paw to escape the trap.<sup>172</sup> The mountain lion likely bled to death afterwards from such a catastrophic injury.

### Nebraska

Each year, Nebraska trappers kill a sizable percentage of Nebraska's entire mountain lion population. In 2014, when Nebraska's entire lion population numbered about 20 individuals, three cats, or 21 percent of the entire population, were killed by trappers targeting another species. Between 2011 and 2014, traps killed seven lions in Nebraska.

### Nevada

Nevada state records show that between 2002 and 2013, 172 mountain lions were trapped, 135 were released “uninjured” (that may be inaccurate; debilitating soft tissue injuries are not always visible), eight were injured and 17 died from being trapped.<sup>173</sup> Nevada records also show that of all mountain lions trophy hunted in the Silver State, one in six had sustained trapping injuries.<sup>174</sup> In one instance, a young female mountain lion was trapped repeatedly and injured; to survive, she turned to preying on easy-to-catch domestic livestock, only to be shot by the rancher.<sup>175</sup>

### South Dakota

South Dakota records show that, from 1997 to 2014, 22 mountain lions were killed in traps set for another species. In 2015, South Dakota's estimated its mountain lion population, and including kittens it was comprised of approximately 250 individuals.

### Wyoming

Wyoming records show that 125 non-target mountain lions died in traps for the period 1988 to 2015. The fact that this state showed the most mountain lion-trapping fatalities compared to other states may be the result of

Trapping is highly controversial among the general public and with wildlife professionals. Many states and jurisdictions have banned the use of body-gripping or kill-type traps for recreational and commercial trapping altogether.<sup>176</sup> A U.S. trapping study states that, “Several professional wildlife biologists have emphasized the need to minimize injury and pain infliction on animals by trapping,” because trapped animals lack water and food, and suffer pain and stress.<sup>177</sup>

The public dislikes trapping. In a survey regarding a trapping ban of over 3,000 wildlife-management professionals, most respondents responded in favor of such a ban.<sup>178</sup> Wildlife professionals cited pain, stress and harm to non-target species as the primary reasons for their support for a ban, and trapping-ban proponents were also concerned about trapping's unsporting nature, conflicts with public values and a lack of need.<sup>179</sup> In a 2015 poll of New Mexico voters, New Mexicans rejected the practice of mountain lion trapping by three to one margins.<sup>180</sup>

**Habitat loss & fragmentation** Aside from trophy hunting, habitat loss and fragmentation is the largest threat to long-term survival of mountain lion populations. The U.S. human population is expected to grow to nearly 400 million by 2050, meaning more development, more deforestation and less wild and open spaces.<sup>187</sup> Even lands remaining undeveloped will become increasingly fragmented by infrastructure developments. Roads, in particular, are a major mortality factor for small populations of mountain lions in fragmented habitat, such as the Florida panther.<sup>188</sup> Not only do lions often die from vehicle collisions when trying to cross roads, they also become separated from prey sources and are not able to disperse, causing intraspecific aggression between individual lions competing for the same resources.

Mountain lions have been pushed to the far reaches of remaining wild spaces as a result of human population growth and development. This is troubling, as mountain lions and their primary prey require large habitats in order to survive. Moreover, as human population and development increase, so do mountain lion conflicts with humans.<sup>189</sup>

Not only are wildlife habitats getting smaller, they are also increasingly disconnected from one another, reducing the ability for subadults to disperse.<sup>190</sup> This poses a major threat to the long term survival of populations that require dispersal to gain access to natural resources, and increases the potential for inbreeding.<sup>191</sup> The loss of safe passages between suitable habitat is threatening the long-term survival of populations across the U.S. as they become increasingly isolated.<sup>192</sup>

Mountain lions in California's Santa Ana Mountains, sandwiched between Los Angeles and San Diego, are a prime example of how habitat loss and fragmentation are threatening the future survival of a lion population. Despite protection from trophy hunting, lions in the mountain range have been forced to live on a small, fragmented landscape with limited prey sources as a result of human development. The result has been increased conflicts with humans, demographic isolation and genetic restriction.<sup>193</sup> A recent study in the area concluded that mountain lions in the region had a very low survival rate of less than 56 percent, primarily as a result of deaths from vehicle collisions and killing for mountain lion predation on livestock.<sup>194</sup> Researchers and advocates are now working diligently to find ways to protect this lion population and similar ones in southern California. Restoring and conserving critical habitat and wildlife corridors as well as developing safe wildlife road crossings may help connect the region's highly isolated lion populations and reduce human-caused mortality.

**Poaching** Poaching, or illegal killing, is a major mortality factor in large carnivore populations, which prevents species recovery particularly if the species occurs at low densities.<sup>181</sup> Unfortunately, poaching is not diminished

when an animal becomes a designated game species.<sup>182</sup> A recent study on the culling of wolves shows that when a government agency kills a species, the perceived value of each individual of that species may decline, leading to increased poaching.<sup>183</sup>

Mountain lions are frequently subject to poaching. In a recent nine-year study in the Blackfoot River watershed of west-central Montana, researchers documented multiple cases of poaching. Out of the 121 mountain lions who were tracked over the nine years, 63 had died. Poaching caused 11 of these deaths, second only to legal hunting, which caused 36 deaths.<sup>184</sup> Additional causes of death were natural (10 lions), killed for livestock protection purposes (2 lions), vehicle collision (1 lion) and unknown (3 lions).

One of the most egregious poaching cases in recent U.S. history occurred along the Colorado-Utah Border between 2004 and 2010. An outfitting company, Loncarich Guides and Outfitters, devised a scheme to track down and maim more than 30 mountain lions and bobcats prior to their guided hunts with clients. This made it easier for their clients, many of whom did not have proper licenses or hunting tags, to kill the cats. According to USFWS, the guides would often trap and confine the cats in cages and then release the animals just before the hunt.<sup>185</sup> The guides would also shoot the cats in the paws, stomach and/or legs as well as attach leg-hold traps to cats prior to the client arriving on scene. The cats were often illegally transported across state lines.<sup>186</sup> An investigation led to multiple arrests and convictions, including the owner of Loncarich Guides and Outfitters, Christopher Loncarich, his two daughters and multiple guides. Yet the resulting fines and sentences pale in comparison to the money they received for the illegal killing, charging clients up to \$7,500 for each hunt.

#### Additional causes of mortality

**Disease** A variety of diseases pose a significant threat to the survival of mountain lions. In a long-term study by Logan and Sweanor (2001) in the San Andres Mountains of New Mexico, three mountain lion cubs died of disease, accounting for 11 percent of all kitten deaths documented by the study. The study also found higher rates of disease-related deaths in females (16 percent) compared to males (eight percent). While a variety of diseases, such as feline herpesvirus (FeHV) and feline immunodeficiency virus (FIV), have been diagnosed in mountain lion populations across the U.S.,<sup>195</sup> plague has been documented in multiple states.<sup>196</sup> The plague is not endemic to the U.S. but has been seen in a variety of species in the western U.S. Mountain lions probably become susceptible to infection by ingesting plague-infected animals, such as rodents and rabbits.<sup>197</sup> Flea bites can also transmit the disease to mountain lions.<sup>198</sup>

**Starvation** Starvation is a major mortality factor for orphaned mountain lion kittens. Females with dependent kittens who are killed may leave up to four orphaned kittens who could die from starvation, predation, dehydration or exposure.<sup>199</sup> It is vital for mothers to care for their kittens until they are self-sufficient. Numerous studies show that kittens who disperse early on in life or become orphaned have low rates of survival and these deaths are overwhelmingly linked to starvation when their mothers die.<sup>200</sup>

**Inbreeding** Inbreeding is a threat to mountain lions who are limited by their ability to disperse. Subadult males, the primary dispersers of the species, are vital to the diffusion of genes between lion populations. The loss of genetic variation typically occurs within small populations that become isolated from other populations, causing a genetic bottleneck when closely related individuals breed with one another.<sup>201</sup> Population isolation is frequently attributed to habitat fragmentation and a loss of wildlife corridors that connect populations. This was likely the case with Florida panthers, who showed signs of inbreeding through a



high prevalence of cowlicks, kinked tails, sterility and heart murmurs. In order to save the critically endangered Florida panther, wildlife managers released eight female lions from Texas into the Florida population, increasing genetic diversity.<sup>202</sup>

**Intra-specific strife** Cases of strife, killing and predation among mountain lions have been well documented by researchers across the U.S.<sup>203</sup> This behavior is frequently documented between adult and subadult males who cross paths. Dispersing subadult males will often enter the territory of resident males who have established home range and have claimed the area's natural resources and breeding females. Subadult males will often end up in a fight with the resident, especially if he is looking to take over the territory.<sup>204</sup> These fights frequently lead to the death of at least one of the male lions.

Subadult males who take over a territory often show aggression to females and kittens in the area, often resulting in infanticide of kittens fathered by the previous resident male.<sup>205</sup> The new male will kill unrelated kittens in order to increase his reproductive success. Killing kittens will leave a female available for breeding sooner than if she were dedicated to the raising of her kittens, accelerating the timeframe of the new male's ability to sire a litter.<sup>206</sup> Mother lions can be killed while defending their cubs from infanticidal males.

**Poisoning** While poisoning of mountain lions is rare, it still occurs, mainly through unintentional poisoning on private lands. The use of anticoagulant rodenticide poison to control rodents, such as in homes and yards, is a common threat to mountain lions.<sup>207</sup> Farmers and licensed pest-control companies regularly use rodenticide. Rodents who consume anticoagulant poisons can take up to 10 days to die through internal bleeding, if they are not eaten by another animal first.<sup>208</sup> Mountain lions and other predators become exposed when they consume animals who have been poisoned.

Research in the Santa Monica Mountains National Recreational Area and surrounding habitats fragmented by human development has detected substantial evidence of the exposure to anticoagulant rodenticide poisons in wild carnivores, including mountain lions, bobcats and coyotes.<sup>209</sup> Test results from the study found 95 percent of bobcats, 83 percent of coyotes and 91 percent of mountain lions—including a three-month-old kitten—were exposed to anticoagulant rodenticides.<sup>210</sup> Rodenticide and other anticoagulants can stress mountain lions so that they become susceptible to mange, resulting in dehydration, starvation and death.<sup>211</sup>

**Climate change** Climate change is currently exacerbating threats to mountain lions and is likely to increase over time. As the climate changes, habitat loss and fragmentation may prevent mountain lions and their prey from finding suitable habitats.<sup>212</sup> Additionally, the spread of infectious disease is likely to be exacerbated by climate change, such as through increased diseases spread by vectors like mosquitoes and ticks.<sup>213</sup> Climate change has been linked directly to the increase of mosquitoes in areas throughout the U.S.<sup>214</sup> The spread of disease not only harms mountain lions directly; it also harms their prey. While mountain lions are highly resilient and adaptable, climate change will only increase the challenges they face in a world quickly succumbing to human alteration.

*Top image* A shed-antler collector finds a severed mountain lion paw in a wolf trap, in Reimel Creek area, Montana. **Trap Free Montana Public Lands**

*Middle image* Young female mountain lion in Nevada, twice caught in a trap meant for other animals. **Nevada Department of Wildlife and Reveal reporter Tom Knudson**

*Bottom image* Nevada mountain lion lost toes as a result of a trap injury **Nevada Department of Wildlife**

# Dispelling mountain lion myths

Myths about mountain lions abound throughout the world. In North America, cultural values and beliefs toward mountain lions have shifted significantly since the mid-1900s toward an ethic of conservation and animal welfare. Even so, four commonly-held myths continue to exist:

- 1 Mountain lions kill vast numbers of cattle and sheep.
- 2 Mountain lions kill vast numbers of ungulates.
- 3 Killing mountain lions will grow abundant prey herds.
- 4 Mountain lions pose a significant risk to human safety.

Here we investigate and dispel each of these myths.

**Myth 1 Mountain lions kill vast numbers of cattle and sheep.** While many believe that mountain lions are key killers of cattle and sheep, data from the U.S. Department of Agriculture's (USDA's) National Agricultural Statistics Service (NASS) show otherwise. Yet the myth that mountain lions kill vast numbers of cattle and sheep continues to drive management policies. Hundreds of mountain lions are killed because of the livestock industry and actions of the USDA's Wildlife Services on their behalf each year.<sup>215</sup>

In total, of the 99.6 million cattle and sheep inventoried in the U.S., less than one percent died from predation (Table 4). According to the National Agricultural Statistics Service, mountain lions—and all other native carnivores and domestic dogs put together—killed less than one percent of the U.S. cattle inventory and about four percent of the sheep inventory

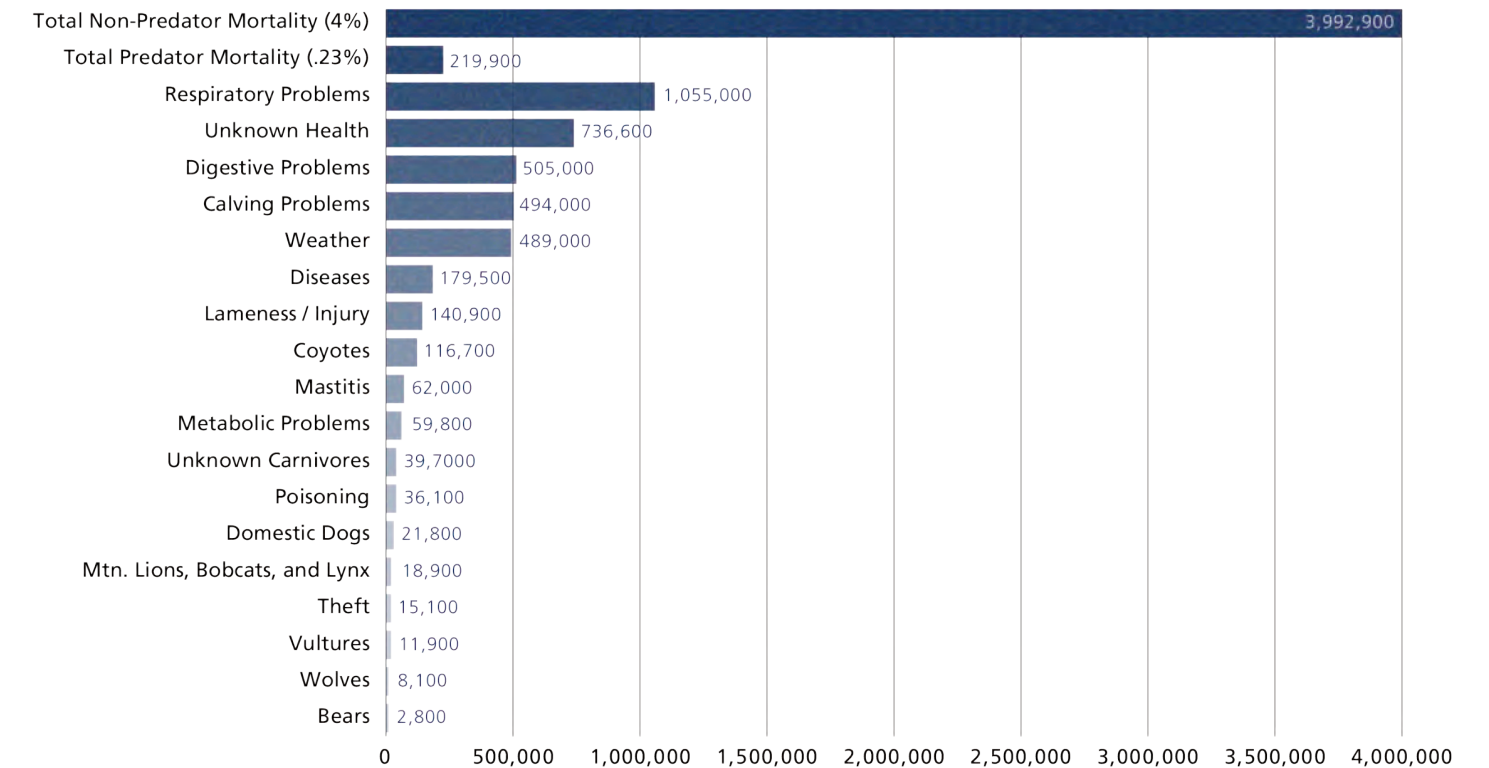
nationwide (Table 4, Figure 7, Figure 8).<sup>216</sup> All felids, including mountain lions, bobcats and lynx, killed fewer cattle than domestic dogs, taking only 0.02 percent of the U.S. cattle inventory in 2010.<sup>217</sup>

Moreover, killing mountain lions to reduce complaints and livestock depredations can have the opposite effect: Killing the stable, adult members of a population disrupts mountain lions' social structure, creating a population that's younger and includes more male animals. Subadult males are more likely to attack livestock than are older animals.<sup>218</sup> According to a recent study in Washington, very heavy hunting, or 100 percent removal of resident adults in one year, increased the odds of complaints and depredations in the following year by 150 percent to 340 percent.<sup>219</sup>

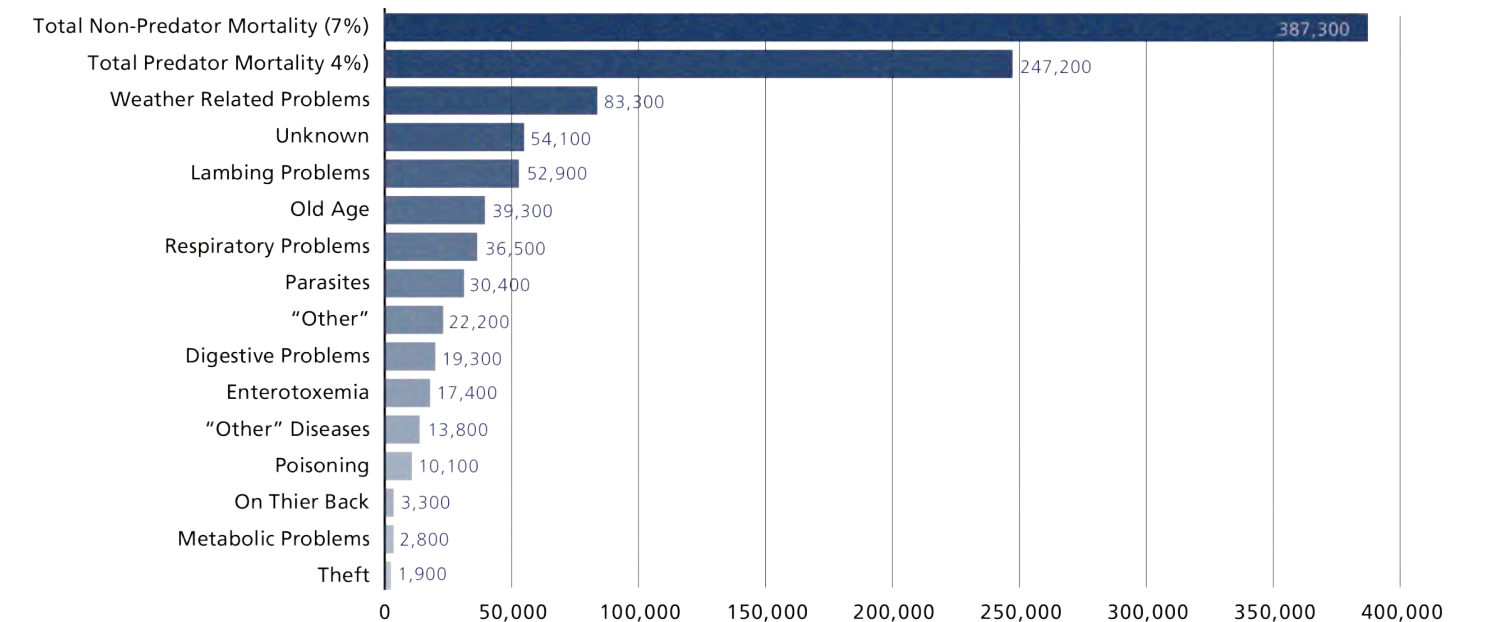
**TABLE 4** Comparison of non-predator vs. predator mortality for cattle and sheep

	Cattle (NASS 2015)	Sheep (NASS 2010a,b)	Grand Total
<b>Cattle &amp; Sheep Inventory</b>	93,881,200	5,747,000	<b>99,628,200</b>
<b>Non-Predator Mortality</b>	3,773,000	387,300	<b>4,160,300</b>
<b>% Non-Predator Mortality</b>	4.01 %	6.73 %	<b>4.18 %</b>
<b>Predator Mortality</b>	219,900	247,200	<b>467,100</b>
<b>% Predator Mortality</b>	0.23 %	4.30 %	<b>0.47 %</b>

**FIGURE 7** Cattle mortality by rank (NASS 2011)



**FIGURE 8** Sheep mortality by rank (NASS 2010a,b)



“  
*There is no evidence that  
 trophy hunting mountain lions  
 makes people safer.*  
 ”

**Myth 2 Mountain lions kill vast numbers of ungulates.** Some wildlife managers accept the premise that reducing mountain lion populations will increase ungulate populations for trophy hunters. However, studies show that humans are actually the greatest source of mortality to all medium- and large-sized mammals in North America, and hunting accounts for most human-caused mortality.<sup>220</sup> Hunting has, furthermore, caused ungulates, such as deer and elk, to decrease in body sizes and shift to smaller antler sizes, among other characteristics.<sup>221</sup> Hunting forces rapid evolutionary shifts in behavior and body size, and this response may change a species' ability to adapt, particularly when added to the burdens of habitat loss and climate change.<sup>222</sup>

While predator populations are limited by the numbers of their prey, an increase in the number of prey animals does not bring a proportional increase in the number of predators.<sup>223</sup> In order to survive, predator populations must stay at a smaller size relative to their prey's biomass or risk starvation.<sup>224</sup> They do this by regulating their own numbers. Mountain lions are large-bodied carnivores who are only sparsely populated across vast areas. They invest in few offspring, provide extended parental care to their young and have a tendency toward infanticide. Their females limit reproduction and social stability promotes their resiliency.<sup>225</sup> In short, the predominant predators of ungulates are humans, not mountain lions.<sup>226</sup>

**Myth 3 Killing mountain lions will grow abundant prey herds. Mule deer and mountain lions:** The most current and best available science on mule deer survival reflects two key points:

The study found that if deer had access to adequate nutrition, neither mountain lions nor coyotes negatively affected the deer population. This suggests that mountain lions prey on deer in poor body condition—the animals who would have died anyway.<sup>231</sup>

The scientific literature is clear: A lack of food limits large herbivores.<sup>232</sup> Malnourished young animals are more likely to die.<sup>233</sup> Mule deer survival is absolutely reliant on their ability to gain access to adequate nutrition, but that nutrition can be hindered by weather, habitat loss, oil and gas development, fire suppression and other causes. Moreover, hunters, not mountain lions, take the biggest toll on deer herds.

**Bighorn sheep and mountain lions:** Killing mountain lions also will not enhance bighorn sheep populations. Bighorn sheep populations are in decline in the U.S. because of unregulated market hunting, trophy hunting, disease from domestic sheep,<sup>234</sup> resource competition by livestock and loss of habitat and safe passages.<sup>235</sup> Despite this fact, the mountain lion-predation myth perpetuates.

The best available science suggests that reducing mountain lion populations is not a solution toward enhancing bighorn sheep numbers, since mountain lion predation on bighorns is a learned behavior conducted by only a few individuals who may not repeat their behavior.<sup>236</sup>

A survey of over 60 peer-reviewed articles concerning predator-prey relationships between bighorn sheep and mountain lions concluded that while predator control is often politically expedient, it typically does not address the underlying issues including habitat loss, loss of migration corridors and malnutrition.<sup>237</sup>

Mule deer populations in the West have experienced population declines over the latter part of the 20th century because of myriad factors, including habitat loss or fragmentation, changes in forage quality, competition with other ungulates (including cattle and sheep), predation, disease (from cattle and sheep), increased hunting, poaching, extreme weather events, fire suppression, noxious weeds, energy development and changes in hydrology caused by climate change.<sup>227</sup> Five recent studies demonstrate that predator removal actions “generally had no effect” in the long term production of ungulate populations.<sup>228</sup> Authors found that “both coyote and mountain lion predation was compensatory rather than additive.”<sup>229</sup> In other words, if predators had been absent from those ecosystems, the deer would have died from another cause instead.

Likewise, a long-term, Colorado-based study found that food scarcity and the poor quality of some winter range habitats limited deer populations.<sup>230</sup>

Wild mountain lion stretching on cliff face in Yellowstone National Park  
 David C. Jones



**Myth 4 Mountain lions pose a significant threat to human safety.** Attacks on humans from mountain lions are extraordinarily rare.<sup>238</sup> Over the last 120 years, there have only been approximately 200 cases of confirmed mountain lion attacks on humans throughout North America and less than 30 of these have proven fatal.<sup>239</sup> A person is many times more likely to die from a lightning strike or a vehicle collision with a deer than from a mountain lion.<sup>240</sup>

Most encounters between humans and mountain lions go unrecorded, primarily because people fail to detect they are in the presence of a mountain lion.<sup>241</sup> Because of this, the number of encounters is undercounted. Luckily, almost all mountain lions exclude humans from their diet because they prefer deer.<sup>242</sup> In a study of mountain lions and human trail-use overlap in California in a popular state park, humans most frequently used the trail during the day.<sup>243</sup> Remote cameras and mountain lions wearing radio collars detected that lions exhibited the opposite pattern of use—mainly at night—thus reducing encounters with humans.<sup>244</sup> The highest chance of encounter was during evening hours.<sup>245</sup>

Mountain lions avoid people, even while sharing the same habitats.<sup>246</sup> As part of a long-term study of mountain lions in southern New Mexico, Logan and Swenor (2001, 2009) purposely walked up on their radio-collared research animals. In over 200 close and distant approaches to observe mountain lions, most of the lions left the area; a few stayed in place without “giving a threat response.” Threat responses were given

only 16 times during the approaches, primarily by mothers with kittens, with these only occurring when the researchers were in close proximity, two to 50 meters.<sup>247</sup>

Mattson et al. (2011) write: “. . . wild cougars have killed only 21 to 29 people during the last 120 years in the United States and Canada, despite an extensive range that overlaps with millions of people.” Ironically, a new study suggests that if mountain lions recolonized the states where they historically occurred but are now absent, fewer people would die in vehicle strikes with the burgeoning deer populations.<sup>248</sup>

There is no evidence that trophy hunting mountain lions makes people safer.<sup>249</sup> Attacks on humans may actually be exacerbated by trophy hunting, because when adult lions are removed, subadults move into a vacancy at much higher densities.<sup>250</sup> Higher densities of mountain lions could reduce prey populations, causing young lions to experience nutritional stress and prey switch.<sup>251</sup> This conclusion has been confirmed by a Washington-based study that found human complaints (that is, sightings) increased in the year following heavy trophy hunting.<sup>252</sup>

As a result of their extensive study and analysis, Mattson et al. (2011) deduce that deadly mountain lion attacks on people are uncommon—likely only one of 150 attacks by animals on people each year—with far more attacks coming from domestic animals. In short, mountain lion attacks are exceedingly rare, even in places like California and Colorado where people heavily use trails where they are present.

## Coexisting with mountain lions

The ability for humans to coexist with large carnivores, including mountain lions, is becoming increasingly necessary as humans continue to expand into their habitat. As this occurs, we must be willing to share habitat and tolerate the minimal risk lions pose, or we risk reducing these species to small, fragmented populations that are far more susceptible to localized extinction.<sup>253</sup> We must also stop targeting lions for crossing our paths, such as by entering human communities, and work to protect their much-needed habitat and prey species so that the species may be able to find and grow into healthy, wild ecosystems. Fortunately, people can take steps to prevent risks and help conserve this iconic species.

**Mountain lions coexist well with human communities** Relative to other large carnivores known to attack humans—such as tigers, African lions, leopards and hyenas—mountain lion attacks are far less frequent and less lethal.<sup>254</sup> Mountain lions can reside in areas with extensive human presence,<sup>255</sup> and their mere occurrence is not cause for alarm, as they generally coexist well with people.<sup>256</sup> Colorado Parks and Wildlife has also studied radio-collared mountain lions on the urban-wildlife interface of the Front Range of Colorado for about a decade. Colorado Parks and Wildlife biologists conclude that mountain lions avoid humans by inhabiting mountain parks and open spaces during the day

and coming into both suburban and urban areas at night when people sleep.<sup>257</sup>

Many others have documented this phenomenon as well. While they prefer habitats that provide both food and cover, mountain lions minimize time in urban areas during daylight hours to avoid human interactions.<sup>258</sup> Mountain lions living near humans adapt by adjusting the times of day they are active; they hunt, feed and move primarily in the hours between dusk and dawn.<sup>259</sup> Since human activity is highest during the day, the chances of people encountering a mountain lion are probably highest during evening hours, when human and lion activity overlap.<sup>260</sup>

Two mountain lion kittens resting in a daybed under a pine tree in the Gros Ventre Wilderness area of the Bridger-Teton National Forest.  
Steve Winter



**Living and recreating in mountain lion country**  
A recent analysis of mountain lion attacks on humans<sup>261</sup> included these key findings:<sup>262</sup>

- Most attacks came from young mountain lions, and especially from unhealthy ones, with slightly more females than males (37 percent to 34 percent, respectively) involved. While this younger demographic was more likely to attack than were adult animals, young mountain lions were the least successful in causing injuries or fatalities. Young mountain lions killed nine percent of their victims.
- The least common attacks came from healthy adult females (five percent) and unhealthy adults from both sexes (12 percent). While adults were far less likely to attack a human, on the rare occasions when they did, it resulted in greater lethality; adults killed 32 percent of their victims. These attacks are less predictable.
- The people most likely to experience fatalities are children under 10—because of their small size and perhaps because they are more likely to engage in erratic movements that “excite a predatory response” (p. 151).
- The second group of people most likely to die from a mountain lion attack are ones engaged in rapid or erratic movement such as skiers, snowshoers, bicyclists and runners. Adults who were stationary were least likely to be attacked.
- People who exhibit aggressive behaviors such as yelling, throwing rocks or other objects, appearing large or shooting a gun, were less likely to be attacked.
- Traveling with a dog during daylight hours reduced the risk of attack; conversely, a dog at a residence or walking at night exacerbated attacks (because people try to intervene and are injured).

Trophy hunting does not reduce the risk of mountain lion attacks on humans but hunting may shift mountain lion population structure toward young animals, who are more likely than adult mountain lions to attack.<sup>263</sup> As for the frequent suggestion that mountain lions who get comfortable around people are a greater threat, there is no scientific evidence that habituation increases risk of attack.<sup>264</sup>

**Specific steps to protect people and pets** Mountain lion attacks on humans are quite rare and generally can be avoided with proper precautions. Human-mountain lion encounters most often involve young, inexperienced mountain lions, so managing mountain lion populations to discourage the influx of these youngsters should reduce conflicts.<sup>265</sup>

Low-density residential areas retain enough wildland characteristics to attract mountain lions so that people and mountain lions both use these areas, often during the same periods of time.<sup>266</sup> Therefore, concentrating residential development in clusters of at least 10 homes or more per hectare would minimize wildland fragmentation and decrease likelihood of mountain lion use of residential areas.<sup>267</sup>

Where existing residential areas are frequented by mountain lions, it is important to remove opportunities for unwanted encounters. Mountain lion biologists and coexistence experts suggest the following tips to avoid negative encounters with mountain lions:<sup>268</sup>

**1** Do not feed deer, elk, wild turkeys, or other wildlife. Install deer-proof fences around gardens. Landscape with native vegetation using plants that deer do not like.



**2** Keep garbage under control to avoid attracting prey animals such as skunks, raccoons and opossums (this also prevents attracting bears, who commonly share lion habitats).



**3** Keep pets and hobby-farm animals in predator-proof enclosures from dusk to dawn. Enclosures include barns, sheds and kennels with a top. Mountain lions can jump 18 vertical feet. Dogs and cats who roam at dusk, during the night, or at dawn are easy mountain lion prey—no matter the breed.



**4** Remove shrubby vegetation near homes.



**5** Fence in play areas for children.



**6** Recreate (walk, run, ride horses, hike) in a group; never go out in lion country alone.



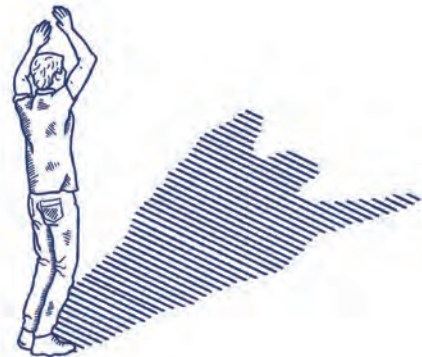
**7** Keep young children (under 10) by the hand or have the child walk between two adults; closely supervise children and always keep them in sight while in areas where mountain lions occur.



**10** Maintain eye contact with the mountain lion; do not look away; if the cat becomes agitated, use peripheral vision to track its location.



**11** Appear large: raise your arms above your head and wave your arms; unzip your jacket – pick up the corners to look bigger; move to higher ground.



**8** Keep pets leashed.



**9** If you see a mountain lion: pick up small children; place older children behind you.



**12** Never approach mountain lion kittens.



**13** Do not move swiftly; back away slowly (make sure the animal is not cornered).



**14** Avoid getting near dead animals as they may be prey.



**15** Be loud—shout, use an air horn or bang your walking stick.



**16** Throw objects such as jackets, bikes, backpacks, rocks, or sticks within reach and without bending too low.



**17** If attacked, fight back—fighting successfully deters attacks.





Mountain lions can progress from observing a human to an abrupt attack. In most attacks, however, there was no prior interaction or observation (such as described in Table 5) to warn of an impending attack. In occupied mountain lion habitat, there is no way to prevent all mountain lion encounters or attacks. People using these areas must accept the low level of risk as a condition of use, just as people willingly accept the risks of driving.<sup>269</sup>

**TABLE 5** Interpretation of mountain lion behaviors (Cougar Management Guidelines 2005)

Behavior	Interpretation	Human Risk
Opportunistically viewed at a distance	Secretive	Low ●
Flight, hiding	Avoidance	Low ●
Lack of attention various movements not directed toward person	Indifference, or actively avoiding inducing aggression	Low ●
Various body positions, ears up; maybe shifting positions; intent attention; following behavior	Curiosity	Low —provided human response is appropriate ●
Intense staring; following and hiding behavior	Assessing success of attack	Moderate ●
Hissing, snarling, vocalization	Defensive behavior; attack may be imminent	Moderate, depending on distance to animal ●
Crouching; tail twitching; intense staring; ears flattened like wings; body low to ground; head may be up	Pre-attack	High ●
Ears flat, fur out; tail twitching; body and head low to ground; rear legs “pumping”	Imminent attack	Very high and immediate ●

**Specific steps to protect livestock** Mountain lions only rarely kill livestock. Of the 99.6 million cattle and sheep inventoried in the U.S., less than one percent died from predation.<sup>270</sup> Yet despite this fact, lions are targeted by the hundreds each year by livestock growers, state agents and the USDA’s Wildlife Services’ program. Mountain lions do not seek out livestock, but may occasionally prey on them if they find them within their own habitat.<sup>271</sup> Several specific steps to promote coexistence of large cats and livestock include:

- 1 State or federal agencies could assist livestock producers by developing risk maps— that is, mapping mountain lion habitat and the locations where most livestock losses occur to concentrate prevention measures where they are most needed.<sup>272</sup>
- 2 Keep livestock, especially the most vulnerable—young animals, mothers during birthing seasons and hobby-farm animals—behind barriers such as electric fencing and/or in barns or pens or kennels with a top.<sup>275</sup>
- 3 Keep livestock, especially maternity pastures, away from areas where large cats will have good hunting cover.<sup>274</sup>
- 4 Protect the principal prey of the large cats (i.e., elk and deer) by preventing poaching and limiting legal overkill of these wild species.<sup>273</sup>
- 5 Move calves from pastures with chronic predation problems and replace them with older, less vulnerable animals.<sup>276</sup>
- 6 Concentrate calving season (i.e., via artificial insemination) to synchronize births with wild ungulate birth periods.<sup>277</sup>
- 7 Use human herders and/or guard animals (i.e., dogs, llamas, burros).<sup>278</sup>

Members of Teton Cougar Project chased this mountain lion up a tree in order to sedate it with a dart gun and later collar it with a tracking device in order to monitor its movements. **Steve Winter**



# Evolving attitudes toward mountain lions

Trophy hunting is controversial because it often goes against the public’s interest in wildlife conservation.<sup>279</sup> For example, the 2015 killing of Cecil, the African lion who was lured out of a national park in Zimbabwe and shot with an arrow by an American dentist, started an international firestorm about the ethics of trophy hunting internationally and in the United States.<sup>280</sup> Recent research indicates that the majority of Americans hold positive attitudes toward mountain lions,<sup>281</sup> and a variety of studies suggest that Americans are generally unsupportive of trophy hunting.<sup>282</sup>

**Most americans do not support trophy hunting mountain lions** The large majority of U.S. residents are not hunters, and even fewer are trophy hunters,<sup>283</sup> although trophy hunting is on the increase.<sup>284</sup> The U.S. Fish and Wildlife Survey found that approximately 13.7 million U.S. residents at least 16 years old hunted in 2011, with 11.6 million pursuing big game animals.<sup>285</sup> However, the majority of these hunters sought to hunt deer, wild turkey, elk, bear and moose. Only three percent of big game hunters pursued “other” big game, including mountain lions.<sup>286</sup> Additionally, most U.S. residents do not support trophy hunting of mountain lions or other large carnivores:

*restrictions on trophy hunting of native animals such as mountain lions and bobcats.<sup>291</sup>*

*• A 2013 study conducted by researchers at Cornell University found that although roughly 60 percent of adult U.S. residents approve of hunting generally, only 27 percent approve of trophy hunting.<sup>292</sup>*

In recent years, public opinion has become clearer, with anger toward trophy hunting increasingly displayed across national and international media. Americans overwhelmingly do not want mountain lions and other animals to be trophy hunted at home or around the world.

**Most americans appreciate mountain lions and support co-existence** The general public has little knowledge of mountain lion ecology and state management of the species. In a survey of Colorado residents, 79 percent believed lions were somewhat common or very common in Colorado, while 39 percent believed that they were endangered.<sup>293</sup> Similarly in other areas, 72 percent of residents in Arizona confessed to knowing little or nothing about mountain lions<sup>294</sup> and participants in various other surveys admitted that their knowledge of lions was low.<sup>295</sup> Increasing the general public’s knowledge of mountain lions is imperative to garnering support for their protection.

Though the public lacks significant knowledge about mountain lion ecology and state management, most Americans value the species and appreciate knowing these animals exist. A recent national U.S. survey found that 61 percent of people held positive values, 25 percent of people held “neutral” values and only 13 percent

held negative values toward mountain lions.<sup>296</sup> Likewise, less recent studies found that the majority of people hold positive attitudes toward mountain lions and would like to see populations stay the same or increase.<sup>297</sup> One Colorado survey found that 68 percent of respondents had positive overall feelings toward mountain lions, compared to only two percent who had negative overall feelings.<sup>298</sup>

Furthermore, the large majority of adult U.S. residents, including hunters and trappers, believe that wildlife possess intrinsic value,<sup>299</sup> implying that these species should be treated with regard for their own welfare. Adult U.S. residents also believe lions are important to our ecosystems.<sup>300</sup> Surveys show that people believe lion populations should be managed to remain the same or increase in order to provide for healthy ecosystems, provide for healthy lion populations and improve chances of seeing lions.<sup>301</sup>

People also believe mountain lions coexist well with us. Most people do not feel lions pose a safety risk to humans, pets, or livestock and they believe that individuals living near lions should be held responsible for taking steps to secure their animals.<sup>302</sup> Studies reveal that the majority of people living in or near mountain lion habitat do not feel that their personal safety or the safety of their pets and livestock are at risk.<sup>303</sup>

**Human values toward mountain lions are influenced by demographics**

In general, demographics are a good indicator of how people feel about mountain lions. Studies show that gender, geographic location, level of education and participation in hunting are all significant predictors of human attitudes toward large carnivores.<sup>304</sup>

One study in Utah found that people in rural areas and those with lower education levels are more supportive of traditional, lethal practices such as hounding and trapping mountain lions and less likely to be involved in animal activism.<sup>305</sup> On the other hand, urban residents and those with higher levels of education are more likely to oppose traditional wildlife management practices and support animal activism (Table 6). Over 50 percent of surveyed residents in Utah with a college degree disapproved of mountain lion hunting compared to 44 percent of those with little or no college education (Table 6).<sup>306</sup> Men, frequent outdoors people and people in rural and suburban areas are more likely to support mountain lion hunting.<sup>307</sup> These figures show that much more work is needed by environmental and animal welfare groups to reach a diverse demographic, such as connecting with people on the ground in rural communities. This is especially necessary for mountain lion protection, because these communities are often more likely to come into contact with the species than urban communities.

Gender is often cited as being the strongest indicator of attitudes and values toward mountain lions and wildlife in general. Typically, women are more supportive of mountain lion protections, such as limiting trophy hunting and employing relocation programs for lions who enter human communities.<sup>308</sup> According an Arizona study, women want to limit the killing of female lions because of an affinity for animals of the same gender.<sup>309</sup> In comparison, men are more likely than women to have trophy hunted mountain lions and are less likely than women to support protections for them or their habitat.<sup>310</sup>



As part of Panthera Teton Cougar Project’s study to see the effects of wolves on mountain lion survival, two kittens were caught in this cage trap and fitted with radio collars. The photo shows the deep bonds between mother cats and their offspring. **Steve Winter**

*• A recent nationwide poll by HBO Real Sports and the Marist Institute for Public Opinion showed that 86 percent of Americans disapprove of big game hunting and 62 percent favor a legal ban.<sup>287</sup>*

*• A 2016 poll of Arizona voters showed that 65 percent of residents disagreed with the practice of trophy hunting bears and mountain lions and commercial trapping of bobcats.<sup>288</sup>*

*• A 2015 poll of New Mexico voters rejected mountain lion trapping by margins of three to one.<sup>289</sup> The opposition to a New Mexico Game and Fish proposal to increase lion trapping was rejected by all demographic groups: men, women, Democrats, Republicans, unaffiliated, African Americans, Hispanics, Native Americans and whites.<sup>290</sup>*

*• A 2015 nationwide poll by Remington Research Group found that U.S. voters oppose trophy hunting by a two-to-one margin. Additionally, 64 percent of those polled support placing*

**TABLE 6** Utah residents surveyed: views on hunting mountain lions  
*Teel et al. 2002*

	Hunting Mountain Lions		Hunting Mountain Lions with Hounds	
	Approval	Disapproval	Approval	Disapproval
<b>Rural Residents</b>	48 %	<b>38 %</b>	34 %	<b>54 %</b>
<b>Urban Residents</b>	34 %	<b>50 %</b>	22 %	<b>63 %</b>
<b>Males</b>	45 %	<b>39 %</b>	35 %	<b>53 %</b>
<b>Females</b>	29 %	<b>54 %</b>	16 %	<b>68 %</b>
<b>Little/No College</b>	40 %	<b>44 %</b>	29 %	<b>56 %</b>
<b>College Degree</b>	32 %	<b>51 %</b>	19 %	<b>68 %</b>
<b>Hunters</b>	66 %	<b>19 %</b>	57 %	<b>31 %</b>
<b>Anglers</b>	28 %	<b>57 %</b>	20 %	<b>63 %</b>
<b>Nonconsumptive Users</b>	26 %	<b>57 %</b>	13 %	<b>74 %</b>



# A call to action: Six ways to support mountain lions' survival

Current policies in most states where mountain lions exist allow trophy hunters to kill them and harm the long-term persistence of lions on the landscape. For these animals to survive, reform is needed. The most immediate reforms can be broken into five main categories:

- 1 *Protection from direct human intervention*
- 2 *State wildlife agency reform*
- 3 *Protected species designation*
- 4 *Improved habitat protection and safe passages*
- 5 *Humane mountain lion response*
- 6 *Improved public perception and engagement*



Mountain lion kitten stands on rock, Montana Phil Gould/Alamy Stock Photo

**1 Protection from direct human intervention** Direct human intervention threatens to destabilize lion populations across the U.S., jeopardizing the species' long-term survival. Protecting mountain lions from trophy hunting, trapping and other unnecessary killing must be a top priority for improving policies at the state level and will provide the most immediate benefit to mountain lions.

**Trophy hunting** We recommend states implement mountain lion trophy hunting prohibitions. States with small and struggling lion populations—including the Midwest Prairie states of Nebraska, North Dakota and South Dakota—should implement this policy change immediately, in order to ensure their populations' survival. In the interim, trophy hunting policies that implement stronger protections for mountain lions, such as no killing of female lions and no hunting during peak lion birthing seasons, must be implemented.

**Hounding** Hounding is the primary method used by trophy hunters to track and kill mountain lions. The use of hounds is legal in every state where lion hunting is permitted, with the exceptions of Washington and Oregon (Table 2). This practice violates the principle of fair chase and

is highly controversial, even among hunters.<sup>311</sup> We recommend state wildlife agencies that currently permit trophy hunting end hounding as a legal trophy hunting method.

**Trapping** The practice of trapping mountain lions and other wildlife is inhumane, indiscriminate, unsporting and should not be permitted. We strongly urge New Mexico and Texas, currently the only states that allow mountain lion trapping, to implement policies to end this practice immediately. Additionally, other states where the practice is not permitted, such as Nevada and Nebraska, have relatively large numbers of lions incidentally trapped each year. Stronger regulations are needed to reduce incidental trapping and the potential time an animal will suffer in a trap. In many states, trappers may leave their traps unchecked for days on end, resulting in animals suffering for long periods.

**Poaching** Mountain lions must be better protected from poaching. We recommend state wildlife agencies increase penalties for poaching so as to inhibit the illegal killing of mountain lions as a protected species. Increasing penalties could reduce the number of lion poaching incidents that occur by strengthening the disincentive to do so.

**2 State wildlife agency reform** Reforming state wildlife agencies has a multitude of benefits for humans and wildlife, including mountain lions. As we have discussed throughout this report, state wildlife agencies are largely funded by a small stakeholder group of sportsmen and women. Additionally, wildlife boards and commissions are overwhelmingly made up of representatives who support trophy hunting. This has led to trophy hunting interests determining the management policies for mountain lions, despite those interests not having support from the majority of the public. Policies that overhaul ideologies by state wildlife agencies, including individual personnel and entire institutions, as well as diversify funding sources and stakeholder representation, will better represent the public and improve management of mountain lions.

**Funding reform** A lack of diversified funding for state wildlife agencies is a fundamental problem that must be addressed immediately. Diversifying funding sources will provide these agencies with more revenue streams, offering greater financial stability. State wildlife agencies are in crisis over shrinking hunter-dollar revenues even as the number of wildlife watchers has increased substantially. But states have failed to harness this potential asset.<sup>312</sup>

Additionally, agencies will be able to rely on a variety of stakeholders to support their work. This will encourage wildlife agencies to incorporate management strategies that appeal to the greater public. For example, tax check-off programs in many states go to support funds dedicated to the protection of specific species or habitats. Additionally, a small state tax on wilderness gear could fund habitat restoration efforts that are vital to mountain lions and wilderness lovers.

Alternatively, wildlife agencies could be funded by general tax dollars as are many other state agencies. As a public service, all state taxpayers should be responsible for supporting the protections and conservation of our state wildlife and natural spaces. Such policies can be established through state legislation.

**Stakeholder reform** In order to best manage wildlife, state wildlife agencies must engage with a greater diversity of stakeholders. State wildlife agencies tend to hear from hunters and fishers and make decisions that help to address their wants and needs while not fully accounting for the wants and needs of underrepresented wildlife interests. Increasing agency engagement with a diverse set of stakeholders will provide agency staff with a better understanding of the multitude of wildlife

interests and increase their ability to meet multiple needs. Conservation and protection advocates must work to be a vocal stakeholder during decision-making processes. Moreover, state wildlife agencies must change their policies to be more inclusive and manage wildlife in such a way that enhances their ability to meet the needs of all stakeholders.

**Ideology reform** State wildlife agencies have a long history of wildlife management that values mountain lions and other large carnivores merely as a "resource" for trophy hunters. Shifting this ideology to one that not only includes but prioritizes the intrinsic and ecological benefits of mountain lions is necessary for future lion management.

Ideological reform of state wildlife agencies will not occur overnight.<sup>313</sup> These agencies have deeply ingrained beliefs, goals and strategies that have guided their work for many years. Still, policies can be implemented to begin this shift immediately, enforcing change and improving state wildlife management. Diversifying funding sources would be a strong step in this direction, pushing agencies to work with and for a larger variety of public stakeholders and supporting their ability to make decisions, resulting in more appropriate management strategies and policies.<sup>314</sup>

Other policies that could change state wildlife agency ideology include the necessary incorporation of goals and strategies to protect mountain lions in strategic planning efforts. Currently, mountain lion planning efforts focus on trophy hunting and reducing conflicts with livestock, as well as suppressing lion populations to boost ungulate populations. Instead, planning efforts should prioritize the creation and establishment of stable, self-sustaining lion populations for their own benefit and for that of the ecosystems in which they live. Such change should happen at the regulatory level, created and enforced by state wildlife agencies themselves, as well as a diverse set of stakeholders such as wildlife advocates and expert biologists.

Finally, ideologies solely focused on providing benefits to trophy hunters will shift as the makeup of state wildlife agencies progresses to better represent a more diverse stakeholder group. For example, the makeup of wildlife boards and commissions must include a diversity of representatives. Since these representatives are typically appointed, usually by the state governor, public pressure on the electing official may have the greatest effect. Additionally, reform through legislative mandate may also provide a suitable option if public pressure does not offer a solution.

**3 Protected species designation** State wildlife agencies should establish or maintain protected species designations for mountain lions in states where they currently do not exist or do not have an established population. Policies to designate mountain lions as a protected species in certain states across the U.S. would support reduced persecution of the species as well as promote the future expansion of lion populations into their historic range.

All states in the eastern half of the country should have protections in place for mountain lions who may disperse into their historic range.

**4 Improved habitat protection and safe passages** Ensuring mountain lion populations have access to large, contiguous habitat without the threat of human persecution or development should be a priority for state lawmakers and the general public. Doing so is not only good for mountain lions, it can protect other wildlife and entire ecosystems. As a keystone species, mountain lions help regulate wildlife populations and maintain the overall health of the habitats in which they live. In order to conserve mountain lions, policies should focus on creating and maintaining refugia as well as safe passages that ensure habitat connectivity.

**Refugia** Mountain lions are in great need of refugia, i.e. large, contiguous habitats that can support stable populations. Currently, only six to nine percent of current lion range lies within fully protected areas.<sup>315</sup> Additionally, the growing number of people in mountain lion habitat, such as from increased development and recreation in these areas, is likely to cause an increase in conflicts with humans, though the risk of conflict is still relatively small.<sup>316</sup> Space safe from human development and intervention should be set aside for lions in order to prevent an amount of “human disturbance” that is beyond the species’ ability to withstand.<sup>317</sup>

Creating refugia is a common management strategy that is used to minimize exposure to risks by providing safe havens for individual lions at the small scale and entire populations at the large scale. Refugia act as safety nets from habitat loss and overexploitation, reducing mortality and supporting a population’s survival.<sup>318</sup> The creation of refugia for mountain lions and other large carnivores is essential for the species’ long-term survival and for the conservation of a myriad of other species as well, such as their ungulate prey. Not only will these areas protect lions immediately from human persecution, they will also provide suitable habitat for lions to adapt to future changing environmental conditions such as from climate change.<sup>319</sup> While habitats may change over time, the resiliency of lions and their ability to live in a variety of ecosystems will support their persistence in these changing environments. As long as adequate refugia are available for the species, lions will surely adapt.<sup>320</sup>

Refugia must offer good quality and quantity of habitat preferred by mountain lions, sufficient quantity and quality of wild prey and enough “edge” habitat<sup>321</sup> so lions can effectively hunt.<sup>322</sup> While the size of refugia will depend on what is present in an area, it should be quite large. Recent research suggests that refugia should encompass not less than 3,000 square kilometers.<sup>323</sup> Additionally, refugia should be free from human activity targeting mountain lions, including trophy hunting and other anthropogenic threats and have little fragmentation such as from road development.

Public lands, including but not limited to national forests, Bureau of Land Management lands, national parks and monuments, Wilderness Areas, state parks and state trust lands, should be managed as mountain lion refugia where large areas of land are available—approximately 3,000

square kilometers or larger.<sup>324</sup> States should work to identify and designate additional large ecosystems as mountain lion refugia through habitat conservation planning efforts and State Wildlife Action Plans. Agreements with landowners in the form of conservation easements with organizations such as the Humane Society Wildlife Land Trust also provide a long-term option for creating and maintaining mountain lion refugia.

**Connectivity** The creation and maintenance of habitat connectivity must be included in the designation of refugia for mountain lions. Habitat connectivity is paramount to long-term mountain lion protection and habitat conservation. These areas provide safe passage for lions to shift and expand their ranges, supporting the genetic flow between subpopulations and allowing lions to better access migrating prey populations.<sup>325</sup>

Habitat connectivity is also increasingly necessary for mountain lions and their prey as ecosystems face the effects of climate change. Shifts in the blooming of plants and the migration of herbivorous animals will certainly impact mountain lions through prey availability. While mountain lions are able to predate on a variety of species, habitat connectivity will promote their ability to follow prey species to new habitat and prevent added pressure from human intervention and possible collisions with vehicles.<sup>326</sup>

Ideally, habitat connectivity would be conserved by protecting landscape-scale “linkages” that provide easy access to a variety of natural communities and ecological processes.<sup>327</sup> In fragmented landscapes, however, connectivity is often reduced to protection of “corridors” intended to accommodate direct movement of mountain lions and other wildlife between two core habitats.<sup>328</sup> As habitat fragmentation due to human development has increased over time and is likely to continue doing so, the creation and protection of corridors should now be a primary objective of habitat and wildlife protection efforts, including those specific to mountain lions and their prey.

Connectivity can come in the form of protecting both public and private lands as well as restoring natural ecosystems in critical areas that have been developed. It should be safe from human threats, including new development and fragmentation. Housing developments, resource extraction and road development are just some of the human threats that must be avoided. Road development and vehicle collisions with mountain lions in particular, can be quite damaging to lion populations, especially those that are already small and fragile.<sup>329</sup> In Florida, for example, dozens of panthers die each year from vehicle collisions, accounting for the large majority of reported panther deaths.<sup>330</sup>

While most animal-vehicle collisions in the United States involve deer (87 percent), many other species are struck on roadways.<sup>331</sup> Vehicle strikes are expensive to society. According to the U.S. Department of Transportation (DOT), the estimated average cost of a single animal-vehicle collision is \$6,126 per incident; that includes property damage, human injuries, or, more rarely, fatalities.<sup>332</sup> For the years 2001-2002,

an estimated 26,647 injuries occurred as a result of animal-vehicle collisions.<sup>333</sup> But those are not the only costs. Others losses include:

- *The suffering and distress of injured animals*
- *The costs to rehabilitate animals, including X-rays and veterinary care by nonprofit organizations*
- *The loss of expenditures involved in conservation efforts for threatened or endangered species by governments and organizations*
- *The costs to municipalities of cleanup and disposal of tens of thousands of animal carcasses*
- *The loss to businesses from loss of transportation, lodging and meal costs that would have been spent by wildlife recreationists of all types*
- *The emotional distress of people involved in accidents*
- *The cultural losses to groups (such as wildlife watchers and mountain lion advocates) and Native Americans.*<sup>334</sup>

Though mountain lion deaths from vehicle collisions are common, they are easily avoidable. Wildlife crossing structures, such as road overpasses and underpasses, including drainage culverts, can reduce the injury and death of lions and other wildlife as well as human drivers and vehicle passengers.<sup>335</sup> Additionally, while highway overpasses and underpasses can be expensive, building their creation into the design of new roads can save

significant costs. Using existing structures, such as culverts and tunnels, can reduce costs to the development of safe passages.<sup>336</sup> The mitigated costs from reduced vehicle collisions and the subsequent reduction in injury to humans and wildlife should also be a factor when cost is considered.

Optimizing placement of highway-crossing structures is essential and must be part of the planning process. Identifying areas that are most in need of corridors and improved connectivity should be a priority early on in the development process.<sup>337</sup> To increase the likelihood of lions and other wildlife using crossings, habitat restoration near crossing points and animal-proof fencing that serves to funnel wildlife to passages can facilitate movement between habitats.<sup>338</sup> A study of the movement of southern California mountain lions indicated that they preferred nocturnal travels and routes involving riparian vegetation.<sup>339</sup> A modeling study for Florida panthers suggests placing crossing structures near where most panthers have been struck by motor vehicles, or using animal-tracking devices to determine the best placement based on panthers’ movements.<sup>340</sup>

Planners must keep in mind that not all crossing structures are suitable for mountain lions. While deer, elk and grizzly bears prefer wide-open space, both black bears and mountain lions prefer to cross structures with forest cover<sup>341</sup> and mountain lions prefer underpasses to overpasses.<sup>342</sup> As part of their study of mountain lions crossing the Trans-Canada highway in Banff National Park, Alberta, Canada, researchers found that mountain lions used crossing structures more often in winter than in summer.<sup>343</sup> Human use of wildlife crossings did not prevent mountain lions from using them as well.<sup>344</sup>



Mountain lion, winter in the Rocky Mountains Design Pics Inc/Alamy Stock Photo

**5 Humane mountain lion response** Far too many lions are unnecessarily killed each year by state and federal officials for entering human communities or killing pets and livestock. Potential conflicts can be easily prevented or reduced. Moreover, agencies can adopt humane policies to improve how conflicts are managed, saving the lives of mountain lions who pose little or no threat to humans, pets and livestock.

While conflicts with mountain lions are rare, creating and implementing humane protocols to address conflicts should be adopted by all states, especially those with established lion populations. The California Department of Fish and Wildlife's Response Team Approach stands out as a model for this type of policy reform. In 2013, the Department adopted a revised policy on mountain lion depredation, public safety and animal welfare that lays out a coherent process for state response to specific instances of mountain lion-human conflict.<sup>345</sup> The policy begins by acknowledging that California's human population continues to grow and expand into wildlife habitat. Human-wildlife interaction is more of a people problem than a wildlife problem. It is, therefore, incumbent on people to prevent conflicts and respond responsibly to conflicts that do occur. The policy:

- Guides the Department's response to mountain lion conflicts in a consistent manner while minimizing risks to public safety.
- Informs the public of the Department's actions to prevent and resolve conflicts.
- Facilitates a centralized database to support training, future response to conflicts and consistency and transparency in communicating about these conflicts.

The policy applies to situations where:

- Mountain lions enter areas of human habitation.
- Mountain lions depredate or are found to be a threat to livestock or pets.
- Mountain lions are a public safety concern.

The policy lays out a process detailing how the Department will respond to mountain lion incidents. Once each human-mountain lion interaction is categorized as one of four—sighting, livestock conflict, potential human conflict, or public safety—the policy describes what actions will be taken and who will be responsible for taking those actions.

A key advantage for California in having this policy in place is that appropriate responses to all anticipated types of human-mountain lion interactions have been established in advance, as recommended by mountain lion management experts.<sup>346</sup> Further, the Department actively communicates these potential responses to the public through its Keep Me Wild program and website as well as through media releases.

The policy recently guided Department response during an incident at McClellan Ranch Preserve in Cupertino, when a mountain lion sighting prompted Department staff to order all people to leave while the mountain lion was monitored until it left of its own accord.<sup>347</sup> The wait-and-see response taken in accordance with the policy may have saved the mountain lion from more intensive intervention, such as tranquilizing and relocation, or even death, while also safeguarding human park-users. In another incident in urban Los Angeles, a mountain lion seen on a high school campus and in backyards was tranquilized and relocated to the Santa Susana Mountains.<sup>348</sup> The Department determined that, due to his location, this mountain lion was a potential public safety threat and took action guided by the policy to remove the mountain lion from this highly urban setting.



Left Image Mountain lion in Montana Jantina Tuthill/Alamy Stock Photo

Right Image Female mountain lion and her kittens in the wild



**6 Improved public perception and engagement** Public support for mountain lion conservation is essential for the species' long-term persistence in the U.S. Support for wildlife conservation at the state and federal level requires strong public backing to achieve beneficial legislative and regulatory action.<sup>349</sup>

Fortunately, most Americans have positive views of mountain lions and have a general concern for animal welfare.<sup>350</sup> In recent decades, improved public perception of mountain lions has likely led to increased policies to protect them and other large carnivores throughout the U.S.<sup>351</sup> For example, California voters banned the trophy hunting of lions in the state in 1990 and defeated an effort to reinstate lion hunting in 1996. Yet while perceptions and values toward mountain lions have changed in many areas over time, negative perceptions still permeate throughout the species' current and historic range, resulting in a lack of large-scale protections.

Many myths still govern the way the public perceives mountain lions. While these myths can be easily dispelled, the negative perceptions they have created are long-lasting. Additionally, lion sightings and incidents can raise concerns among the public, especially when the media exaggerates and misrepresents lion behavior and their relative danger to people, pets and livestock. Whether intentionally or not, media can cause fear among the public when reporting on mountain lions; news stories often fail to provide a full picture of conflicts that arise.

While conflicts with mountain lions are rare, most conflicts take place between people, pets and livestock living at the urban-wildland interface.<sup>352</sup> To reduce these conflicts and establish a greater tolerance for mountain lions and other wildlife in these areas, a variety of

coexistence tools must be offered to and implemented by people living in or near lion habitat. Examples of such tools include the use of livestock-guarding dogs and nonlethal repellents, such as motion sensor sirens and lighting.<sup>353</sup> This also includes behavioral tools, such as avoiding potentially risky situations by understanding mountain lion behavior (not recreating in the wilderness between dusk and dawn) and having adults herd livestock rather than children.<sup>354</sup>

Addressing myths, reducing unnecessary fear stirred by the media and providing effective coexistence tools to people living and recreating in lion territory are essential for the species' long-term protection and conservation. Additionally, these steps can further improve human perceptions of mountain lions and, subsequently, their willingness to actively promote the species' protection. This requires reliable, influential public outreach and education that can be easily digested and implemented. The public would significantly benefit from greater information about mountain lions, because knowledge helps mold beliefs and values and encourages proper wildlife management.<sup>355</sup> The education provided should include information on the state of mountain lions and how their populations are currently threatened, as well as best practices for coexistence. Providing information on how lions benefit people and entire ecosystems may also increase positive perceptions of the species. The following are just some of the ways the public can be informed:<sup>356</sup>

- Public presentations with a variety of experts, including state wildlife agency staff, advocacy representatives and biologists who specialize in the species
- Easily distributed fact sheets and online resources with coexistence strategies produced in multiple languages to reach the greatest number of individuals

- Educational materials that counter misinformation about mountain lion behaviors and related levels of risk
- Printed materials, social media posts and media coverage immediately following incidents—such as human or pet conflicts—to dispel fear and provide the best available information
- High quality videos that attract and hold the public's attention
- Citizen science programs that allow the public to participate on the remote tracking of lions in an area and identify areas of potential conflict

Public education and outreach could be seen as an investment in beneficial long-term change. These efforts change attitudes and actions at the individual and local level. Yet over time, these attitudes and actions can spread throughout entire communities, thus improving public perception of mountain lions at larger scales. As such, people living and recreating in or near mountain lion habitat should be the top priority for outreach and education. These areas have the greatest need for developing and maintaining positive perceptions of lions as well as implementing coexistence strategies.

By implementing public outreach and education, members of the public are more likely to serve as advocates for mountain lion protection and conservation instead of acting as an added pressure on their survival. While this may not cause immediate change in improving the protection and conservation of mountain lions, it can serve as a critical tool for fundamental change by influencing public policy and improving our ability to reduce human impacts on mountain lion populations.

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**APPENDIX A:** Potential habitat GIS methodology

**Modeling Potential Mountain Lion (*Puma concolor*)  
Habitat in the Western U.S.**  
Kurt Menke, GISP  
Bird's Eye View GIS  
June 14, 2016

**Habitat criteria**

Mountain lions are habitat generalists and occupy a wide range of habitats. The presence of large ungulate prey is considered an essential habitat component (Seidensticker et al. 1973; Ackerman et al 1982; Koehler and Hornocker 1991). Physical and structural characteristics of the terrain are also important to determining habitat suitability. Physical ruggedness of the

terrain, which provides stalking cover and den sites, is a commonly mentioned attribute of good mountain lion habitat (Seidensticker et al. 1973; Koehler and Hornocker 1991; Fitzgerald et al. 1994; Beier 1996; Logan 2001, Feldhamer et al. 2003). Mountain lions also tend to establish home ranges in areas with low road densities and low human disturbance (Van Dyke et al. 1986).

**Methodology**

A deductive model was created using these habitat determinants. In a deductive model, factors known to influence habitat selection are combined to generate the habitat model, as opposed to an inductive model where the model is based upon occurrence points. The three inputs to the model were: available prey, terrain ruggedness index and human footprint.

The model was created using ArcGIS 10.3. Each input was a raster dataset with 95 meter resolution. Inputs were reclassified so cells representing ideal conditions had values of 100 and poor conditions 1. The available prey input was created by combining habitat data for mule deer, elk and bighorn sheep in a weighted sum operation. Mule deer were weighted 0.8 and elk and bighorn sheep 0.1 each.

A terrain ruggedness index (TRI) was generated from a westwide digital elevation model. The available prey, TRI and human footprint model

were combined in a weighted sum operation to generate the potential habitat map. The available prey was weighted at 0.5 and the TRI and human footprint at 0.25 each. These weights were derived from those utilized by the Corridor Designer team and previous mountain lion habitat models produced by Bird's Eye View.

The model was completed by eliminating areas covered by lakes and areas above 4,000 meters (Currier 1983) above sea level from the model.

Core areas were generated by using the focal majority operation with a moving window of five km. The five km distance was used as it matches a typical home range radius for female mountain lions (Dickson et al). These data were used to calculate the habitat acreages by state.

The final habitat is shown in Figure A1: Potential mountain lion habitat in the west.

**FIGURE A1:** Potential mountain lion habitat in the west

Potential mountain lion habitat



FIGURE A2: Available mountain lion prey in the west

# Available prey

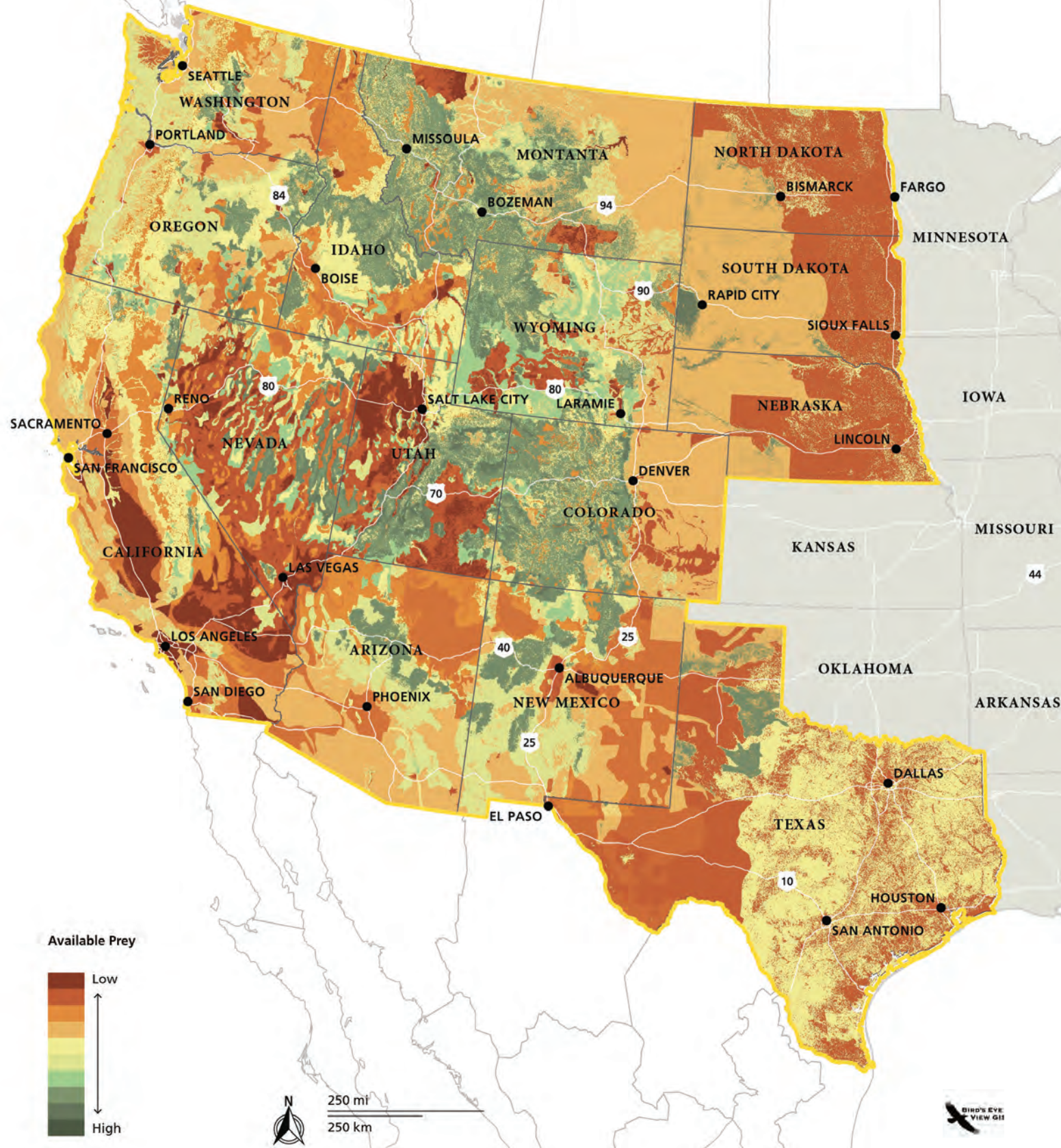


FIGURE A3: Western United States terrain ruggedness index

# Terrain ruggedness index

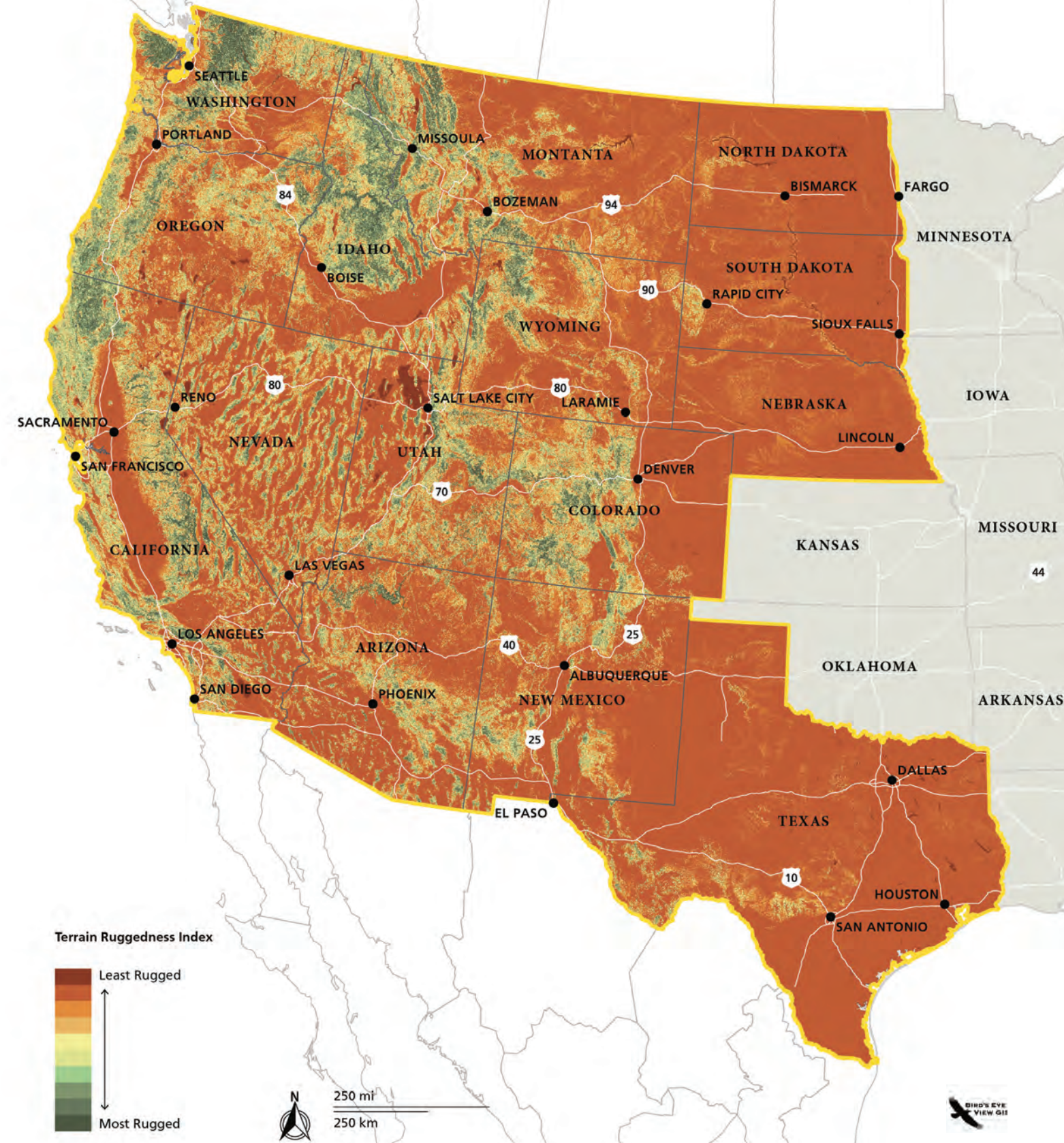
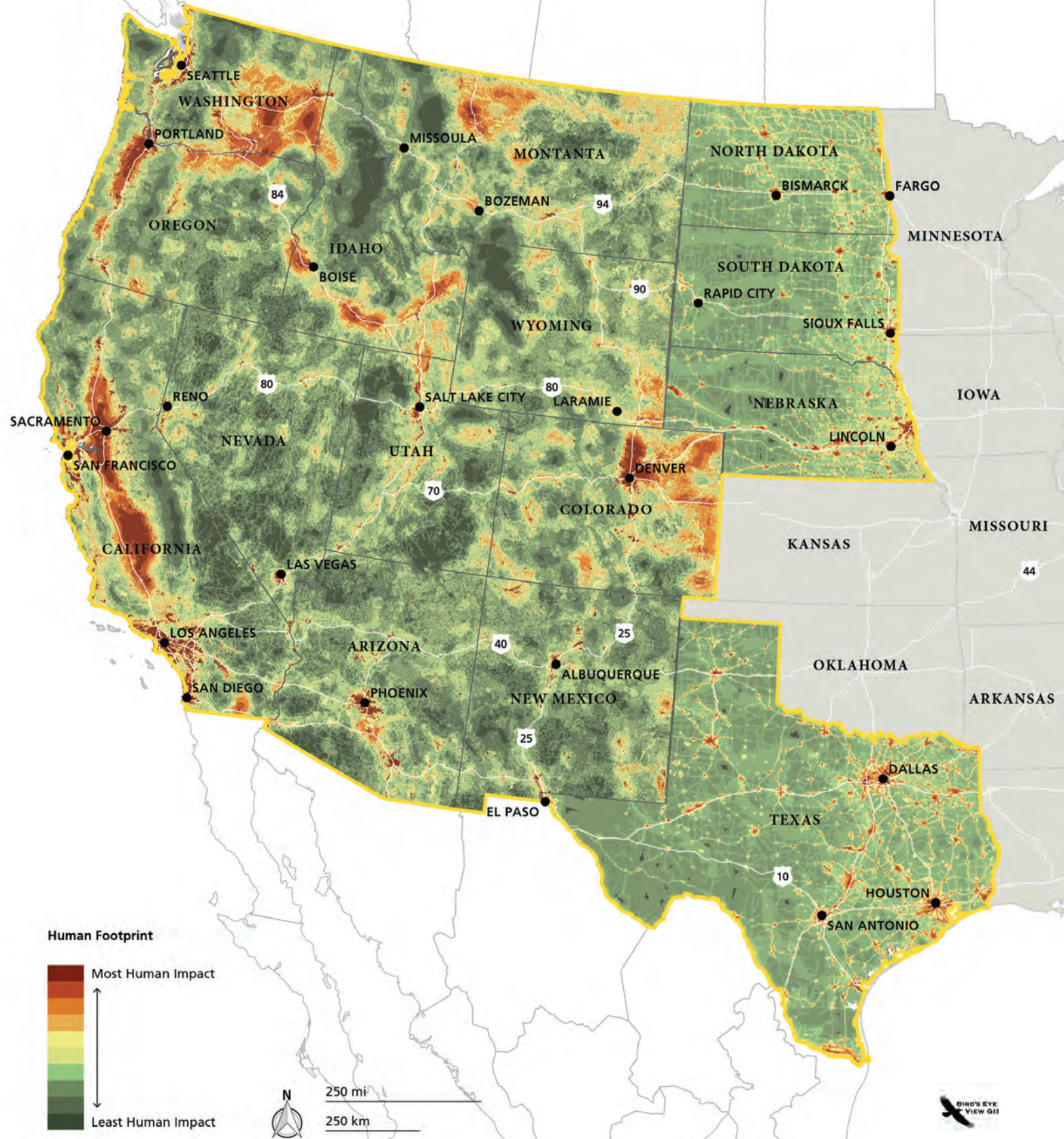


FIGURE A4: Western United States USGS human footprint

# USGS human footprint



## DATA SOURCES

The biggest challenge was identifying homogenous datasets covering the western eleven states. The following datasets were evaluated as being the best available data for the identified cougar habitat determinants.

### Human footprint

The Human Footprint in the West: A Large-scale Analysis of Anthropogenic Impacts

[sagemap.wr.usgs.gov/HumanFootprint.aspx](http://sagemap.wr.usgs.gov/HumanFootprint.aspx)

### Elevation

CGIARCSI

SRTM 90m Digital Elevation Database v4.1

[cgiar-csi.org/data/srtm-90m-digital-elevation-database-v4-1](http://cgiar-csi.org/data/srtm-90m-digital-elevation-database-v4-1)

### Mule deer habitat

Mule Deer Mapping Project: RS/GIS Laboratory – Utah State University

[gis.usu.edu/current\\_proj/muledeer.html](http://gis.usu.edu/current_proj/muledeer.html)

### Elk habitat

National GAP Analysis Program

[gapanalysis.usgs.gov/species/](http://gapanalysis.usgs.gov/species/)

### Bighorn sheep habitat

National GAP Analysis Program

[gapanalysis.usgs.gov/species/](http://gapanalysis.usgs.gov/species/)

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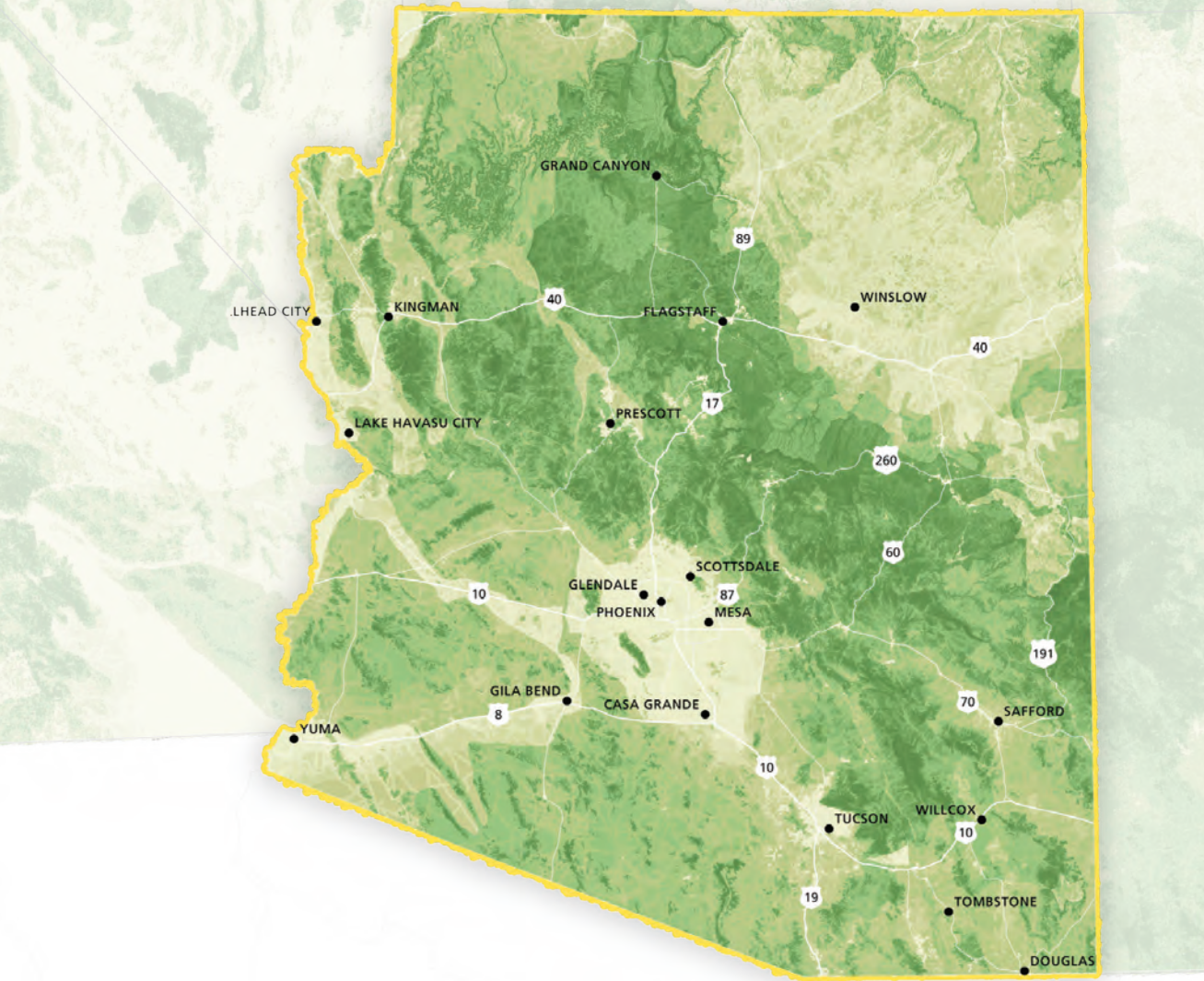
All Canada Photos/Alamy Stock Photo  
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Jantina Tuthill/Alamy Stock Photo  
Jim Zuckerman/Alamy Stock Photo  
Moodboard/Alamy Stock Photo  
Nevada Department of Wildlife

Nevada Department of Wildlife and Tom Knudson  
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Yellowstone Cougar Project/National Park Service

APPENDIX B: State by state review

# State of the mountain lion: Arizona

FIGURE AZ1 Potential mountain lion habitat, Arizona



**Potential mountain lion habitat**

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

**Summary**

Arizona ranks sixth as having the highest trophy hunt mortality numbers for mountain lions nationwide. Between 2005 and 2014, trophy hunters killed 2,496 mountain lions (Figure AZ2). In the 2014-15 hunting season, trophy hunters killed 233 mountain lions; 70 percent were hunted using packs of radio-collared hounds. Trophy hunting accounts for over 86 percent of all human-caused lion mortality annually in Arizona.

In some hunting units, per the state hunting regulations, trophy hunters are able to track and kill mountain lions at night. Arizona allows almost unlimited mountain lion hunting with multiple bag limits<sup>i</sup> and a year-long season that spans the peak birthing season in the summer months.

If threats are reduced, primarily from trophy hunting and predator control, Arizona's adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, reducing intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep. An analysis of potential mountain lion habitat and prey analysis found that 50,693,433 acres (205,149 km<sup>2</sup>) of land in Arizona could support stable mountain lion populations (Table AZ1). This amount of land could support up to 3,488 adult mountain lions across the state, a larger population than what Arizona Game and Fish claims is currently present throughout the state (Table AZ2).

Arizona Game and Fish permits high levels of trophy hunting and predator control, restricting natural growth of the state's mountain lion population. Additionally, land development, fossil fuel extraction, and other mineral exploitation are exacerbating habitat loss and fragmentation for mountain lions and their prey. These ongoing activities could reduce potential mountain lion habitat in the future, further restricting population growth and reducing the number of individual lions in Arizona.

**State Management**

**State Wildlife Agencies:** Arizona Game and Fish

**Most Recent Mountain Lion Strategic Plan:** Arizona Game and Fish Department Mountain Lion and Bear Conservation Strategies Report, 2009

**Species Status:** Mountain lions are regulated as big game mammals (AZ § 17-101)

**Hunt Seasons:** Year-round (Ariz. Admin. Code R. 12-4-318)<sup>ii</sup>

**2015 Hunting Quota:** No quota<sup>iii</sup>

**Bag Limits:** One mountain lion per person, per season except in units with a multiple bag limit<sup>iv</sup>

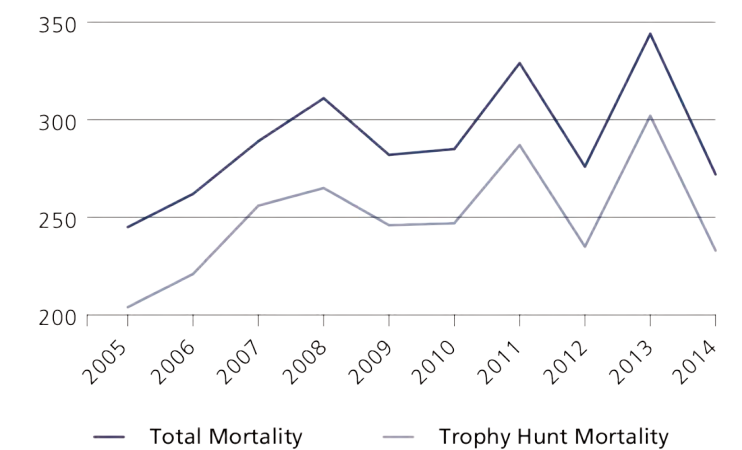
**Permitted Hunting Methods:** It is legal to hound mountain lions (AZR 17-309-A-6). Legal weapons for mountain lion hunting include any firearm, crossbow, or bow and arrow (AZR 12-4-304, 12-4-318, 12-4-216). Trapping is prohibited (Ariz. Rev. Stat. Ann. § 17-361(A); Ariz. Admin. Code R. 12-4-307(A)). The hunting of spotted kittens is prohibited. Arizona permits night hunting of mountain lions with a 24-hour/daylong open season in some units (Ariz. Admin. Code R. 12-4-304). The use of artificial lights is permitted (Ariz. Admin. Code R. 12-4-304). The use of artificial calls is not prohibited.

**Mountain Lion Hunting Requirements:** Arizona Game and Fish requires hunters to pay a small fee for a license to kill a mountain lion (resident: \$37, nonresident: \$160 for hunt and fish combination). Hunters are also required to purchase mountain lion hunting tags (resident: \$15, nonresident: \$75). Hunters must notify Arizona Game and Fish within 2 days (48 hours) of killing a lion.<sup>v</sup>

**Trophy Hunt Mortality**

Arizona Game and Fish permits large numbers of mountain lions to be trophy hunted. Between 2005 and 2014, approximately 2,496 mountain lions were killed by trophy hunters in Arizona, accounting for more than 86 percent of all human-caused mountain lion mortalities (Figure AZ2). In the 2014-15 hunting season, trophy hunters killed 233 mountain lions.

FIGURE AZ2 Mountain lion mortality, Arizona 2005-2014



**Potential Habitat**

Over 50 million acres of Arizona's land could be suitable habitat for mountain lion populations. This amounts to over 69 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table AZ1; Figure AZ1).

TABLE AZ1 Arizona maximum potential habitat

Acreage (Avg., Good, & Optimum Habitat)	50,693,433
KM <sup>2</sup>	205,149
% Potential Habitat of Total State Land	69.5%



State of the mountain lion: Arizona (cont.)

Arizona's Mountain Lion Population

**Arizona Game and Fish's Most Recent Population Estimate:** 2,500 to 3,000 mountain lions statewide, including all age groups.<sup>vi</sup> Based on this estimate, the adult population estimate is likely around 1,525 to 1,830 lions, which Logan and Sweanor (2001) calculate as 61 percent of the total population.<sup>vii</sup>

**Maximum Potential Population Estimate:** 3,488 adult mountain lions statewide. Approximately 205,149.05 km<sup>2</sup> of habitat throughout Arizona could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table AZ2).

**Maximum Potential Population Estimate:**<sup>viii</sup> 3,488 adult mountain lions statewide. Approximately 205,149.05 km<sup>2</sup> of habitat throughout Arizona could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table AZ2).

TABLE AZ2 Arizona maximum potential population

Potential Habitat KM <sup>2</sup>	205,149
State Agency Pop. Adults Only (61% of Total Pop.)	1,525 – 1,830
Potential Adult Pop. Estimate (1.7 Lions/100KM <sup>2</sup> )	3,488

Arizona habitat could presently sustain a significantly larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 1,658 to 1,963 adult lions based on Arizona Game and Fish's most recent population estimate (Table AZ2).

i. Hunters are allowed to take one mountain lion per year except in units with a "multiple bag limit." In units with a multiple bag limit, hunters may take one mountain lion per day until the multiple bag limit is reached. Once the multiple bag limit has been reached, the season remains open and reverts to the calendar year bag limit of one mountain lion. Arizona Game and Fish Department, 2015 to 2016 Hunting Regulations. Retrieved from <https://www.azgfd.com/Portallimages/files/regs/mainregs.pdf>

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iv. Ibid.

Recent Policy Changes

In 1994, Arizona voters approved Proposition 201, the Arizona Public Land Trapping Statute, which prohibited the use of leg-hold traps, instant kill body gripping traps, poisons, or snares to take wildlife on any public land with exceptions for health or safety, scientific research, wildlife relocation or rodent control. Voters passed the proposition by more than 58 percent of the vote.

The Arizona Hunting and Fishing Amendment, known as Prop 109 or HCR 2008 was on the November 2010 ballot in Arizona as a legislatively referred constitutional amendment which would have repealed voters' rights to enact wildlife protection measures. Voters defeated the measure by 56.5 percent to 43.5 percent. In 2016, Arizona legislators introduced HCR 2023 and HCR 2043 to amend the voter protection provisions of the Arizona Constitution and allow the Legislature to more easily amend, repeal, and defund measures passed by voters. The two bills failed to pass the Arizona Senate.

In 2017, Senator Steve Farley introduced SB 1182, to prohibit the trophy hunting and trapping of mountain lions and bobcats as well as protect lynx, jaguars and ocelots from incidental killing in Arizona.

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viii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.

State of the mountain lion: California

FIGURE CA1 Potential mountain lion habitat, California



Potential mountain lion habitat

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

50 mi  
50 km

## State of the mountain lion: California (cont.)

### Summary

Mountain lions have been protected from trophy hunting in California for more than four decades. Sport hunting of mountain lions is illegal in California, and mountain lions have not been hunted in the state since 1972. In 1990, California voters approved a prohibition on mountain lion hunting through a ballot initiative that reclassified mountain lions as a specially protected mammal. Despite an attempt in 1996 to overturn the trophy hunting ban, Californians overwhelmingly voted to preserve the state's prohibition against hunting mountain lions. However, the California Department of Fish and Wildlife permits livestock owners to kill mountain lions who prey on livestock, once a livestock owner obtains a special state permit. In California, an average of 86 lions per year for the years 2005 to 2014 were killed in retaliation for killing mostly unguarded hobby livestock such as goats, who live in lion country.

A number of California's mountain lion populations are faced with threats caused by living too close to human communities—especially those in Southern California where lion habitat is increasingly fragmented and developed. Rodenticides and other poisons are an ongoing threat to mountain lions and their prey in California.

Mountain lions in California also face ongoing threats from collisions with automobiles. In 2016 alone, over 100 mountain lions were killed in California after being hit by cars. One mountain lion, P-39, who had been tracked by the National Park Service, was struck and killed on the Ronald Reagan Freeway in December 2016. She had three six-month old kittens, one of whom was tragically killed on the same freeway a few weeks later.<sup>1</sup>

California currently has no reliable mountain lion population estimate. The California Department of Fish and Wildlife still relies on an estimate published in 1989, estimating the population to be between 4,000 and 6,000 lions. The department has a mountain lion population study currently underway and anticipates an update to the state's population estimate in about five years. California will also assess population genetics—as inbreeding is a concern in the southern California where certain populations are isolated by highways.

An analysis by Bird's Eye GIS of potential mountain lion habitat and prey analysis found that 58,099,801 acres (235,122 km<sup>2</sup>) of land in California could support stable mountain lion populations (Table CA1). While there is no current estimate of mountain lion population size in California, the state's habitat could support up to 3,997 adult mountain lions if treats to the species are reduced (Table CA2). The future of mountain lions in California will depend on adequate habitat preservation, creating corridors for isolated populations, improving non-lethal conflict prevention, preventing poisons from entering the food web and reducing trophy hunting of lions in neighboring states.

### State Management

**State Wildlife Agency:** California Department of Fish and Wildlife

**Most Recent Mountain Lion Strategic Plan:** None

**Species Status:** Mountain lions are classified as a specially protected mammal (CA FISH & G § 4800). Trophy hunting of mountain lions is prohibited (Cal. Fish & Game Code § 4800(b)(1)).

### Human-Lion Conflict Mortality

On average over the 10-year period from 2005 to 2014, 86 mountain lions were killed each year in California for preying on domestic livestock. Livestock owners are not required to implement non-lethal conflict prevention measures before California Department of Fish and Wildlife will issue a “depredation” permit (Cal. Fish & Game Code § 4803)<sup>ii</sup>, which is a permit that allows one to kill the suspected offending lion. However, whenever possible, California Department of Fish and Wildlife recommends nonlethally managing mountain lion damage. California's Fish and Wildlife personnel are responsible for advising property owners of measures to reduce the potential for attracting mountain lions and best ways to protect livestock to reduce or minimize damage.<sup>iii</sup>

Few lions are killed for human safety reasons in California. As a result of a recently adopted statute requiring non-lethal response to lion incidents not involving imminent threat to human safety (CA FISH & G § 4801.5), lions in California who stray into human communities are protected from unnecessary lethal control, establishing a model for all other states to emulate.

### Potential Habitat

Over 58 million acres of California's land could be suitable habitat for mountain lion populations. This amounts to over 57 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration for prey availability, terrain, and distance to human communities (Table CA1; Figure CA1).

**TABLE CA1** California maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	58,099,801
<b>KM<sup>2</sup></b>	235,122
<b>% Potential Habitat of Total State Land</b>	57.6%

### California's Mountain Lion Population

**California Department of Fish and Wildlife's Most Recent Population Estimate:** Based on their “crude estimate” published in 1989, California officials believe 4,000 to 6,000 mountain lions exist statewide.<sup>iv</sup> Given this, and using Logan and Sweanor's (2001) calculus for an adult population, 61 percent of the total population, the adult California lion population could range between 2,440 to 3,660 individuals.<sup>v</sup>

**Maximum Potential Population Estimate<sup>vi</sup>:** 3,997 adult mountain lions statewide. Approximately 235,122 km<sup>2</sup> of habitat throughout California could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table CA2).

**TABLE CA2** California maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	235,122
<b>State Agency Pop. Adults Only (61% of Total Pop.)</b>	2,440-3,660
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	3,997

Reducing threats to mountain lions in California, such as protecting suitable habitat for mountain lions and their prey, developing and maintaining wildlife corridors, and reducing human-caused mortality, could increase the adult lion population by 337 to 1557 individuals based on the state's crude population estimate.

### Recent Policy Changes

In 1990 California voters approved Proposition 117, the California Wildlife Protection Act, which designated mountain lions as a specially protected species and prohibited the trophy hunting of mountain lions. The proposition passed with more than 52 percent of the vote. The proposition also established the Habitat Conservation Fund and guaranteed it funding of \$30 million a year for 30 years (through 2020) for the use of wildlife habitat acquisition, enhancement and restoration. In 1996, a vote was held on Proposition 197 to repeal Proposition 117's designation of mountain lions as a specially protected species. Proposition 197 was unsuccessful, losing by more than 58 percent of the vote.

In 2013, Senate Bill 132 passed the California Legislature and was signed into law by Governor Jerry Brown (CA FISH & G § 4801.5). The measure requires the California Department of Fish and Wildlife to use nonlethal procedures when relocating mountain lions who do not pose an imminent threat to humans. In response to this measure, the California Department of Fish and Wildlife adopted a revised policy that governs the state's response to specific instances of mountain lion-human conflict.

In December 2016, Assemblymember Richard Bloom (D-Santa Monica) introduced Assembly Bill 8 which would modify § 4803 of the California Fish and Game Code granting the Department of Fish and Wildlife discretion to issue a permit to kill a mountain lion that has injured or killed livestock or other property. Presently, the law mandates the issuance of such permit.

i. “California's Deadly Roads.” Mountain Lion Foundation. Accessed January 10, 2017. <http://www.mountainlion.org/us/sd/-sd-portal.asp>; “Mountain lion kitten struck and killed on 118 Freeway.” Posted January 5, 2017. L.A. Times. Accessed online January 10, 2017 at: <http://www.latimes.com/local/lanow/la-me-ln-mountain-lion-kitten-killed-20170105-story.html>.

ii. Any person, or the employee or agent of a person, whose livestock or other property is being or has been injured, damaged, or destroyed by a mountain lion may report that fact to the department and request a permit to take the mountain lion. Cal. Fish & Game Code § 4802. Once the California Department of Fish and Game has taken steps to confirm and is “satisfied” that depredation by a mountain lion has occurred as reported, “the department shall promptly issue a permit to take the depredating mountain lion.” Cal. Fish & Game Code § 4803. Additionally, “[a]ny mountain lion that is encountered while in the act of pursuing, inflicting injury to, or killing livestock, or domestic animals, may be taken immediately by the owner of the property or the owner's employee or agent.” Cal. Fish & Game Code § 4807.

iii. California Department of Fish & Wildlife. Human/Wildlife Interactions in California: Mountain Lion Depredation, Public Safety, and Animal Welfare. March 2013. Retrieved from <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68271&inline>

iv. <https://www.wildlife.ca.gov/Conservation/Mammals/Mountain-Lion/FAQ#359951241-how-many-mountain-lions-are-in-california>

v. Logan, K. A., and L. L. Sweanor. 2001. Desert puma: evolutionary ecology and conservation of an enduring carnivore. Island Press, Washington, DC.

vi. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.

# State of the mountain lion: Colorado

FIGURE CO1 Potential mountain lion habitat, Colorado



**Potential mountain lion habitat**

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

**Summary**

Colorado ranks third highest in the U.S. for its mountain lion trophy-hunting mortality. The hunting quota increased markedly since 2005, too. Between 2005 and 2014, trophy hunters killed 3,664 mountain lions (Figure CO2). In the 2014 to 2015 hunting season, trophy hunters killed 467 mountain lions; 94 percent were hunted by hounds. Trophy hunting accounts for over 86 percent of all human-caused lion mortality annually in Colorado.

If, threats to mountain lions were reduced, primarily from human persecution and predator control, Colorado's lion population could grow and, more important, age, which creates social stability amongst mountain lions, reducing intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion

conflicts and protects rare ungulate species such as bighorn sheep.

An analysis of potential habitat and prey analysis found that 42,259,738 acres (171,019 km<sup>2</sup>) of land in Colorado could support stable mountain lion populations (Table CO1). This amount of land could support up to 2,907 adult mountain lions across the state, a larger population than what Colorado Parks and Wildlife claims is currently present throughout the state (Table CO2).

Colorado Parks and Wildlife permits too-high levels of trophy hunting and predator control on its mountain lion population. Additionally, urban and exurban sprawl, fossil fuel extraction, and other mineral exploitation exacerbate habitat loss and fragmentation for mountain lions and their prey in Colorado. These threats reduce potential habitat for both mountain lions and their prey—even as the some stakeholders have pressured state

officials to reduce native carnivore populations (e.g., black bears, coyotes and mountain lions) since the late 1990s. While Colorado Parks and Wildlife sets the quota numbers and pays livestock owners compensation for any lion losses caused to those owners, the Colorado Department of Agriculture, in the early 1990s, grabbed the authority to over wildlife who cause livestock conflicts in Colorado.

**State Management**

**State Wildlife Agencies:** Colorado Parks and Wildlife & Colorado Department of Agriculture

**Most Recent Mountain Lion Strategic Plan:** Mountain Lion Population Management (Data Analysis Unit (DAU) Plans, 2004

**Species Status:** Mountain lions are regulated as a big game species (33-1-102 C.R.S., et. seq.)

**Hunt Season:** Two seasons - November 16-March 31 and April 1-30

**2015 Hunting Quota:** 665 lions<sup>i</sup>, permitting the killing of 15 to 19 percent of the state's population estimate<sup>ii</sup>. Colorado has no female subquota.

**Bag limits:** One mountain lion of either sex per person<sup>iii</sup>; Hunters may harvest one lion from November 16 to March 31 AND one lion (with purchase of a new license) from April 1 to 30 or November 16 to March 31 of the following season.<sup>iv</sup>

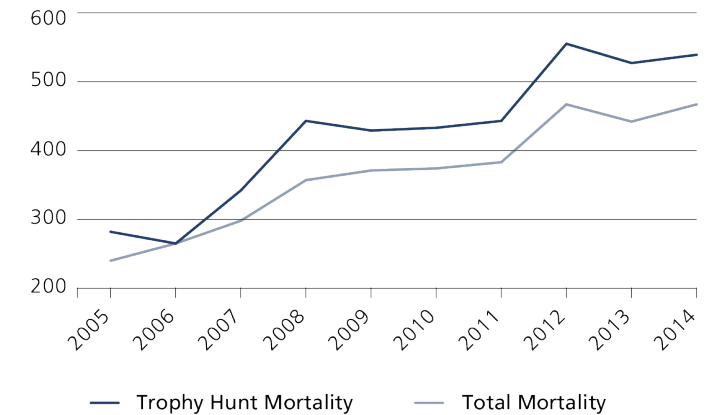
**Permitted Hunting Methods:** It is legal to hound mountain lions, limited to eight hounds per pack (2 Colo. Code Regs. § 406-0:004(A)(2)(a)(1): § 406-2:242(A)(1)). Legal weapons for mountain lion hunting include: bows, crossbows, rifles, muzzle-loading rifles, handguns, shotguns (C.R.W-2-203-A). Trapping is prohibited (Colo. Rev. Stat. Ann. § 33-6-203(1)); The hunting of spotted kittens is prohibited. Hand-held calls are permitted; bait and electric calls are prohibited (2 Colo. Code Regs. § 406-0:004(A)).

**Mountain Lion Hunting Requirements:** Colorado Parks and Wildlife requires hunters to pay a small fee for a license to kill a mountain lion (resident: \$41, nonresident: \$351) and an additional \$10 for a habitat stamp which supports the Colorado Wildlife Habitat Protection Program. Hunters must complete a mandatory state-certified mountain lion education course, which is designed to teach outfitters and hunters to distinguish between males and females in an attempt to protect mothers with dependent kittens. Hunters must notify Colorado Parks and Wildlife within 2 days (48 hours) of lion their lion kill.

**Trophy Hunt Mortality**

Colorado Parks and Wildlife permits trophy hunting on high numbers of mountain lions, who are killed primarily in western Colorado. Between 2005 and 2014, trophy hunters operating in Colorado killed approximately 3,664 mountain lions, accounting for more than 86 percent of all human-caused mortalities (Figure 2; Appendix B). Over the last decade, the overall mortality for mountain lions has also steadily increased (Figure 2).

FIGURE CO2 Mountain lion mortality, Colorado 2005-2014



**Potential Habitat**

Over 42 million acres of Colorado's land could be suitable habitat for mountain lion populations. This amounts to over 63 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table CO1; Figure CO1).

TABLE CO1 Colorado maximum potential habitat

Acreage (Avg., Good, & Optimum Habitat)	42,259,738
KM <sup>2</sup>	171,019
% Potential Habitat of Total State Land	63.4%

**Colorado's Mountain Lion Population**

Colorado Park and Wildlife does not have an accurate estimate of the state's mountain lion population.<sup>v</sup> The agency relies primarily on mortality data, for its management decisions. In 2003, however, Colorado Parks and Wildlife put forth a crude projected puma population of 3,000 to 7,000 animals with 3,500 to 4,500 as the most probable.<sup>vi</sup>

**Colorado Parks and Wildlife's Most Recent Population Estimate:** 3,500 to 4,500 mountain lions statewide, including all age groups. Based on this estimate, the adult population estimate is likely around 2,135 to 2,745 lions, which is 61 percent of the total estimate.<sup>vii</sup>

**Maximum Potential Population Estimate<sup>viii</sup>:** 2,907 adult mountain lions statewide. Approximately 171,019.09 km<sup>2</sup> of habitat throughout Colorado could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table CO2).

State of the mountain lion: Colorado (cont.)

**TABLE CO2** Colorado maximum potential population

Potential Habitat KM <sup>2</sup>	171,019
State Agency Pop. Adults Only (61% of Total Pop.)	2,135 – 2,745
Potential Adult Pop. Estimate (1.7 Lions/100KM <sup>2</sup> )	2,907

Colorado habitat could presently sustain a larger adult mountain lion population if threats were reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 162 to 772 lions based on Colorado Parks and Wildlife's most recent population estimate (Table CO2).

**Recent Policy Changes**

In 2002 and again in 2003, citizens petitioned the Colorado Wildlife Commission to require the then Colorado Department of Wildlife to use the best available science to manage its mountain lion population. Between 1980 and 2002, the Commission allowed trophy hunters to kill 219 more lions, and the hunting-quota numbers had increased by 442 percent in that 20-year period.

In 2003, the Wildlife Commission hired Ken Logan, Ph.D., a renowned mountain lion biologist to conduct a ten-year study that would measure the effects of hunting on a mountain lion population on the Uncompahgre Plateau. Dr. Logan recently finished collecting study data and is currently analyzing the results. His preliminary 2014 and 2015 reports indicate that Colorado wildlife officials allow an unsustainable number of mountain lions to be trophy hunted.

In 2004, the Colorado Wildlife Commission approved a regulation that required hunters to be present once a hunting party pursued a mountain lion. This regulation bans hunting outfitters baying a lion in a tree or a cliff (using hounds) and then calling their remote clients to come and shoot the animal—sometimes a day or two after the lion was bayed into a tree or a cliff.

In 2004, after three years of highly-public controversy, both wildlife organizations and houndsmen and outfitters agreed that the hunting quotas were too high and the Wildlife Commission reduced the mountain lion quota from 791 to 567, a 30 percent decrease.

In 2005, a citizen petition to the Wildlife Commission requested that the state enact a mandatory hunter education campaign that required mountain lion outfitters and hunters take an online course to protect breeding females and their dependent kittens. The Colorado Outfitters

i. Colorado Parks and Wildlife. 2016-2017 Colorado Mountain Lion Hunting. <https://cpw.state.co.us/Documents/RulesRegs/Brochure/MountainLion.pdf>

ii. Because Colorado's population estimate includes mountain lions of all ages, the threat to the adult segment of the mountain lion populations is likely greater than 15 to 19 percent.

iii. Ibid.

iv. Ibid.

v. "At present, Colorado Parks and Wildlife does not have an accurate estimate of mountain lion populations. Given this lack of information, there has been much speculation about the appropriate level of harvest." <http://cpw.state.co.us/things/todo/Pages/PopulationManagementPlans.asp>,

vi. Proceedings of the Seventh Mountain Lion Workshop. May 15 to 17, 2003. Jackson, Wyoming. Wyoming Game and Fish Dept. 2003. p. 15.

vii. Logan, K. A., and L. L. Sweenor. 2001. Desert puma: evolutionary ecology and conservation of an enduring carnivore. Island Press, Washington, DC.

Association concurred that hunters needed a mandatory mountain lion hunter education program so hunters could better determine the sex and age of a lion and understand the natural history of lions. The Wildlife Commission ordered the agency to develop a hunter education program. The course became mandatory in 2007, making Colorado the first state to require mountain lion hunter education. Other states such as Montana and Utah have since adopted the course.

In 2011 and 2015, the Colorado Parks and Wildlife Commission rejected a proposal to allow electronic calls for mountain lions. Yet, in 2011, the Commission began to dramatically raise mountain lion trophy hunting quotas, undermining previous collaborative stakeholder efforts.

In 2013, Colorado Parks and Wildlife created a second mountain lion hunting season for the first time. The new season, in the month of April, extended the lion-hunting season by one month. The Commission and that year increased hunting quota to 630. Its intention was to maximize mountain lion mortality in Colorado.

In 2015, Colorado Parks and Wildlife proposed a mountain lion-killing study that would have allowed the killing of nearly 50 percent of the mountain lion population in the Arkansas River Valley, claiming that it would boost mule deer populations. The proposal was unethical and scientifically unsound. The Colorado Parks and Wildlife pulled the proposal after it could not produce a cost-benefit analysis as ordered by the Colorado Department of Regulatory Affairs after the Humane Society of the United States asked that agency to intervene.

In 2016, after a highly contentious debate at a well-attended public hearing, the Colorado Parks and Wildlife Commission unanimously approved two controversial predator control experiments that use Pittman-Robertson grants and other funds amounting to \$4.5 million to kill native carnivores to experimentally attempt to grow mule deer herds.<sup>ix</sup> In the Arkansas River Valley study site, agents will kill up to 50 percent of the mountain lions over a nine year period and, in the Piceance Basin study site, agents will kill up to 15 mountain lions and 25 black bears each year over a three-year period. The Colorado Parks and Wildlife is expected to hire U.S. Department of Agriculture's Wildlife Services agents or private contractors to kill the mountain lions and black bears. The Commission ignored Colorado Parks and Wildlife's own research that indicates that mule deer are on decline from a number of factors, primarily from oil and gas industrial operations and increasing urban and exurban sprawl.

viii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.

ix. Bruce Finley, "Colorado may euthanize more bears and lions to try to boost dwindling deer numbers Colorado Parks and Wildlife officials want to try "predator control" push to help deer," (October 16, 2016) <http://www.denverpost.com/2016/10/22/colorado-may-kill-more-bears-mountain-lions-to-boost-deer-population/>; and B. Finley, "Colorado push to test "predator control" by killing lions and bears faces barrage from CSU scientists, conservation groups," (December 13, 2016) <http://www.denverpost.com/2016/12/13/colorado-predator-control-killing-lions-bears/> and B. Finley, "Colorado embarks on experimental "predator control" killing of more lions and bears to try to save dwindling deer," (December 15, 2016) <http://snfn.com/index.php/2016/12/15/colorado-embarks-on-experimental-predator-control-killing-of-more-lions-and-bears-to-try-to-save-dwindling-deer-the-denver-post/>.

State of the mountain lion: Florida

**FIGURE FL1** Potential mountain lion habitat, Florida



**Potential mountain lion habitat**

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

## State of the mountain lion: Florida (cont.)

### Summary

The Florida panther (*Puma concolor coryi*), a newly-contested subspecies of *Puma concolor*, was listed as an endangered species by the state in the late 1950s and by the federal government since 1967.<sup>i</sup> By the mid-1990s, there were a mere 20 to 30 Florida panthers left in the wild, causing severe genetic defects in the remaining animals. In 1995, officials augmented the Florida population with eight Texas mountain lions in an attempt to ameliorate the genetic problems. The new mountain lions improved the health of the population. The U.S. Fish and Wildlife Service estimates that between 120 to 180 panthers remain in south Florida.<sup>ii</sup>

While the Florida panther population has grown since the mid-1990s it faces peril. Its habitat shrinks at an alarming rate from land use from urban development, livestock ranching, sugar farming and phosphate mining. While individual animals have been protected from direct harm, by 2010 state and federal officials had failed to prevent the loss of more than 42,000 acres of panther habitat.<sup>iii</sup> According to one report, “Officials from the U.S. Fish and Wildlife Service have never blocked any development that wipes out panther habitat.”<sup>iv</sup> But despite years of litigation, the USFWS had never designated “critical habitat” for Florida panthers under the Endangered Species Act (ESA). The Service has argued that that provision of the law was added after panthers were given ESA protections.

While habitat loss and fragmentation take a continuing toll on Florida panthers, a new alarming trend has emerged: record numbers of them have been hit by vehicles in the past three years. In 2016, 34 panthers were struck by vehicles, the most ever in one year.<sup>v</sup> This follows two other record-breaking years, in 2015, 30 panthers were struck and killed by vehicles and in 2014, 24.<sup>vi</sup> In small populations, each individual animal is vital, and this level of mortality is unsustainable.

Another roadblock to panther recovery is a resurgence of the genetic problems that threatened Florida panthers with extinction in the mid-1990s. Florida panthers are experiencing a “severe” genetic bottleneck, which has manifest in cowlicks and kinked tails.<sup>vii</sup> Worse yet, officials most likely cannot bring in more Texas mountain lions to address the problem due to the severe loss of panther habitat in south Florida. The impending habitat loss in South Florida means that some experts “regard what’s left of panther habitat as not a wilderness but ‘a zoo without walls.’”<sup>viii</sup>

The future of Florida panthers will hinge on redoubled conservation efforts including dramatically improved habitat preservation, coordination between state and federal officials in supporting the federal recovery plan, and ensuring adequate wildlife crossing structures and slow speed zones in key areas.

### State & Federal Management

**Regulatory Agencies:** U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission

**Most Recent Mountain Lion Strategic Plan:** USFWS, Florida Panther Recovery Plan, 2008.

**Species Status:** Federally listed as Endangered under the Endangered Species Act (ESA); classified as an “endangered species” under Fla. Admin. Code R. 68A-27.003(1)(g); trophy hunting of mountain lions is prohibited (Fla. Stat. Ann. § 379.4115; Fla. Admin. Code R. 68A-12.002(7); Fla. Admin. Code R. 68A-27.003(1)(a); Fla. Admin. Code R. 68A-27.0011).

In 2013, USFWS established a Florida Panther Recovery Implementation Team, an advisory body to facilitate recovery activities most needed to progress toward the recovery goals identified in the Recovery Plan. The Implementation Team is composed of state and federal officials, a representative of the environmentalist community, a major landowner, a sportsmen’s group representative, and a representative from a non-profit research institute.

### Potential Habitat

Almost seven million acres of Florida’s land could be suitable habitat for mountain lion populations. This amounts to over 19 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table FL1; Figure FL1).

**TABLE FL1** Florida maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	6,860,481
<b>KM<sup>2</sup></b>	27,763
<b>% Potential Habitat of Total State Land</b>	19.14%

### Florida’s Panther Population

The USFWS’s recovery goals include two viable populations of at least 240 individuals maintained for a minimum of two panther generations (12 years), as well as sufficient habitat quality, quantity, and spatial configuration to support these populations over the long term.

**Florida Fish and Wildlife Conservation Commission’s Most Recent Population Estimate:** The U.S. Fish and Wildlife Service currently estimates that the panther population is 120 to 180 panthers, including adults and subadults.<sup>ix</sup>

**Maximum Potential Population Estimate:** 472 adult mountain lions statewide. Approximately 27,736 km<sup>2</sup> of habitat throughout Florida could support panthers at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table FL2).

**TABLE FL2** Florida maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	27,763
<b>State Agency Population, Adults and Subadults</b>	100-180
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	472

From 2005 to 2014, 241 Florida panthers were confirmed dead, 148 due to vehicle collisions and 93 from other means such as intraspecific aggression, poaching, or unknown causes. In 2016, 42 panthers died, 34 or 81 percent of the mortality from vehicle strikes, three more died from strife and five from unknown causes.

Clearly, protecting suitable habitat and adequate migration corridors for Florida panthers and their prey could help the species recover in the Southeast, with the aim of eventually fulfilling and exceeding the USFWS’s Recovery Plan objectives. Additionally, Florida panthers could expand their range into bordering states such as Georgia and Alabama if the species is recovered and adequately protected from habitat loss and human persecution.

### Recent Policy Changes

On June 23, 2014, the Florida Fish and Wildlife Conservation Commission issued a controversial “Panther Position Statement” claiming that that the USFWS’s science-based recovery goals for the Florida panther are “unfeasible,” referring to panther habitat as having “most likely exceeded carrying capacity for their occupied range in southwest Florida” and suggesting that the population should be maintained at a “sustainable level” since the populations “currently exceed the tolerance of landowners, residents, and recreationists in the region.”<sup>x</sup> The statement indicated that the state agency would no longer help panthers move beyond their current range, which panthers need in order to stem genetic problems and fully recover, but that the state would only assist in managing panthers in the area of south Florida where the species’ one known breeding population exists. The Florida Fish and Wildlife Conservation Commission’s statement also indicated that the agency wouldn’t help panthers expand beyond the designated area in south Florida until human-panther conflicts are resolved, hinting that the Commission would like more flexibility to destroy panthers who come into conflicts with humans, such as cattle ranchers. The Florida Fish and Wildlife Conservation Commission approved a revised version of the memo in September of 2014 that removed some of the more controversial language but is likely to have the same impact of weakening state efforts to protect panthers and jeopardizing long-term recovery for the species.<sup>xi</sup>

i. <https://www.fws.gov/verobeach/FloridaPantherRIT.html>

ii. U.S. Fish and Wildlife Service, Florida Panther: [https://www.fws.gov/refuge/florida\\_panther/](https://www.fws.gov/refuge/florida_panther/).

iii. <http://www.tampabay.com/specials/2010/interactives/florida-panther-habitat-facts/>

iv. Ibid.

v. Florida Panther Net: <http://www.floridapanthernet.org/index.php/pulse/#.WG1rJKXz-A>

vi. “Record Number of Florida Panthers Died in 2015.” Posted January 1, 2016. NBC 6 South Florida. Accessed online July 20, 2016 at: <http://www.nbcmiami.com/news/local/Record-Number-of-Florida-Panthers-Died-in-2015-363983931.html>.

vii. Melanie Culver, “Lesson and Insights from Evolution, Taxonomy, and Conservation Genetics,” in Eds. Hornocker and Negri, *Cougar: Ecology and Conservation*, The University of Chicago Press. 2010:27-40.

viii. <http://www.tampabay.com/news/environment/wildlife/dead-cat-walking-as-florida-panther-habitat-shrinks-extinction-fears-rise/1087962>

ix. <http://www.floridapanthernet.org/>

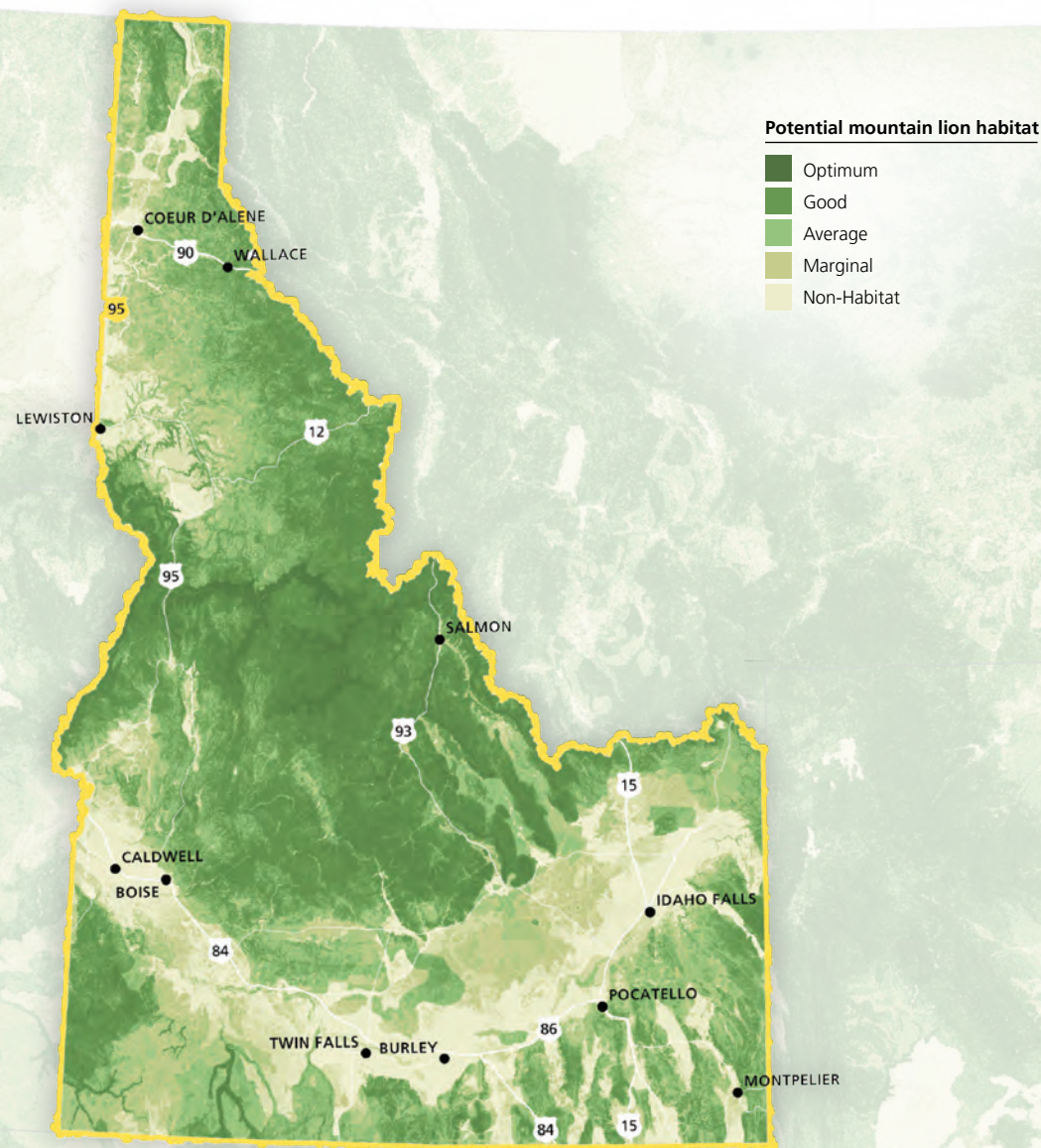
x. Maximum potential population refers to the number of lions that could be supported on the state’s landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.

xi. Florida Fish and Wildlife Conservation Commission. “Draft Position Statement Florida Panther Recovery and Management: Strategic Priorities.” June 23, 2014. Accessed online July 20, 2016 at <http://myfwc.com/media/3050605/4A-PantherPositionPaper-Memo.pdf>

xii. Staats, Eric. “Florida Fish and Wildlife Conservation Commission revised panther memo doesn’t quell criticism.” August 14, 2014. Accessed online July 20, 2016 at: <http://archive.naplesnews.com/news/environment/florida-fish-and-wildlife-conservation-commission-revised-panther-memo-doesnt-quell-criticism-ep-122-337233061.html>

# State of the mountain lion: Idaho

FIGURE ID1 Potential mountain lion habitat, Idaho



### Summary

Idaho ranks first in the U.S. for permitting trophy hunters to kill the most mountain lions. Between 2005 and 2014, trophy hunters killed 4,833 mountain lions (Figure ID2). In the 2014 to 2015 hunting season, trophy hunters killed 514 mountain lions, and trophy hunting accounts for 94 percent of all human-caused lion mortality annually in Idaho.

If threats are reduced, primarily from trophy hunting and predator control, Idaho's adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, which reduces intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep.

An analysis of potential mountain lion habitat and prey analysis found that 39,498,232 acres (159,844 km<sup>2</sup>) of land in Idaho could support stable mountain lion populations (Table ID1). This amount of land could support up to 2,717 adult mountain lions across the state, a larger population of adults than what the Idaho Department of Fish and Game (IDFG) claims is currently present on throughout the state (Table ID2).

Idaho Department of Fish and Game permits too-high levels of trophy hunting and predator control, suppressing the state's mountain lion population and causing immense cruelty and suffering.

### State Management

**State Wildlife Agencies:** Idaho Department of Fish and Game

**Most Recent Mountain Lion Strategic Plan:** Mountain Lion Management Plan, 2002 to 2010 (2002)

**Species Status:** Big Game Animal; IDAPA 13.01.06.100 (01)(h)

**Hunt Season:** ~7 months (varies by management unit), usually August through March<sup>i</sup>

**2015 Hunting Quota:** None (1 for every legal tag purchased).<sup>ii</sup> A select few units have subquotas for female lions.<sup>iii</sup>

**Bag Limits:** One lion per tag; up to two tags may be purchased in a season.<sup>iv</sup>

**Permitted Hunting Methods:** It is legal to hound mountain lions in the state of Idaho, with a valid hound hunter's permit (Idaho Admin. Code R. 13.01.08.410(5)(c); 13.01.15.100(2), (3)). Legal hunting weapons include: bows, crossbows, muzzle-loading firearms, handguns, and rifles.<sup>v</sup> Trapping is prohibited (Idaho Admin. Code R. 13.01.08.410(5)(d)). The hunting of spotted kittens is prohibited.<sup>vi</sup> Electronic calls are permitted for mountain lion hunting when set forth by the Idaho Fish and Game Commission. Baiting is prohibited (Idaho Admin. Code R. 13.01.08.010(1)(j); 13.01.08.410(5)(b)).

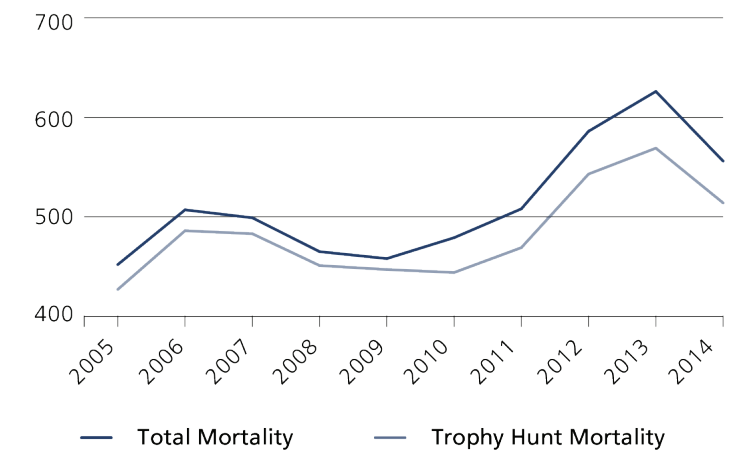
**Mountain Lion Hunting Requirements:** Hunters are required to purchase a mountain lion hunting license; residents pay \$12.75 for a license while non-residents pay \$154.75. Hunters are also required to purchase tags for every mountain lion they hunt: residents pay \$11.50 for one tag, and an additional \$11.50 for a second tag; a non-resident pays \$186.00 for their first tag, but can purchase a second tag for \$41.75. Hound hunters must have a valid hound hunter's permit (\$12.75). There are no required mountain lion hunting courses, but prospective hunters under the age of 41 must take a course prior to purchasing a general license. Hunters must

notify Idaho Department of Fish and Game within 10 days of killing a mountain lion, 5 days in units with a female subquota.<sup>vii</sup>

### Trophy Hunt Mortality

Like many other Western states, the Idaho Department of Fish and Game allows for a nearly unlimited trophy hunt on its mountain lion population. Between 2005-2014, trophy hunters killed approximately 4,833 lions, accounting for 94 percent of all human-caused mortalities in Idaho (Figure ID2). Over the last decade, the trophy hunting mortality closely parallels the total overall mortality (Figure ID2).

FIGURE ID2 Mountain lion mortality, Idaho 2005-2014



### Potential Habitat

Over 39 million acres of Idaho's land could be suitable habitat for mountain lion populations. This amounts to 73.9 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table ID1; Figure ID1).

TABLE ID1 Idaho maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	39,498,232
<b>KM<sup>2</sup></b>	159,844
<b>% Potential Habitat of Total State Land</b>	73.9%

### Idaho's Mountain Lion Population

Idaho Department of Fish and Game's Most Recent Population Estimate: 2,000 to 3,000 mountain lions statewide, including all age groups.<sup>viii</sup> Based on this estimate, the adult population estimate is likely around 1,220 – 1,830 lions, which is 61 percent of the total estimate.<sup>ix</sup>

State of the mountain lion: Idaho (cont.)

**Maximum Potential Population Estimate:** 2,717 adult mountain lions statewide. Approximately 159,844 km<sup>2</sup> of habitat throughout Idaho could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table ID2).

**TABLE ID2** Florida Maximum Potential Population

Potential Habitat KM <sup>2</sup>	159,844
State Agency Pop., Adults Only (61% of total pop.)	1,220 – 1,830
Potential Adult Pop. Estimate (1.7 Lions/100KM <sup>2</sup> )	2,717

Idaho habitat could presently sustain a larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 887 to 1,497 lions based on CPW’s most recent population estimate (Table ID2).

**Recent Policy Changes**

In 1999, the Idaho Game Commission enacted the state’s first predator control policy, which institutionalized state-sanctioned threats to native wildlife, including mountain lions, black bears and coyotes, and would set the precedent for how the state would manage its wolf population more than a decade later when that species lost its federal protections.

In 2002, the Idaho Department of Fish and Game introduced its Mountain Lion Management Plan. While the state aimed to maintain the “recreational” and “ecological” value of mountain lions, it instituted the most liberal mountain lion hunting laws in the nation.

By 2008, only 20 of 99 of Idaho’s mountain lion management units had hunting quotas and less than 14 percent of the units set quota to protect females.<sup>xi</sup> This is due to the fact that the majority of the units had yet to reach the female hunting quota, suggesting the quotas were set too high. Between 2008 and 2013, the numbers of lions killed increased, with a high of 569 in 2013. The following year, the number declined, perhaps indicating that trophy hunters overhunted Idaho’s mountain lion population.

Beginning in the 2015 to 2016 season, Idaho permits electronic calls in mountain lion units in northern Idaho.

i. Idaho Fish and Game. 2015 and 2016 Big Game Seasons and Rules. Retrieved from [http://fishandgame.idaho.gov/public/docs/rules/bgRules.pdf?\\_ga=1.143306229.1383356219.1484009566](http://fishandgame.idaho.gov/public/docs/rules/bgRules.pdf?_ga=1.143306229.1383356219.1484009566).  
 ii. Idaho has no quota for mountain lion hunts, except that hunters may only take one lion per purchased tag, but can purchase up to two tags for certain management areas. Idaho Department of Game and Fish 2015-16 & 2016-2017 Hunting Rules. Retrieved from <http://fishandgame.idaho.gov/public/docs/rules/bgMtnLion.pdf>  
 iii. Idaho Fish and Game. 2015 and 2016 Big Game Seasons and Rules. Retrieved from [http://fishandgame.idaho.gov/public/docs/rules/bgRules.pdf?\\_ga=1.143306229.1383356219.1484009566](http://fishandgame.idaho.gov/public/docs/rules/bgRules.pdf?_ga=1.143306229.1383356219.1484009566).  
 iv. Ibid.  
 v. Ibid.  
 vi. Ibid.

vii. Ibid.  
 viii. Steve Nadeau, Large Carnivore Manager, Idaho Department of Fish and Game. 2008. Idaho Mountain Lion Status Report. Pages 10-17 in Toweill D. E., S. Nadeau and D. Smith, editors. Proceedings of the Ninth Mountain Lion Workshop May 5-8, 2008, Sun Valley, Idaho, USA. P. 13.  
 ix. Logan, K. A., and L. L. Sweenor. 2001. Desert puma: evolutionary ecology and conservation of an enduring carnivore. Island Press, Washington, DC.  
 x. Maximum potential population refers to the number of lions that could be supported on the state’s landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.  
 xi. Mountain Lion Foundation. Accessed July 18, 2016. [http://mountainlion.org/US/ID/ID\\_DOC-UMENTS/ID A 2008 - Status Report - 9th Mountain Lion Workshop.pdf](http://mountainlion.org/US/ID/ID_DOC-UMENTS/ID A 2008 - Status Report - 9th Mountain Lion Workshop.pdf).

State of the mountain lion: Montana

**FIGURE MT1** Potential mountain lion habitat, Montana



**Summary**

Montana ranks second nationwide for holding the highest trophy hunting mortality for mountain lions. Between 2005 and 2014, trophy hunters killed 4,048 mountain lions (Figure MT2). In the 2014 to 2015 hunting season, trophy hunters killed 476 mountain lions. Trophy hunting accounts for approximately 89 percent of all human-caused lion mortality annually in Montana.

If threats are reduced, primarily from trophy hunting and predator control, Montana’s adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, which reduces intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep. An analysis of potential mountain lion habitat and prey analysis found that 68,918,239

acres (278,902 km<sup>2</sup>) of land in Montana could support stable mountain lion populations (Table MT1). This amount of land could support up to 4,741 adult mountain lions across the state, a larger population than what Montana Fish, Wildlife & Parks claims is currently present throughout the state (Table MT2).

Montana Fish, Wildlife & Parks permits high levels of trophy hunting and predator control, restricting natural growth of the state’s mountain lion population. Additionally, land development, fossil fuel extraction, and other mineral exploitation are exacerbating habitat loss and fragmentation for both mountain lions and their prey. These ongoing activities could reduce potential mountain lion habitat in the future, further restricting population growth and reducing the number of individual lions in Montana.

State of the mountain lion: Montana (cont.)

State Management

**State Wildlife Agencies:** Montana Fish, Wildlife & Parks

Most Recent Mountain Lion Strategic Plan: Management of Mountain Lions in Montana, 1996

**Species Status:** Mountain lions are regulated as a big game species (MCA 87-1-301)

**Hunt Season:** September to mid-April<sup>i</sup>

**2015 Hunting Quota:** 687 lions with an unlimited quota in some units<sup>ii</sup>, permitting the killing of 13 to 25 percent of the state's population estimate.<sup>iii</sup> Montana has no female subquota in some units.<sup>iv</sup>

**Bag Limits:** One legal mountain lion per person, per season<sup>v</sup>

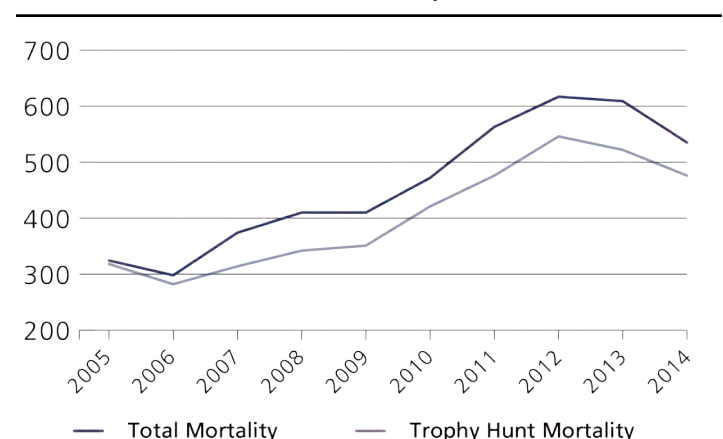
**Permitted Hunting Methods:** It is legal to hound mountain lions (Mont. Code Ann. § 87-6-404(3)(b), (4)). Legal weapons for mountain lion hunting include: bows, crossbows, rifles, muzzle-loading rifles, handguns, and shotguns.<sup>vi</sup> Trapping is prohibited (Mont. Code Ann. § 87-6-401(1)(a)). The hunting of spotted kittens is prohibited.<sup>vii</sup> The use of bait, artificial lights, and calls is prohibited (Mont. Code Ann. § 87-6-401(1)(a)).

**Mountain Lion Hunting Requirements:** Montana Fish, Wildlife & Parks requires hunters to pay a small fee for a license to kill a mountain lion (resident: \$19, nonresident: \$320) and an additional \$10 for a Conservation license which supports conservation projects as well as law enforcement, hunter education, and other programs. Every hunter born after January 1, 1985 is required to show proof of completing a Montana hunter safety and education course (or an approved hunter safety course from any other state or province) prior to applying for or purchasing a hunting license. Hunters must notify Montana Fish, Wildlife & Parks within 12 hours of killing a lion.<sup>viii</sup>

Trophy Hunt Mortality

Montana Fish, Wildlife & Parks permits large numbers of mountain lions to be trophy hunted. Between 2005 and 2014, approximately 4,048 mountain lions were killed by trophy hunters in Montana, accounting for approximately 89 percent of all human-caused mountain lion mortalities (Figure MT2). Over the last decade, trophy hunt mortality for mountain lions has closely paralleled total overall mortality.

FIGURE ID2 Mountain lion mortality, montana 2005-2014



Potential Habitat

Almost 69 million acres of Montana's land could be suitable habitat for mountain lion populations. This amounts to over 73 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table MT1; Figure MT1).

TABLE MT1 Montana maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	68,918,239
<b>KM<sup>2</sup></b>	278,902
<b>% Potential Habitat of Total State Land</b>	73.2%

Montana's Mountain Lion Population

Montana Fish, Wildlife & Parks does not have an accurate estimate of its mountain lion population. A modeling study by Robinson et al. (2015), which included data from Montana Fish, Wildlife & Parks' employee Rich DeSimone's nine-year study on the Garnet Range, provides the most robust statewide estimate.<sup>ix</sup>

**Montana Fish, Wildlife & Park's Most Recent Population Estimate:** Recent research indicates an estimate of 2,784 to 5,156 mountain lions statewide<sup>x</sup>, including all age groups. Based on this estimate, the adult population estimate is likely around 1,698 to 3,145 lions, which is 61 percent of the total estimate.<sup>xi</sup>

**Maximum Potential Population Estimate<sup>xii</sup>:** 4,741 adult mountain lions statewide. Approximately 278,902 km<sup>2</sup> of habitat throughout Montana could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table MT2).

TABLE MT2 Montana maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	278,902
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	1,698-3,145
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	4,741

Montana habitat could presently sustain a larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 1,596 to 3,043 lions based on the state's most recent population estimate (Table MT2).

Recent Policy Changes

In the late 1980s and early 1990s, a handful of human-mountain lion conflicts, including a fatality, resulted in the Commission raising lion-hunting quotas considerably. Overhunting of mountain lions ensued and houndsmen became angry because they could find no animals to hunt. As a result of this discord, the state agency engaged in writing an environmental impact statement and commencing a robust mountain lion study.<sup>xiii</sup>

In January 1996, Montana Fish, Wildlife & Parks published its Final Environmental Impact Statement for Management of Mountain Lions in Montana. It stated that the agency's main goal for mountain lion management was to "maintain both mountain lion and prey populations at levels that are compatible with outdoor recreational desires, and to minimize human-lion conflicts and livestock depredation."<sup>xiv</sup>

Notably in Montana, the "houndsmen", the trophy hunters who maintain dogs and hunt for themselves such as the Bitterroot Valley Houndsmen, have been the most vocal advocates for mountain lion conservation in Montana. The houndsmen have often found themselves pitted against the "outfitters", the guides who profit from taking primarily out-of-state trophy hunters on guided hunts. The houndsmen have appeared at state legislative or Fish, Wildlife & Park hearings to protect mountain lions.

Because the houndsmen had complained that the hunting regulations were too liberal, and mountain lions were disappearing in Montana, the Commission ordered a study of Montana mountain lions and the effects of hunting them. The study commenced in 1997 and finished nine years later.<sup>xv</sup> Conducted on the Garnet Range of western Montana, the study uncovered the fact that in a hunted population, hunting constitutes the primary source of mountain lion mortality, that the survival of females is paramount to population growth and overhunting lions prevents migration (which has profound implications for an entire metapopulation).<sup>xvi</sup>

In 2011, the houndsmen rallied again, this time to oppose House Bill 144, which had been proposed by Rep. T. Washburn, and would permit mountain lion trapping.<sup>xvii</sup>

In 2009, Montana adopted an online hunter education course to better protect breeding females and their dependent kittens. The program was adapted from Colorado's program.

In 2015, the Montana State Legislature approved a price increase for hunting and fishing licenses in the state. This came after a \$5.75 million budget shortfall for Montana Fish, Wildlife & Parks.<sup>xviii</sup> That year, the Legislature also passed a bill that called for the establishment of an apprentice hunter program, where youth 10 to 17 years of age can hunt without completing hunter education, as long as they are accompanied by a hunting "mentor."<sup>xix</sup> Montana Fish, Wildlife & Parks is in the midst of drafting a new statewide management plan that will update its woefully ancient 1996 iteration.

i. Montana Fish, Wildlife & Parks. Mountain Lion Hunting Guide. Retrieved from <http://fwp.mt.gov/hunting/planahunt/huntingGuides/lion/>  
 ii. Montana Fish, Wildlife & Parks. 2016. Mountain Lion: Montana Hunting Regulations.  
 iii. Because Montana's population estimate includes mountain lions of all ages and unlimited hunting is permitted in some units, the actual impact on adult mountain lions is likely greater than 13-25 percent.  
 iv. Montana Fish, Wildlife & Parks. 2016. Mountain Lion: Montana Hunting Regulations.  
 v. Ibid.  
 vi. Ibid.  
 vii. Ibid.  
 viii. Ibid.  
 ix. Robinson, Hugh, et. al. 2015. "Linking resource selection and mortality modeling for population estimation of mountain lions in Montana." *Ecological Modelling* 312 (2015): 11-25. page 19.  
 x. Ibid.  
 xi. Logan, K. A., and L. L. Sweeney. 2001. *Desert puma: evolutionary ecology and conservation of an enduring carnivore*. Island Press, Washington, DC.  
 xii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.  
 xiii. H. S. Robinson and R. Desimone, "The Garnet Range Mountain Lion Study: Characteristics of a Hunted Population in West-Central Montana: Final Report," Montana Fish, Wildlife & Parks (2011).  
 xiv. "Summary: Mountain Lions in the State of Montana." Mountain Lion Foundation. February 14, 2012. Accessed July 11, 2016. <http://www.mountainlion.org/us/mt/-mt-portal.asp>.  
 xv. Robinson and Desimone, "The Garnet Range Mountain Lion Study: Characteristics of a Hunted Population in West-Central Montana: Final Report."  
 xvi. Ibid. A "metapopulation" refers to an entire population, which is comprised of smaller "subpopulations".  
 xvii. Bill proposed to allow mountain lion trapping in Montana for the first time since the species was designated a big game species: <http://leg.mt.gov/bills/2011/BillHtml/HB0144.htm>.  
 xviii. Wright, Michael. "Governor Signs FWP Fee Increase into Law." *Bozeman Daily Chronicle*. May 12, 2015. Accessed July 11, 2016. [http://www.bozemandailychronicle.com/news/environment/governor-signs-fwp-fee-increase-into-law/article\\_d1754b66-bffc-58eb-9296-43b40f-c207f2.html](http://www.bozemandailychronicle.com/news/environment/governor-signs-fwp-fee-increase-into-law/article_d1754b66-bffc-58eb-9296-43b40f-c207f2.html).  
 xix. "Apprentice Hunter Program." Montana Fish, Wildlife, and Parks. Accessed July 11, 2016. <http://fwp.mt.gov/hunting/licenses/all/apprenticeHunter/default.html>.



# State of the mountain lion: Nebraska

FIGURE NE1 Potential Mountain Lion Habitat, Nebraska



## Summary

Since 2007, mountain lions re-established themselves in Nebraska after complete extirpation by the early 1900s. Since 2007, state biologists have identified that a breeding populations exists in the Pine Ridge region and is home to between 22 to 33 individuals. While no one has studied the Niobrara River Valley and Wildcat Hills populations, state agents in 2014 detected three individuals in each place.<sup>1</sup> Nebraska's mountain lion population remains small and vulnerable to extirpation, from human causes including by poaching, trapping and vehicle collisions.

Despite the extirpation threat, this prairie state permits a trophy hunt through regulation on its mountain lions population. While Nebraska Game and Parks held its first and only trophy hunt in 2014, which resulted in the killing of five lions, at least 11 other lions died from poaching,

trapping and vehicle collisions that year. Wisely, Nebraska Game and Parks backed away from allowing a hunting season for mountain lions in 2015 or for 2016.

Even without a hunting season, human persecution and vehicle collisions continue to take an enormous toll on Nebraska's mountain lions. Yet, Nebraska and the other prairie states, North Dakota and South Dakota, are the important linkage between Western and the beleaguered Eastern mountain lion populations. All of the prairie states must do more to stem the slaughter, including by trapping and poaching to restore mountain lion populations to their historic home, the breadth of the entire U.S. and beyond into Canada and the Republic of Mexico.

An analysis of potential mountain lion habitat and prey analysis found that 11,014,445 acres (44,574 km<sup>2</sup>) of land in Nebraska could support

stable mountain lion populations (Table NE1). This amount of land could support up to 758 adult mountain lions across the state (Table NE2).

## State Management

**State Wildlife Agencies:** Nebraska Game and Parks

**Most Recent Mountain Lion Strategic Plan:** Mountain Lion Response Plan,<sup>ii</sup> 2003

**Species Status:** Mountain lions are regulated as a game species (Neb.Rev. St. § 37-228)

**Hunt Season:** The mountain lion hunt season is currently closed<sup>iii</sup>

**2015 Hunting Quota:** N/A<sup>iv</sup>

**Bag Limits:** 2014 bag limit was one mountain lion per person

**Permitted Hunting Methods:** Hunting mountain lions with hounds is permitted in Nebraska (Neb. Admin. R. & Regs. Tit. 163, Ch. 4, § 037 (.10)(C)). In the 2014 season, hounds were allowed during the January 1 to February 14, 2015 season in the Pine Ridge unit (where a breeding mountain lion population exists) (163 Neb. Admin. Code, ch. 4, § 037.10C). The hunt was discontinued in that unit for the February 15 to March 31, 2015 season. In the Prairie Unit (which does not have a breeding mountain lion population), hounding was allowed from January 1 to March 31, 2015 (163 Neb. Admin. Code, ch. 4, § 037.10C). Trapping is prohibited (163 Neb. Admin. Code, ch. 4, § 037.10C). The hunting of spotted kittens is prohibited. Hunting with artificial lights and calls is not prohibited.<sup>v</sup>

**Mountain Lion Hunting Requirements:** Although there has been only one mountain lion hunting season, in 2014, the practice is technically legal. Hunters need a valid permit (\$15) and must complete a hunter education course when the season is open. Hunters must present mountain lions to Nebraska Game and Parks within 24 hours of killing for inspection.<sup>vi</sup>

## Trophy Hunt Mortality

In 2014, trophy hunters killed five mountain lions in Nebraska, accounting for over 31 percent of all human-caused mountain lion mortalities (Figure NE1). During the same year, total human-caused mountain lion mortality tripled from the previous year, accounting for 16 deaths (Figure NE2). In addition to the five lions killed by trophy hunters, four were killed by the public, two were poached, three were incidentally trapped, and two were killed by vehicles. Ten of the deaths were female lions, threatening the breeding potential and long-term survival of the species within Nebraska. As a result, Nebraska Game and Parks has not held mountain lion trophy hunts in 2015 or 2016.

## Potential Habitat

Over 11 million acres of Nebraska's land could be suitable habitat for mountain lion populations. This amounts to over 22 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table NE1; Figure NE1).

FIGURE NE2 Mountain lion mortality, Nebraska 2005-2014



TABLE NE1 Nebraska maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	68,918,239
<b>KM<sup>2</sup></b>	278,902
<b>% Potential Habitat of Total State Land</b>	73.2%

## Nebraska's Mountain Lion Population

According to Nebraska Game and Parks, genetic surveys conducted between 2010 and 2015 indicate that the population in the Pine Ridge region consists of approximately 22 to 33 individual mountain lions. There are also breeding populations in the Niobrara Valley and Wildcat Hills regions. There are no estimates for these populations due to their recent establishment but there are likely fewer individuals than the Pine Ridge population.

**Nebraska Game and Park's Most Recent Population Estimate:** 22 to 33 individual lions in the Pine Ridge region, including all age groups. Based on this estimate, the adult population estimate is likely around 13 to 20 lions, which is 61 percent of the total estimate.<sup>vii</sup>

**Maximum Potential Population Estimate<sup>viii</sup>:** 758 adult mountain lions statewide. Approximately 44,574 km<sup>2</sup> of habitat throughout Nebraska could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table NE2).

TABLE NE2 Nebraska maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	44,574
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	13-20
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	758

*State of the mountain lion: Nebraska (cont.)*

Nebraska habitat could presently sustain a larger adult mountain lion population if threats are reduced. Reducing human persecution and protecting suitable habitat for lions and their prey could increase the adult lion population by approximately 738 to 745 individuals based on Nebraska Game and Parks's most recent population estimate (Table NE2).

**Recent Policy Changes**

In 1995, the Nebraska Legislature added mountain lions to its list of game animals, affording them protection under the Game Law.<sup>ix</sup>

In 2012, the Nebraska Legislature passed a bill (LB 928) that allowed for a mountain lion hunting season. Senator Ernie Chambers introduced a bill (LB 671) to repeal the legislation. The bill passed the Legislature but former Governor Dave Heineman vetoed it. Senator Chambers has reintroduced the bill in subsequent legislative sessions without success.<sup>x</sup> Senator Chambers has reintroduced the bill as LB 448 in the 2017 legislative session.

In 2014, Nebraska had its first and only mountain lion hunting season. The objective was to reduce the state's mountain lion population and offer hunters the opportunity to kill lions.<sup>xi</sup> In 2015 and 2016, Nebraska Game and Parks decided not to hold mountain lion hunting seasons due to high number of total mountain lion deaths in 2014 and the fact that the majority of lions killed were females.<sup>xii</sup>

In 2015, Senator Ernie Chambers introduced a bill (LB 474) to create a specialty mountain lion license plate. The plates would come with a \$5 fee that would go to the Game and Parks Commission for educating youth about wildlife conservation practices. The Nebraska Legislature voted unanimously in favor of the bill and it was signed into law in March, 2016.

i. Data come from an agency staff presentation to the Nebraska Game and Parks Commission on 10/23/14.  
 ii. Nebraska Game and Parks Commission. (2003). Mountain Lion Response Plan. Accessed July 18, 2016. Retrieved from <http://outdoornebraska.gov/wp-content/uploads/2015/11/Nebraska-MountainLionResponsePlan.pdf>  
 iii. Trophy hunting of mountain lions is permitted, as determined on an annual basis by the Nebraska Game and Parks Commission (Neb. Rev. Stat. Ann. § 37-473(1)). However, mountain lion seasons were not authorized for 2015 or 2016. Nebraska Game and Parks Commission, "Mountain Lions in Nebraska," Retrieved from <http://outdoornebraska.gov/mountainlions/>.  
 iv. Ibid.  
 v. Nebraska Game and Parks. 2016 Big Game Guide. Retrieved from <http://digital.outdoornebraska.gov/i/678699-big-game-guide-2016>.  
 vi. Nebraska Game and Parks. 2014 Big Game Guide.  
 vii. Logan, K. A., and L. L. Sweeney. 2001. Desert puma: evolutionary ecology and conservation of an enduring carnivore. Island Press, Washington, DC.

viii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.  
 ix. 2013 Recommendations for Mountain Lion Hunting. Report. (2013). Accessed July 12, 2016. Retrieved from <http://www.mountainlion.org/us/ne/NE-A-NGPC-2013-Recommendations-for-Mountain-Lion-Hunting-July.pdf>.  
 x. Senator Chambers introduced the bill as LB 671 in the 2014 legislative session, as LB 127 in the 2015 legislative session, and as LB 961 in the 2016 legislative session.  
 xi. "Mountain Lions in Nebraska." Nebraska Game and Parks. 2015. Accessed July 12, 2016. <http://outdoornebraska.gov/mountainlions/>.  
 xii. Hende, David. (2015). Nebraska Won't Have a Mountain Lion Hunting Season in 2015. Omaha World-Herald. Accessed July 13, 2016. Retrieved from [http://www.omaha.com/outdoors/nebraska-won-t-have-mountain-lion-hunting-season-in/article\\_2e6a5994-9cd8-11e4-9b3f-6fea04307231.html](http://www.omaha.com/outdoors/nebraska-won-t-have-mountain-lion-hunting-season-in/article_2e6a5994-9cd8-11e4-9b3f-6fea04307231.html).

**State of the mountain lion: Nevada**

**FIGURE NV1** Potential mountain lion habitat, Nevada



State of the mountain lion: Nevada (cont.)

Summary

Nevada ranks tenth for holding the highest trophy hunt mortality numbers for mountain lions nationwide. Between 2005 and 2014, trophy hunters killed 1,291 mountain lions (Figure NV2). During the 2014 to 2015 hunting season, trophy hunters killed 99 mountain lions, and trophy hunting accounts for 76 percent of all human-caused lion mortality annually in Nevada.

If threats are reduced, primarily from trophy hunting and predator control, Nevada’s adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, which reduces intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep.

An analysis of potential mountain lion habitat and prey analysis found that 34,693,392 (140,399 km2) of land in Nevada could support stable mountain lion populations (Table NV1). This amount of land could support up to 2,387 adult mountain lions across the state if threats are reduced, a larger population of adults than what the Nevada Department of Wildlife claims is currently present on throughout the state (Table NV2).

Nevada Department of Wildlife permits high levels of trophy hunting and predator control, restricting natural growth of the state’s mountain lion population. These activities likely suppress the state’s mountain lion population and restrict future population growth in Nevada.

State Management

**State Wildlife Agencies:** Nevada Department of Wildlife

**Most Recent Mountain Lion Strategic Plan:** Comprehensive Mountain Lion Management Plan, 1995

**Species Status:** Big Game Mammal, NAC 502.020(1)

**Hunt Season:** Year-round<sup>i</sup>

**2015 Hunting Quota:** 245,<sup>ii</sup> permitting the killing of 16 to 22 percent of the state’s population estimate

**Bag Limits:** One lion per tag, 2 tags maximum, per person, per season<sup>iii</sup>

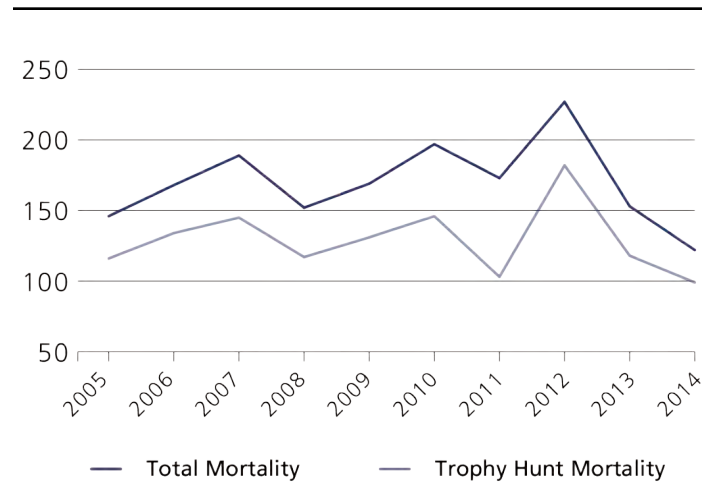
**Permitted Hunting Methods:** It is legal to hound mountain lions in Nevada (NAC 503.147(1)(b)). Permitted weapons include: rifles, handguns, shotguns, muzzle-loading rifles, and bows and crossbows.<sup>iv</sup> Trapping is prohibited (S.D. Admin.R.41:06:61:06(4)). The hunting of spotted kittens is prohibited and baiting is permitted. The use of artificial calls is allowed. Hunting is permitted during the day and at night; the use of artificial lights is permitted so long as they are hand-held flashlights and the user is not in or on a motorized vehicle.<sup>v</sup>

**Mountain Lion Hunting Requirements:** General hunting licenses cost \$33 for residents and \$142 for non-residents. To hunt mountain lions, hunters may purchase up to two tags, with a limit of 1 lion per tag, for the follow costs: \$29 for the first tag, \$2 for the second tag (residents); \$104 for the first tag, \$101 for the second tag (non-residents). Individuals must take a hunter’s education course. Hunters must present the mountain lion skull and hide to NGP within 3 days of killing for inspection.<sup>vi</sup>

Trophy Hunt Mortality

Over the course of 2005 to 2014, human-caused mortality accounted for 1,696 mountain lion deaths, or an average of 170 lions a year. Of that, 1,291 total mountain lions were killed by trophy hunters with an average of 129 a year, or more than 76 percent of all human-caused mountain lion fatalities over the 2005 to 2014 decade (Figure 2). Over the last decade, trophy hunt mortality for mountain lions has closely paralleled total overall mortality.

FIGURE NV2 Mountain lion mortality, Nevada 2005-2014



Potential Habitat

Over 34 million acres of Nevada’s land could be suitable habitat for mountain lion populations. This amounts to almost 50 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table NV1; Figure NV1).

TABLE NV1 Nevada maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	34,693,392
<b>KM²</b>	140,399
<b>% Potential Habitat of Total State Land</b>	49.1%

Nevada’s Mountain Lion Population

**Nevada Department of Wildlife’s Most Recent Population Estimate:** 1,100 to 1,500 (adults only) mountain lions statewide.<sup>vii</sup>

**Maximum Potential Population Estimate<sup>viii</sup>:** 2,387 adult mountain lions statewide. Approximately 140,399 km2 of habitat throughout Nevada could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km2 (Table NV2).

TABLE NV2 Nevada maximum potential population

<b>Potential Habitat KM²</b>	140,399
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	1,100 – 1,500
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM²)</b>	2,387

Nevada habitat could presently sustain a larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 887 to 1,287 individuals based on Nevada Department of Wildlife’s most recent population estimate (Table NV2).

Recent Policy Changes

In 1972, the Nevada Department of Wildlife commenced a study on the interactions between mountain lions and mule deer, which became the basis for a statewide management plan when the study was completed in 1983. This is the only study of its mountain lion population that the state has ever completed.

In 1994, the Commission allowed hunters, in two units, free hunting permits until the hunt objective were met.

In 1995, Nevada Department of Wildlife introduced its Comprehensive Mountain Lion Management Plan, which it still uses.

In 1997, several hunting regulations were changed, including reducing tag fees and increasing bag limits, to maximize mountain lion mortality. In 1998, year-round hunting was permitted in some units and in 2001, the entire state was open to a year-round season.

Also in 2001, the Nevada wildlife department began assessing a \$3.00 tax on all license sales and each year, tens of thousands of dollars from

this fund are spent by the agency to conduct predator control projects on coyotes, ravens, bears and mountain lions.

In 2003, the 24 hunting units that had been established in 1976 were reduced to only three regions, suggesting less of a site-specific calibration and more of a “sledge hammer”<sup>ix</sup> approach to management.

In 2014, a lawsuit was brought challenging Nevada’s trapping laws because data show that over the decades that hundreds of mountain lions have been captured, maimed or killed in traps set for other species. The litigation is ongoing.

In 2016, the Nevada Legislature declared that 80 percent of all predator funds must be spent on killing Nevada’s wild native carnivores. The agency writes:

*Fiscal year 2015 predator fee revenues totaled \$563,742; consequently this plan has budgeted over \$450,993.60 for lethal predator control. Proposed predator projects for fiscal year 2016 include \$472,000 for lethal work. This accounts for 83.7% of proposed predator fee expenditures being used for lethal control.<sup>x</sup>*

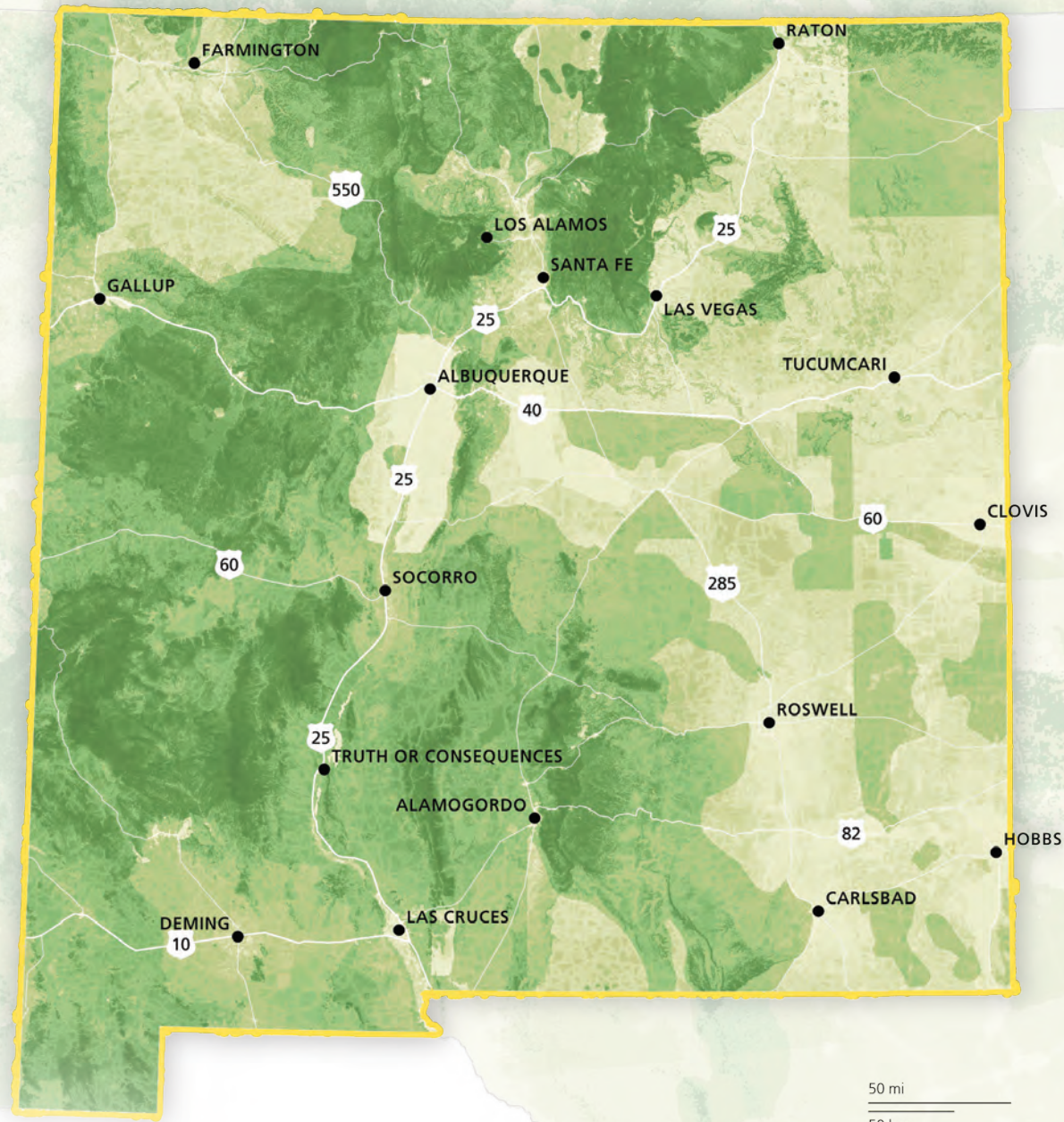
As part of its 2017 Predator Damage Management Plan, Nevada will hire Wildlife Services, houndsmen and trappers to kill mountain lions to ostensibly bolster mule deer numbers using \$90,000 of the predator fund.<sup>xi</sup> As part of another project, the state will spend \$45,000 to kill mountain lions to “protect” and grow populations or Rocky Mountain big horn sheep.<sup>xii</sup> As part of a third project, biologists will radio collar bears and lions to determine if mountain lions who kill and cache mule deer help subsidize black bears (who discover the caches). This project is budgeted for \$160,000 of which \$120,000 comes from federal Pittman-Robertson “conservation” funds.<sup>xiii</sup>

i. Nevada Department of Wildlife. Mountain Lion. Retrieved from [http://www.ndow.org/Hunt/Seasons\\_and\\_Regulations/Big\\_Game/Mountain\\_Lion/](http://www.ndow.org/Hunt/Seasons_and_Regulations/Big_Game/Mountain_Lion/)  
 ii. According to NDOW’s website, there is no quota on mountain lion tags that will be issued, but “each mountain lion management unit, unit group, or region shall have a sport harvest objective.” ([http://www.ndow.org/Hunt/Seasons\\_and\\_Regulations/Big\\_Game/Mountain\\_Lion/](http://www.ndow.org/Hunt/Seasons_and_Regulations/Big_Game/Mountain_Lion/)).  
 iii. Nevada allows hunters to take one mountain lion per tag, and hunters may have up to two tags each. <http://www.eregulations.com/nevada/15nvhd/mountain-lion-laws-regulations/>  
 iv. ERegulations. General Regulations: Nevada Hunting. Retrieved from <http://www.eregulations.com/nevada/big-game/general-regulations/>.  
 v. Ibid.  
 vi. Nevada Department of Wildlife. Mountain Lion. Retrieved from [http://www.ndow.org/Hunt/Seasons\\_and\\_Regulations/Big\\_Game/Mountain\\_Lion/](http://www.ndow.org/Hunt/Seasons_and_Regulations/Big_Game/Mountain_Lion/)  
 vii. Carl Lackey and Russell Woolstenhulme. Nevada Department of Wildlife. 2011. “Nevada Mountain Lion Status Report.” Pages 17-29 in Williams, J., H. Robinson, and L. Sweenor, editors. Proceedings of the 10th Mountain Lion Workshop. May 2-5, 2011. Bozeman, Montana, USA. p. 19.

viii. Maximum potential population refers to the number of lions that could be supported on the state’s landscape given a realistic density of 1.7 lions per 100 km2. It does not refer to current population size.  
 ix. This term comes from Logan and Sweenor (2001).  
 x. Nevada Department of Wildlife, Predator Damage Management Plan, Fiscal Year 2017 (p. 5). [http://www.ndow.org/uploadedFiles/ndoworg/Content/Public\\_Meetings/Commission/6-First-Draft-Predator-Management-Plan-FY-2017.pdf](http://www.ndow.org/uploadedFiles/ndoworg/Content/Public_Meetings/Commission/6-First-Draft-Predator-Management-Plan-FY-2017.pdf)  
 xi. Ibid., Project 37.  
 xii. Ibid., Subproject 22-074.  
 xiii. Ibid, Project 32.

# State of the mountain lion: New Mexico

FIGURE NM1 Potential mountain lion habitat, New Mexico



**Potential mountain lion habitat**

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

**Summary**

New Mexico ranks eighth nationwide for its mountain lion trophy hunting mortalities, and its quotas continue to expand significantly. It is one of two states to permit mountain lion trapping (Texas is the other). Between 2005 and 2014, trophy hunters killed 1,782 mountain lions (Figure NM2). In the 2014 hunting season alone, trophy hunters killed 232 mountain lions. Trophy hunting accounts for more than 80 percent of all human-caused lion mortality annually in New Mexico.

If threats are reduced, primarily from trophy hunting and predator control, New Mexico's adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, which reduces intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep. An analysis of potential mountain lion habitat and prey analysis found that 51,256,837 acres (207,429 km<sup>2</sup>) of land in New Mexico could support stable mountain lion populations (Table NM1). This amount of land could support up to 3,526 adult mountain lions across the state, a larger and older population than what the New Mexico Department of Game and Fish claims is currently present throughout the state (Table NM2).

New Mexico Department of Game and Fish, despite a decade-long study of its mountain lion population by Logan and Sweanor (2001), permits high levels of trophy hunting, trapping on private and state trust lands and predator control, all of which harms the state's fragile mountain lion population.

In 2015, the Humane Society of the United States commissioned a poll of 1,098 registered voters statewide. It showed that voters overwhelmingly, by a three-to-one margin, opposed a New Mexico Department of Game and Fish recommendation to allow mountain lion trapping on nine million acres of state trust lands. Disregarding the public's sentiment, in 2015, the Commission approved trapping on those special public lands.

In New Mexico, urban expansion, fossil fuel extraction, and other mineral exploitation exacerbate habitat loss and fragmentation for mountain lions and their prey. These ongoing activities reduce potential mountain lion habitat, further restricting population growth and reducing the number of individual lions.

**State Management**

**State Wildlife Agencies:** New Mexico Department of Game and Fish

**Most Recent Mountain Lion Strategic Plan:** No plan; New Mexico Department of Game and Fish relies on its table, the Cougar Management Strategy for Hunting Seasons 2012 to 2016 (updated 2015), to inform its zone management on populations by habitat, management objectives, harvest limits (quotas) and female harvest sub-limits.

**Species Status:** Big game Species (N.M. Admin. Code 19.31.10.7)

**Hunt Season:** Year-round since 2013; previously, ~7 months (October to March) on public land, or year-round on private land.<sup>i</sup>

**2015 Hunting Quota:** 749 total, 303 females,<sup>ii</sup> permitting the killing of 17.5 to 24 percent of the state's population estimate.<sup>iii</sup>

**Bag Limits:** Hunters who have killed two mountain lions in a season may request two additional tags. Tags may be used in mountain lion

management zones that have not met the established hunting limits during at least two of the three previous seasons.<sup>iv</sup>

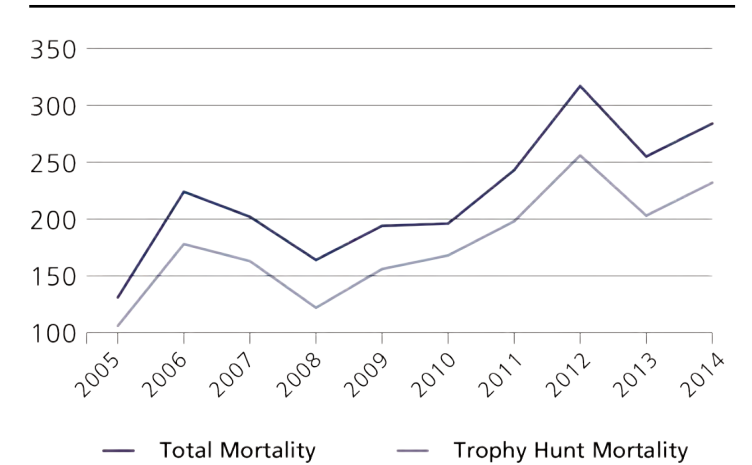
**Permitted Hunting Methods:** It is legal to hound mountain lions (N.M. Admin. Code 19.31.11.10(G)). Legal weapons for mountain lion hunting include center-fire rifles, handguns, shotguns, muzzle-loading rifles, bows and crossbows.<sup>v</sup> Trapping is permitted on private land and on nine million acres of state trust lands (N.M. Admin. Code 19.31.11.10(A);(P);(Q)). The use of artificial lights is prohibited. The use of artificial calls is not prohibited.<sup>vi</sup>

**Mountain Lion Hunting Requirements:** In order to hunt mountain lions, hunters must purchase a general hunting license (\$15 for residents, \$65 for non-residents) as well as a mountain lion permit (\$43 for residents, \$290 for non-residents). Hunters with mountain lion permits may only take one mountain lion per year. Hunters must take a mountain lion identification course. Hunters must present the license and hide to New Mexico Department of Game and Fish within five days of killing the lion.<sup>vii</sup>

**Trophy Hunt Mortality**

During 2005 to 2014, humans caused a total of 2,210 mountain lion deaths, an average of 221 a year. Of these, 1,782 were deaths from trophy hunting with an average of 178 a year, accounting for more than 80 percent of all human-caused mountain lion fatalities over the past decade (Figure NM1). Over the last decade, trophy hunt mortality for mountain lions has closely paralleled total overall mortality.

FIGURE NM2 Mountain lion mortality, New Mexico 2005-2014



**Potential Habitat**

Over 51 million acres of New Mexico's land could be suitable habitat for mountain lion populations. This amounts to over 65 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table NM1; Figure NM1).

State of the mountain lion: New Mexico (cont.)

**TABLE NM1** New Mexico maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	51,256,837
<b>KM<sup>2</sup></b>	207,429
<b>% Potential Habitat of Total State Land</b>	65.9%

**New Mexico's Mountain Lion Population**

New Mexico Department of Game and Fish's Most Recent Population Estimate: 3,123 to 4,269 mountain lions statewide, including all age groups.<sup>viii</sup> Based on this estimate, the adult population estimate is likely around 1,905 to 2,604, which is 61 percent of the total estimate.

Maximum Potential Population Estimate: 3,526 adult mountain lions statewide. Approximately 207,429.06 km<sup>2</sup> of habitat throughout New Mexico could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table NM2).

**TABLE NM2** New Mexico maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	207,429
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	1,905 – 2,604
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	3,526

New Mexico habitat could presently sustain a larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 922 – 1,621 lions based on New Mexico Department of Game and Fish's most recent population estimate (Table NM2).

**Recent Policy Changes**

Private lands trapping for mountain lions has always been permitted, and only was regulated starting in 1971 when mountain lions became a protected species in New Mexico. Trappers needed a special permit to trap private land as well as the landowner's permission.

In 1998, the New Mexico Department of Game and Fish approved a state management plan that allowed for a hunting quota of 176 mountain lions. In 2000, the Game Commission approved regulations permitting a year-round season in all big horn sheep areas. In 2002, the Game Commission approved a dual bag limit and year-round hunting in three game management units.

In 2002, Animal Protection of New Mexico sued the wildlife agency for its failure to "maintain viable" mountain lion populations. A state court judge sided with the state agency in 2005.

i. New Mexico Department of Game and Fish. 2016-2017 New Mexico Hunting: Rules and Information for Upland and Big Game. Retrieved from [http://www.wildlife.state.nm.us/download/publications/rib/2016/hunting/2016\\_17-New-Mexico-Hunting-Rules-And-Info.pdf](http://www.wildlife.state.nm.us/download/publications/rib/2016/hunting/2016_17-New-Mexico-Hunting-Rules-And-Info.pdf)  
 ii. Ibid.  
 iii. Because New Mexico's population estimate includes mountain lions of all ages, the actual harm to adult mountain lions is likely greater than 17.5 to 24 percent.  
 iv. New Mexico Department of Game and Fish. 2016-2017 New Mexico Hunting: Rules and Information for Upland and Big Game. Retrieved from [http://www.wildlife.state.nm.us/download/publications/rib/2016/hunting/2016\\_17-New-Mexico-Hunting-Rules-And-Info.pdf](http://www.wildlife.state.nm.us/download/publications/rib/2016/hunting/2016_17-New-Mexico-Hunting-Rules-And-Info.pdf)  
 v. Ibid.

In 2006, Animal Protection of New Mexico funded GIS map from the University of New Mexico that estimated a total population of approximately 1,341 adult mountain lions, compared to a much higher estimate of between 1,661 and 2,109 mountain lions by the state. The Game Commission reduced the trophy hunting quota to 220, a significant reduction from the state's proposal of 273. The state also began to monitor the number of females in the trophy hunter kill.

In 2008, the New Mexico Game Commission, under the guidance of Governor Richardson adopted several progressive mountain lion management provisions including a mandatory hunter education program to protect breeding females and their kittens, female subquotas amounting to 10 percent of the "sustainable total mortality," which also replaced the "sport harvest limit" to help ensure that the agency could track all sources of mountain lion mortality.

In 2010, the New Mexico Department of Game and Fish and the Game Commission reversed all previous conservation gains for mountain lions. The Department proposed a 140 percent increase in the quota, from 490 to 1,190 individuals each year. The basis of those recommendations was a mountain lion study conducted over a one-year period on an unusually biologically rich area in New Mexico. The Game Commission then took the highest population estimate produced by the study and applied that mountain lion density statewide. Because advocates created a controversy over the quota, the Game Commission arrived at a still-too-high quota of 745 (although not the agency's recommended 1,190). At that same hearing, the Commission changed the policymaking process: Instead of visiting regulatory matters for mountain lions every two years, the Commission limited public participation to every four years.

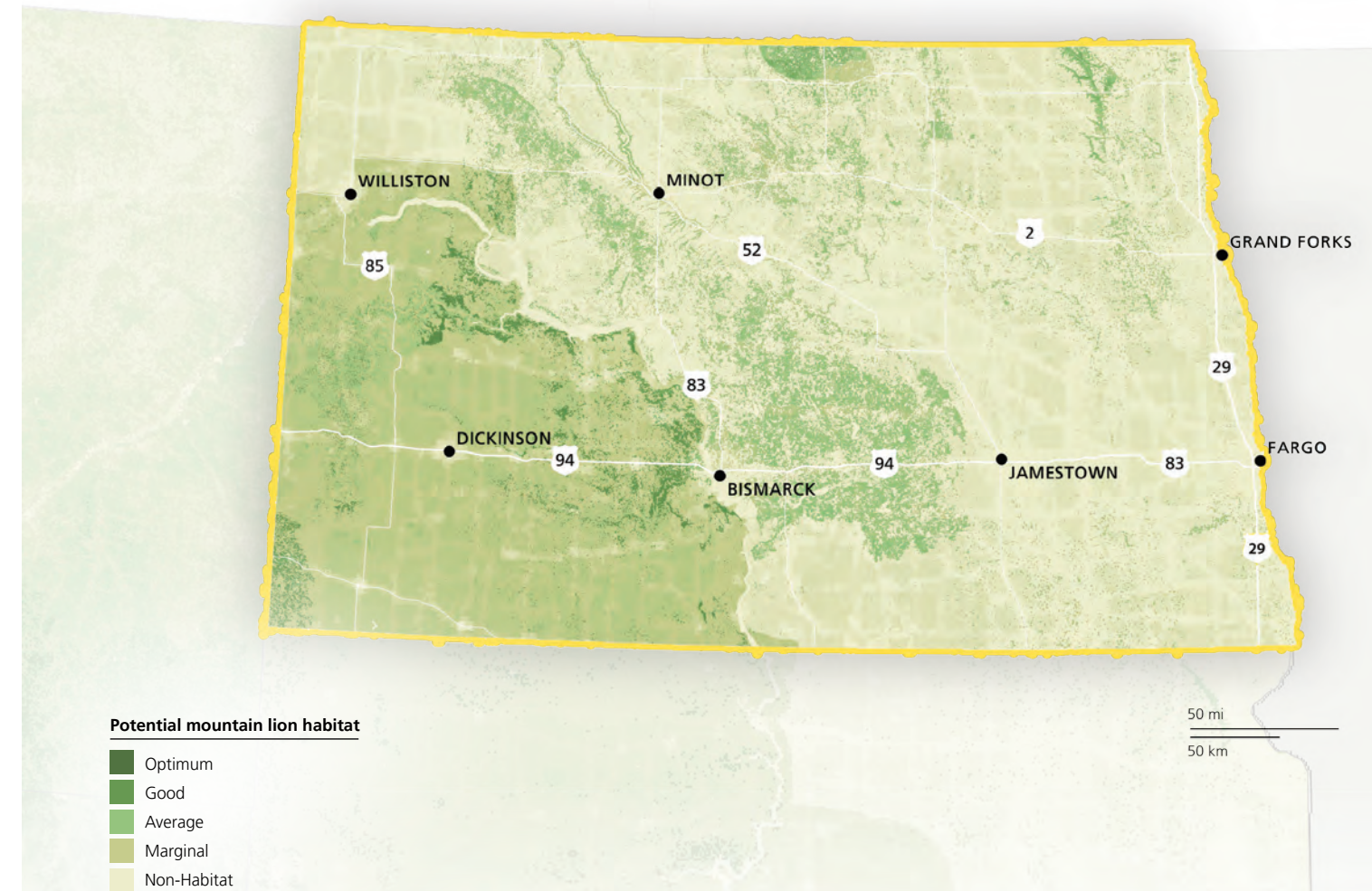
In 2015, the game agency proposed to permit trappers to ensnare mountain lions on nine million acres of state trust lands. In a Humane Society of the United States-commissioned poll, New Mexico voters rejected mountain lion trapping by a three to one margin.<sup>ix</sup> The department also recommended, and the Commission approved, allowing mountain lion trapping on private lands without a permit. The Game Commission instituted trapping on state trust lands.

As of 2016, in New Mexico, it is legal to trap mountain lions on private lands without a permit, and on state trust lands.<sup>x</sup> The trapping season on nine million acres of state trust lands takes place from November 1 to March 31 (N.M. Admin. Code 19.31.11.10). The Humane Society of the United States, Animal Protection of New Mexico and residents sued the state and federal government for mountain lion trapping in the state because it jeopardizes endangered species, including Mexican wolves, as well as nursing female lions and their spotted kittens.

vi. Ibid.  
 vii. Ibid.  
 viii. New Mexico Department of Game and Fish. Cougar Management Matrix 2012-2016 Hunt Seasons. Retrieved from [http://www.wildlife.state.nm.us/download/hunting/species/cougar/Cougar-Management-Strategy-Hunting-Seasons-2012\\_2016.pdf](http://www.wildlife.state.nm.us/download/hunting/species/cougar/Cougar-Management-Strategy-Hunting-Seasons-2012_2016.pdf)  
 ix. Remington Research Group. 2015. New Mexico Public Opinion.  
 x. New Mexico Department of Game and Fish. 2016-2017 New Mexico Hunting: Rules and Information for Upland and Big Game. Retrieved from [Ghttp://www.wildlife.state.nm.us/download/publications/rib/2016/hunting/2016\\_17-New-Mexico-Hunting-Rules-And-Info.pdf](http://www.wildlife.state.nm.us/download/publications/rib/2016/hunting/2016_17-New-Mexico-Hunting-Rules-And-Info.pdf)

**State of the mountain lion: North Dakota**

**FIGURE ND1** Potential mountain lion habitat, North Dakota



**Summary**

Despite having a small, vulnerable population of mountain lions, the North Dakota Game and Fish Department permits a residents-only trophy hunt on them. Between 2005 and 2014, trophy hunters killed 103 mountain lions (Figure ND2). Trophy hunting accounts for more than 64 percent of all human-caused lion mortality in North Dakota.

The North Dakota Game and Fish Department, the mountain lion population trends have been on the decline for the past three years in their primary range, the Badlands. An analysis of potential mountain lion habitat and prey analysis found that 8,872,915 acres (35,907 km<sup>2</sup>) of land in North Dakota could support a stable mountain lion population (Table ND1) of up to 610 individuals across the state (Table ND2) if threats are reduced.

The North Dakota Game and Fish Department permits high levels of trophy hunting and predator control, harming the state's mountain lion population, which also prevents connectivity to stranded mountain lions in eastern states. Yet, North Dakota and the other prairie states, Nebraska and South Dakota, are the important linkage between Western and the beleaguered Eastern mountain lion populations. All of the prairie states must do more to stem the slaughter, including by trapping and poaching to restore mountain lion populations to their historic home, the breadth of the entire U.S. and beyond into Canada and the Republic of Mexico.

Additionally, land development, fossil fuel extraction, and other mineral exploitation exacerbate habitat loss and fragmentation for mountain lions and their prey. These ongoing activities reduce potential mountain lion habitat, further restricting population growth and reducing the number of lions and their prey in North Dakota.

State of the mountain lion: North Dakota (cont.)

State Management

**State Wildlife Agencies:** North Dakota Game and Fish Department

**Most Recent Mountain Lion Strategic Plan:** Status of Mountain Lion Management in North Dakota,<sup>i</sup> 2015

**Species Status:** Mountain lions are regulated as a furbearing species (N.D. Cent. Code § 20.1-01-02) and are a protected species (N.D. Admin. Code 48-12-01.1-01)

**Hunt Season:** The mountain lion hunt season for firearms and archery equipment is September through March.<sup>ii</sup> The season for using hounds is the end of November through March.<sup>iii</sup> Exact dates change annually.

**2015 Hunting Quota:** 21 in Zone 1 (Badlands region); no quota for Zone 2 (remainder of state); no female subquota.<sup>iv</sup>

**Bag Limits:** One mountain lion per person, per season<sup>v</sup>

**Permitted Hunting Methods:** It is legal to use hounds to hunt mountain lions during the designated hounding season (see “hunt season”).<sup>vi</sup> It is legal to use firearms and archery equipment to hunt mountain lions in North Dakota.<sup>vii</sup> Trapping is prohibited.<sup>viii</sup> The hunting of spotted kittens is prohibited.<sup>ix</sup> The use of artificial lights and calls is not prohibited.<sup>x</sup>

**Mountain Lion Hunting Requirements:** Mountain lions may only be hunted by North Dakota residents (N.D. Cent. Code Ann. § 20.1-03-07(2)). Each hunter may kill one mountain lion per season. Hunters must possess a furbearer license (\$15) or a combination license (\$50, includes small game, general game and habitat, furbearer, and fishing licenses). Hunters must also purchase a Fishing, Hunting, and Furbearer Certificate (\$1). Hunters must notify the North Dakota Game and Fish Department within twelve hours of killing a lion and the entire intact animal must be submitted for analysis and tagging. Legally taken animals will be returned to the hunter following analysis so that the pelt may be removed but the carcass shall remain the property of the North Dakota Game and Fish Department.<sup>xi</sup>

Trophy Hunt Mortality

The North Dakota Game and Fish Department permits trophy hunters to kill too many mountain lions, primarily in southwestern North Dakota. Between 2005 and 2014, trophy hunters killed 103 mountain lions in North Dakota, accounting for more than 64 percent of all human-caused mountain lion mortalities (Figure ND2).

Potential Habitat

Almost nine million acres of North Dakota’s land could be suitable habitat for mountain lion populations. This amounts to almost 20 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table ND1; Figure ND1).

FIGURE ND2 Mountain lion mortality, North Dakota 2005-2014

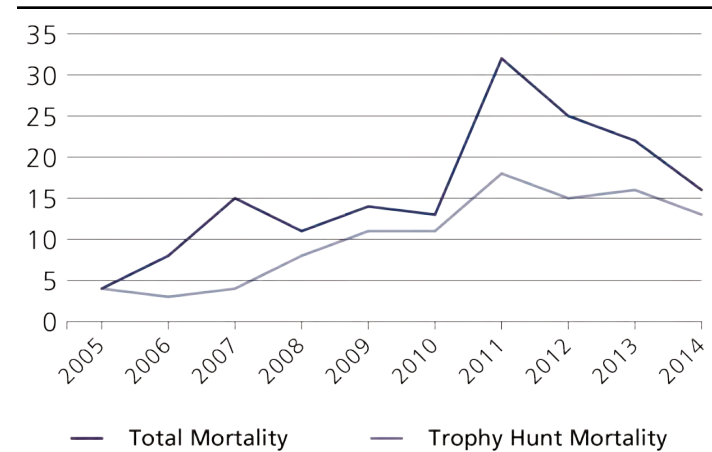


TABLE ND1 North Dakota maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	8,872,915
<b>KM<sup>2</sup></b>	35,907
<b>% Potential Habitat of Total State Land</b>	19.6%

North Dakota’s Mountain Lion Population

The North Dakota Game and Fish Department does not have a population estimate for mountain lions in North Dakota but the agency has indicated that the population is quite small. The most recent mountain lion management status report states that population trends indicate the number of mountain lions found in Zone 1 is on the decline and that survival rates for radio-collared mountain lions in Zone 1 are below the amount needed to sustain current numbers.<sup>xii</sup>

**North Dakota Game and Fish Department’s Most Recent Population Estimate:** None

**Maximum Potential Population Estimate<sup>xiii</sup>:** 610 adult mountain lions statewide. Approximately 8,872,915 km<sup>2</sup> of habitat throughout North Dakota could support mountain lions at a sustainable rate of 1.7 lions per 100 km<sup>2</sup>.

TABLE ND2 North Dakota maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	35,907
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	None
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	610

North Dakota habitat could presently sustain an adult mountain lion population of 610 individuals if threats are reduced (Table ND2).

Recent Policy Changes

In 2005, North Dakota held its first regulated mountain lion hunting season with a quota of five. In this first season, which they declared “experimental,” the objective was to gather distributional and biological information regarding the state’s mountain lion population.<sup>xiv</sup>

In the 2006 to 2007 mountain lion hunting season, new regulations forbade the harvesting of kittens or mothers accompanied by kittens and prohibited the use of dogs until later in the season.<sup>xv</sup>

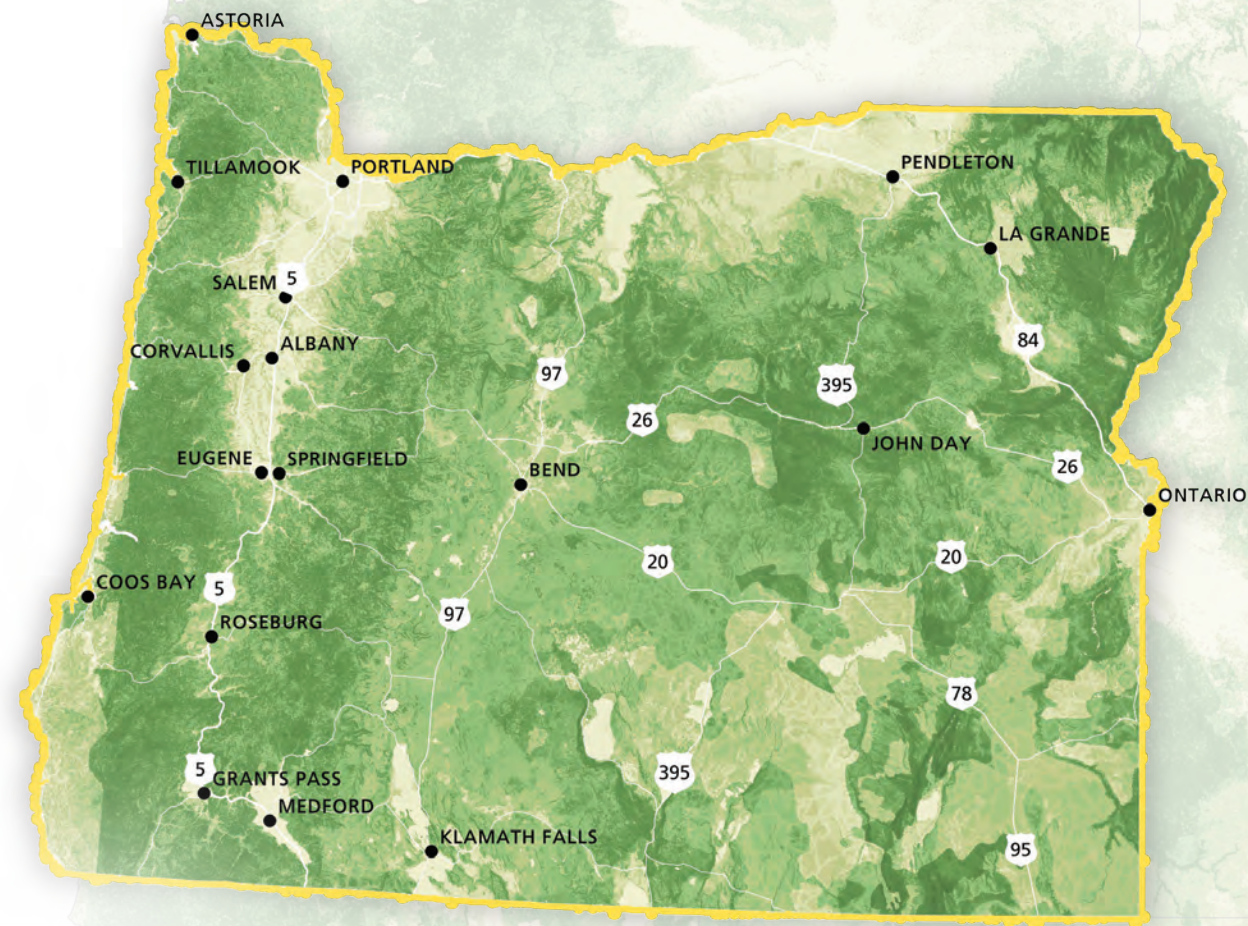
In 2010, the North Dakota Game and Fish Department decided to increase the yearly mountain lion hunting quota, despite scientific evidence that doing so would hurt the population as a whole. In addition, the agency established an unlimited hunting zone for the majority of the state, Zone 2.<sup>xvi</sup>

i. North Dakota Game and Fish Department. (2015). Status of Mountain Lion Management in North Dakota, 2015. Accessed July 18, 2015. Retrieved from <http://gf.nd.gov/gnf/conservation/docs/mt-lion-status-rpt.pdf>.  
 ii. North Dakota Game and Fish Department. Mountain Lion Hunting and Trapping. Retrieved from <https://gf.nd.gov/hunting/mountain-lion>.  
 iii. Ibid.  
 iv. Ibid.  
 v. North Dakota Game and Fish Department. 2016-2017 North Dakota Furbearer Hunting and Trapping Guide. Retrieved from <https://gf.nd.gov/gnf/regulations/docs/furbearer/furbearer-guide.pdf>.  
 vi. North Dakota Game and Fish Director, “2016 – 2017 Small Game, Waterfowl and Furbearer Proclamation,” p. 11. Retrieved from <https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf>.  
 vii. North Dakota Game and Fish Department. 2016-2017 North Dakota Furbearer Hunting and Trapping Guide. Retrieved from <https://gf.nd.gov/gnf/regulations/docs/furbearer/furbearer-guide.pdf>.  
 viii. North Dakota Game and Fish Director, “2016 – 2017 Small Game, Waterfowl and Furbearer Proclamation,” p. 10. Retrieved from <https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf>.

ix. North Dakota Game and Fish Department. 2016-2017 North Dakota Furbearer Hunting and Trapping Guide. Retrieved from <https://gf.nd.gov/gnf/regulations/docs/furbearer/furbearer-guide.pdf>.  
 x. Ibid.  
 xi. Ibid.  
 xii. North Dakota Game and Fish Department. (2015). Status of Mountain Lion Management in North Dakota, 2015. Accessed July 18, 2015. Retrieved from <http://gf.nd.gov/gnf/conservation/docs/mt-lion-status-rpt.pdf>.  
 xiii. Maximum potential population refers to the number of lions that could be supported on the state’s landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.  
 xiv. Status of Mountain Lion Management in North Dakota, 2015. Report. November 2015. Accessed July 13, 2016. <http://gf.nd.gov/gnf/conservation/docs/mt-lion-status-rpt.pdf>.  
 xv. Status of Mountain Lion Management in North Dakota, 2015. Report. November 2015. Accessed July 13, 2016. <http://gf.nd.gov/gnf/conservation/docs/mt-lion-status-rpt.pdf>.  
 xvi. “A Timeline of Bounty and Sport Hunting of Mountain Lions in the U.S.” Mountain Lion Foundation. Accessed July 13, 2016. <http://mountainlion.org/us-us-timeline.asp>.

# State of the mountain lion: Oregon

FIGURE OR1 Potential mountain lion habitat, Oregon



**Potential mountain lion habitat**

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

**Summary**

Oregon ranks fifth highest nationwide for trophy hunting mortality of mountain lions. Between 2005 and 2014, trophy hunters killed 2,602 mountain lions and the number of lions killed each year remained steady, with 260 as the 10-year average (Figure OR2). In the 2014 hunting seasons, trophy hunters killed 208 mountain lions. Trophy hunting accounts for over 54 percent of all human-caused mountain lion mortality annually in Oregon. While mountain lion trapping and the use of hounds to pursue mountain lions is prohibited, landowners may kill mountain lions in response to perceived conflict, and federal and state employees are allowed to use a full range of methods, including hounds and snares.

In addition to trophy hunting, in Oregon a remarkably large number of mountain lions are killed each year in “cougar target areas” designated by

the Oregon Department of Fish and Wildlife. The areas are meant to be a tool for predator control to significantly reduce lion populations across thousands of square miles to ostensibly protect big game, pets, livestock and people. In these target areas, staff from the Oregon Department of Fish and Wildlife, USDA Wildlife Services, or volunteer houndsmen or trappers can remove large number of lions.<sup>1</sup>

If threats are reduced, primarily from trophy hunting and predator control, Oregon’s adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, which reduces intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep. An analysis of potential mountain lion habitat and prey analysis found that 50,903,266

acres (205,998 km<sup>2</sup>) of land in Oregon could support stable mountain lion populations (Table OR1). This amount of land could support up to 3,502 adult mountain lions across the state, a population much lower than what ODFW claims is currently present on throughout the state (Table OR2).

**State Management**

**State Wildlife Agencies:** Oregon Department of Fish and Wildlife

**Most Recent Mountain Lion Strategic Plan:** Cougar Management Plan (CMP), 2006.<sup>ii</sup>

**Species Status:** Mountain lions are regulated as game mammals. (ORS 496.004)

**Hunt Season:** Jan. 1 to Dec. 31 (year-round) or until quota is met, whichever occurs first<sup>iii</sup>

**2015 Hunting Quota:** 970 lions, a 25 percent increase over the 2014 quota of 777 lions.<sup>iv</sup> No female subquota. The 2015 quota permitted the killing of 16 percent of the state’s population estimate.<sup>v</sup>

**Bag Limits:** One mountain lion per tag; up to two tags may be purchased per person, per season<sup>vi</sup>

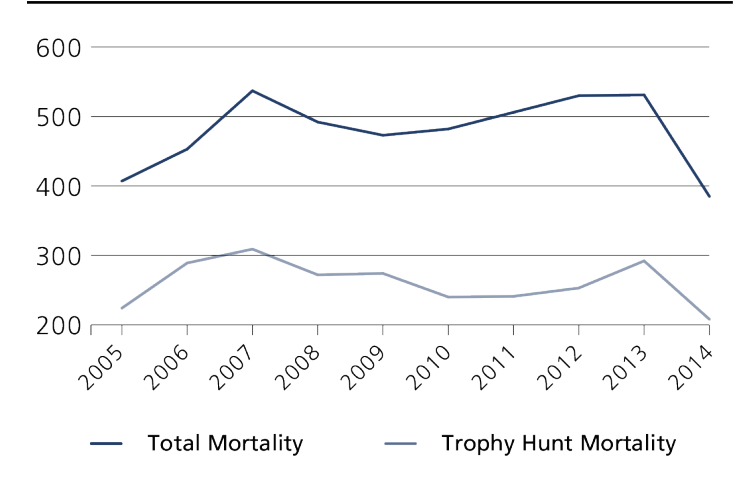
**Permitted Hunting Methods:** The use of hounds to hunt mountain lions is prohibited except in target areas and for public safety purposes by approved agency staff and volunteers (Or. Rev. Stat. Ann. § 498.164(1), (4); Or. Admin. R. 635-067-0004(5)).<sup>vii</sup> Hunters are permitted to use handguns,<sup>viii</sup> and can kill mountain lions who are reported as posing a threat to human safety or agriculture (ORS 498.132; ORS 497.012). Anyone over age 12 can hunt mountain lions (ORS 497.350). Trapping is prohibited (Or. Admin. R. 635-065-0745(7)). Baiting is prohibited (Or. Rev. Stat. Ann. § 496.731(2); Or. Rev. Stat. Ann. § 498.164(1), (4)). The hunting of spotted kittens and the use of artificial lights is prohibited. The use of artificial calls is not prohibited.<sup>ix</sup>

**Mountain Lion Hunting Requirements:** Since the passage of ballot Measure 18, the Oregon Ban on Baited Bear Hunting and Cougar Hunting with Dogs Act, Oregon wildlife managers have sought to ramp up mountain lion mortality by actively encouraging more hunters to kill mountain lions by creating a year-round hunting season and drastically reducing the price of a mountain lion tag. Oregon hunters pay a small fee for a license to kill a mountain lion (resident license: \$32; non-resident: \$160.50; mountain lion tags are \$15.50 each) and can be bought individually or as part of a Sports Pac. Hunters must present mountain lions at agency office within 10 days of killing to be checked and marked. <sup>x</sup>

**Trophy Hunt Mortality**

Oregon Department of Fish and Wildlife permits trophy hunters to kill large numbers of mountain lions, primarily in western Oregon. Between 2005 and 2014, approximately 2,602 mountain lions were killed by trophy hunters in Oregon, accounting for more than 54 percent of all human-caused mountain lion mortalities (Figure 2; Appendix B). According to their 2006 Cougar Management Plan, the Oregon Department of Fish and Wildlife manages for a “minimum desirable” population of 3,000 cats statewide.<sup>xi</sup> Over the last decade, overall mortality for mountain lions has steadily increased parallel to mortalities related to trophy hunting, as hunting quotas have increased.

FIGURE OR2 Mountain lion mortality, Oregon 2005-2014



**Potential Habitat**

Over 50 million acres of Oregon’s land could be suitable habitat for mountain lion populations. This amounts to more than 82 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table OR1; Figure OR1).

TABLE OR1 Oregon maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	50,903,266
<b>KM<sup>2</sup></b>	205,998
<b>% Potential Habitat of Total State Land</b>	82.1%

**Oregon’s Mountain Lion Population**

The state’s current population estimates and subsequent hunting quotas are widely criticized as deficient,<sup>xii</sup> harmful to the persistence of mountain lions in the state, and therefore require urgent reevaluation. The fact that trophy hunt numbers have remained relatively stable in recent years despite quota increases and dramatically high license sale numbers suggests that population numbers are much lower than Oregon Department of Fish and Wildlife suggests.

**Oregon Department of Fish and Wildlife’s Most Recent Population Estimate:** 6,200 mountain lions statewide, including all age groups. Based on this estimate, the adult population estimate is likely around 3,782 lions, which is 61 percent of the total estimate.

**Maximum Potential Population Estimate<sup>xiii</sup>:** 3,502 adult mountain lions statewide. Approximately 2059.98 km<sup>2</sup> of habitat throughout Oregon could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table OR2).

State of the mountain lion: Oregon (cont.)

TABLE OR2 Oregon maximum potential population

Potential Habitat KM <sup>2</sup>	205,998
State Agency Pop., Adults Only (61% of total pop.)	3782
Potential Adult Pop. Estimate (1.7 Lions/100KM <sup>2</sup> )	3501.97

Oregon habitat could presently sustain approximately 280 fewer adult mountain lions than what ODFW claims currently exist. This demonstrates the lack of reliability attached to the state’s current population estimate and agency’s failure to properly safeguard mountain lions from overexploitation. Oregon’s wildlife agency must conduct a reliable, sound study to accurately estimate the state’s current lion population and adjust management strategies accordingly.

Recent Policy Changes

In 1994, Oregon voters passed ballot Measure 18, the Oregon Ban on Baited Bear Hunting and Cougar Hunting with Dogs Act. The initiative passed with 52 percent of the vote. While this appeared to be a turning point in the management of the state’s largest wild cat, the ban on hounding allowed federal and state employees to use hounds and snares to respond to human, pet, or livestock conflicts. The state utilized this loophole by declaring many non-emergencies were a public safety, wildlife or livestock emergency. Furthermore, while Measure 18 initially reduced the numbers of mountain lions hunted, Oregon Department of Fish and Wildlife has since liberalized the hunt, lengthening seasons, increasing quotas, and drastically dropping the price of mountain lion tags in the process.

i. Oregon Department of Fish and Wildlife. ODFW Cougar Target Areas 2016-2019. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/map.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/map.asp)  
 ii. Oregon Department of Fish and Wildlife. 2006 Oregon Cougar Management Plan. Retrieved from [http://www.azgfd.gov/pdfs/w\\_c/bhsheep/OregonCougarManagementPlan2006.pdf](http://www.azgfd.gov/pdfs/w_c/bhsheep/OregonCougarManagementPlan2006.pdf)  
 iii. Oregon Department of Fish and Wildlife. Hunting Cougar in Oregon. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/index.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/index.asp)  
 iv. Oregon Department of Fish and Wildlife. Cougar Quota. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/quota.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/quota.asp)  
 v. Because Oregon’s population estimate includes mountain lions of all ages and is considered extremely overestimated, the actual impact on adult mountain lions is likely much greater than 16 percent.  
 vi. Oregon Department of Fish and Wildlife. Hunting Cougar in Oregon. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/index.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/index.asp)  
 vii. Oregon Department of Fish and Wildlife. ODFW Cougar Target Areas 2016-2019. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/cougar/map.asp](http://www.dfw.state.or.us/resources/hunting/big_game/cougar/map.asp); Oregon Department of Fish and Wildlife. 2016 Oregon Big Game Hunting Regulations. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/docs/16ORHD\\_LR.pdf](http://www.dfw.state.or.us/resources/hunting/big_game/docs/16ORHD_LR.pdf)  
 viii. Oregon Department of Fish and Wildlife. 2016 Oregon Big Game Hunting Regulations. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/docs/16ORHD\\_LR.pdf](http://www.dfw.state.or.us/resources/hunting/big_game/docs/16ORHD_LR.pdf)

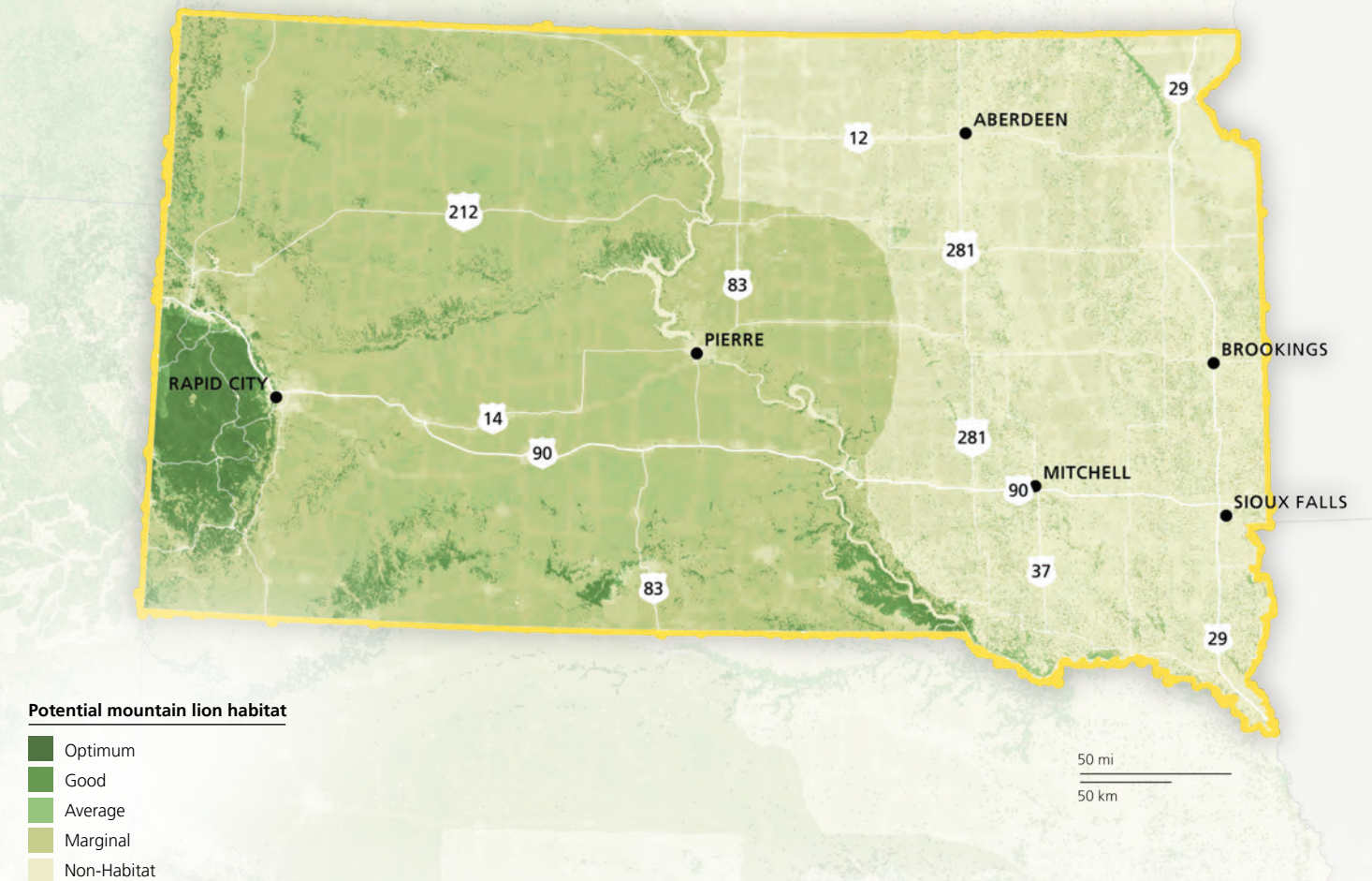
Meanwhile, the state legislature has introduced bills almost every session that seek to overturn or weaken this ban:

- In 1999, a bill passed allowing people to legally kill mountain lions posing a “threat” to human safety even if they did not have a permit.
- In 2003, the legislature expanded the law to allow landowners to kill mountain lions deemed a public health risk or nuisance.
- In 2007, the legislature passed a law allowing Oregon Department of Fish and Wildlife to train and deputize citizens to act as volunteer “agents” on its behalf, and to use hounds to hunt mountain lions in the name of “public safety”.<sup>xiv</sup>
- In 2015, despite overwhelming opposition by Oregon citizens, Oregon wildlife officials passed regulations to permit the killing of mountain lions on over 6,000 square miles of land using hounds and snares by volunteer “agents” and federal wildlife trappers working for USDA Wildlife Services. The increasing opposition to broad-scale killing of cougars is strong evidence that most Oregonians want to see these animals thrive.
- In 2017, Oregon legislators introduced four bills to allow hounding of mountain lions. SB 458 would require the Oregon Fish and Wildlife Commission to adopt a program for trophy hunting cougars with the use of hounds. HB 2107, HB 2589 and SB 371 would allow counties to “opt out” of Measure 18, creating a chaotic and unmanageable patchwork approach to wildlife management.

ix. Ibid.  
 x. Oregon Department of Fish and Wildlife. 2016 Oregon Big Game Hunting Regulations. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/docs/16ORHD\\_LR.pdf](http://www.dfw.state.or.us/resources/hunting/big_game/docs/16ORHD_LR.pdf); Oregon Department of Fish and Wildlife. 2006 Oregon Cougar Management Plan. Retrieved from [http://www.azgfd.gov/pdfs/w\\_c/bhsheep/OregonCougarManagementPlan2006.pdf](http://www.azgfd.gov/pdfs/w_c/bhsheep/OregonCougarManagementPlan2006.pdf)  
 xi. Oregon Department of Fish and Wildlife. 2006 Oregon Cougar Management Plan. Retrieved from [http://www.azgfd.gov/pdfs/w\\_c/bhsheep/OregonCougarManagementPlan2006.pdf](http://www.azgfd.gov/pdfs/w_c/bhsheep/OregonCougarManagementPlan2006.pdf)  
 xii. Noguera, David. “Cougar Management In The Spotlight As Population Increases.” Oregon Public Broadcasting. Retrieved from <http://www.opb.org/news/article/cougar-management-spotlight-population-increases/>  
 xiii. Maximum potential population refers to the number of lions that could be supported on the state’s landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.  
 xiv. Oregon Department of Fish and Wildlife. Oregon Administrative Rules: Division 079, Appointing Black Bear and/or Cougar Agents. Retrieved from <http://www.dfw.state.or.us/OARs/79.pdf>.

State of the mountain lion: South Dakota

FIGURE SD1 Potential mountain lion habitat, South Dakota



Summary

Given the small, vulnerable population of mountain lions, South Dakota Game, Fish and Parks permits high rates of trophy hunting. In fact, South Dakota lion hunting quotas far exceed any other state compared to population size. In 2015, South Dakota Game, Fish and Parks set a hunting quota of 75 lions, or approximately 41 percent of the state’s entire, small population. Between 2005 and 2014, trophy hunters killed 415 mountain lions (Figure SD2). Trophy hunting accounts for more than 55 percent of all human-caused lion mortality in South Dakota. Predator control is also a significant contributor to human-caused lion mortality in South Dakota. South Dakota’s mountain lion population is declining, according to state biologists, and this is the direct result of too much trophy hunting and unlimited predator control by landowners. Yet, South Dakota and the other prairie states, North Dakota and Nebraska, are the important linkage between Western and the beleaguered Eastern mountain lion populations. All of the prairie states must do more to stem the slaughter, including

by trapping and poaching to restore mountain lion populations to their historic home, the breadth of the entire U.S. and beyond into Canada and the Republic of Mexico. An analysis of potential mountain lion habitat and prey analysis found that 14,144,256 acres (57,240 km<sup>2</sup>) of land in South Dakota could support a stable mountain lion population (Table SD1) of up to 973 individuals across the state (Table SD2) if threats are reduced. South Dakota Game, Fish and Parks permits exceedingly high levels of trophy hunting and predator control, restricting natural growth of the state’s mountain lion population. Additionally, land development, fossil fuel extraction, and other mineral exploitation are exacerbating habitat loss and fragmentation for mountain lions and their prey. These ongoing activities could reduce potential mountain lion habitat in the future, further restricting population growth and reducing the number of lions in North Dakota.



State of the mountain lion: South Dakota (cont.)

State Management

**State Wildlife Agencies:** South Dakota Game, Fish and Parks

**Most Recent Mountain Lion Strategic Plan:** South Dakota Mountain Lion Management Plan 2010 to 2015, published most recently in 2013 as the second working draft

**Species Status:** Mountain Lions are regulated as a big game species in South Dakota (S.D. Codified Laws § 41-1-1 (4))

**Hunt Season:** Black Hills (Within Black Hills Fire Protection District): End of December through March or until harvest limit has been reached, whichever occurs first; Statewide: Year-round on land that is located outside of the Black Hills Fire Protection District.

**2015 Hunting Quota:** 75 total, 50 female subquota for Black Hills region only; no quota set for lion hunting in the remainder of the state. The 2015 quota permitted the killing of approximately 41 percent of the state's adult and subadult population estimate.

**Bag Limits:** One mountain lion per person, per season

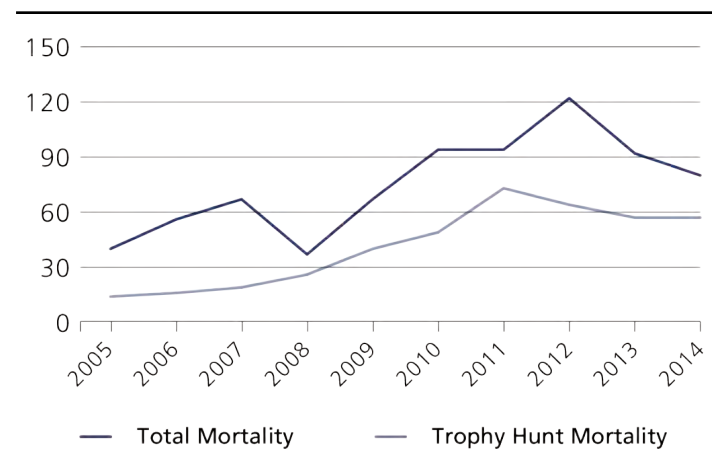
**Permitted Hunting Methods:** It is legal to hound mountain lions (SDAR 41-8-15, SDAR 41-06-61-06). Legal weapons for mountain lion hunting include firearms, including shotguns, handguns, muzzle loading rifles, and archery equipment. Firearms that are self-loading or auto-loading cannot hold more than 6 cartridges. Trapping is prohibited (S.D. Admin. R. 41:06:61:06(4)). The hunting of spotted kittens is prohibited. The use of artificial lights is permitted on private land. The use of artificial calls is permitted. Baiting is prohibited (S.D. Admin. R. 41:06:61:06(4)).

**Mountain Lion Hunting Requirements:** Only residents can hunt mountain lions in South Dakota (S.D. Admin. R. 41:06:61:06(1)). Residents must purchase a statewide license (\$28) which is available on an unlimited basis. Individuals interested in hunting mountain lions within Custer State Park must enter into a random drawing to obtain one of the limited, free access permits to hunt mountain lions within the state park. Hunters must be at least 12 years of age and those that are 12 to 16 years of age must complete a HuntSAFE course. For first-time archery licensees or archery licensees under the age of 16, a National Bowhunter Education Foundation certificate is required. Hunters must present mountain lions to South Dakota Game, Fish and Parks within 24 hours of killing for inspection.

Trophy Hunt Mortality

South Dakota Game, Fish and Parks permits trophy hunters to kill large numbers of mountain lions. Mountain lions are killed primarily in the Black Hills region of western South Dakota. Between 2005 and 2014, 415 mountain lions were killed by trophy hunters in South Dakota, accounting for more than 55 percent of all human-caused mountain lion mortalities (Figure SD). Because of the population decline, South Dakota Game, Fish and Parks has recommended a decreased hunting quota from 75 to 60 total lions and 50 to 40 female lions for the 2016 and 2017 seasons. The state needs to do more to stop the total mortality too, given its significance.

FIGURE SD2 Mountain lion mortality, South Dakota 2005-2014



Potential Habitat

More than 14 million acres of South Dakota's land could be suitable habitat for mountain lion populations. This amounts to almost 29 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table SD1; Figure SD1).

TABLE SD1 South Dakota maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	14,144,256
<b>KM<sup>2</sup></b>	57,240
<b>% Potential Habitat of Total State Land</b>	28.7%

South Dakota's Mountain Lion Population

South Dakota Game, Fish and Parks has worked with South Dakota State University over many years to conduct mark-recapture studies on South Dakota's mountain lion population in the Black Hills. Almost 400 lions have been marked and researched in the region since 1998. As of 2015, South Dakota Game, Fish and Parks estimates the Black Hills population estimate to be 185 adults and subadults, or 245 total lions including kittens. No statewide population estimate currently exists. The population is thought to be on the decline.

**South Dakota Game, Fish and Parks' Most Recent Population Estimate:** 185 adult and subadult mountain lions, 245 total mountain lions including kittens in the Black Hills region. Based on this estimate, the adult population estimate is likely around 150 lions, which is 61 percent of the total estimate.

**Maximum Potential Population Estimate :** 973 adult mountain lions statewide. Approximately 57,239.77 km<sup>2</sup> of habitat throughout South Dakota could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table SD2).

TABLE SD2 South Dakota maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	57,240
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	150
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	973

South Dakota habitat could presently sustain a significantly larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 823 adult lions based on South Dakota's most recent population estimate (Table SD2).

Recent Policy Changes

In 2003, South Dakota Game, Fish and Parks removed mountain lions from the state's threatened species list, a list they had been on since 1978, and classified as a big game species with protection under a year-round closed season (SDCL 41-1-1-4).

In 2005, South Dakota Game, Fish and Parks allowed a highly controversial but "experimental" hunting season, in order to appear more "proactive" and less "reactive" in their efforts to handle mountain lions. Hunters killed 13 lions. An annual hunting season has been instituted ever since, except in 2008 (see below).

In 2009, the mountain lion hunting season dates were changed to January to March, in an attempt to decrease the chances of killing a mother with

dependent cubs (since the majority of mountain lions give birth from July to September). From 2005 to 2010, 10 percent of the female mountain lions killed were mothers to dependent kittens. As a result of hunting season date changes, there was no mountain lion hunting season in 2008.

From 2009 to 2011, South Dakota Game, Fish and Parks officials proposed raising the mountain lion hunting quota each year and approved those proposals. At first, officials claimed their actions stemmed from wanting to manage the state's mountain lion population, but after a while, it was clear that they were simply trying to satisfy the state Game Commission. The quota kept increasing until 2013, when it reached a staggering 100 mountain lions.

In 2014, the South Dakota Senate rejected House Bill 1068, a bill that would have allowed using hounds to hunt mountain lions outside of the designated Black Hills region. Even though the bill passed in the House of Representatives and in the Senate Agriculture and Natural Resources Committee, the Senate voted against it 18 to 14.

In October, 2015, the South Dakota Game, Fish and Parks Commission approved an amendment to its Administrative Rule 41:06:61 (Mountain Lion Hunting Season) and Administrative Rule 41:06:02 (License Forms and Fees). The amendment decreased the annual hunting quota from 75 lions or 50 female lions to 60 lions or 40 female lions. In addition, the Commission decided to wait at least two more years to decide whether to allow nonresidents to hunt mountain lions in South Dakota.

i. Oregon Department of Fish and Wildlife. ODFW Cougar Target Areas 2016-2019. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/map.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/map.asp)  
 ii. Oregon Department of Fish and Wildlife. 2006 Oregon Cougar Management Plan. Retrieved from [http://www.azgfd.gov/pdfs/w\\_c/bhsheep/OregonCougarManagementPlan2006.pdf](http://www.azgfd.gov/pdfs/w_c/bhsheep/OregonCougarManagementPlan2006.pdf)  
 iii. Oregon Department of Fish and Wildlife. Hunting Cougar in Oregon. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/index.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/index.asp)  
 iv. Oregon Department of Fish and Wildlife. Cougar Quota. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/quota.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/quota.asp)  
 v. Because Oregon's population estimate includes mountain lions of all ages and is considered extremely overestimated, the actual impact on adult mountain lions is likely much greater than 16 percent.  
 vi. Oregon Department of Fish and Wildlife. Hunting Cougar in Oregon. Retrieved from [http://www.dfw.state.or.us/Resources/hunting/big\\_game/cougar/index.asp](http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/index.asp)  
 vii. Oregon Department of Fish and Wildlife. ODFW Cougar Target Areas 2016-2019. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/cougar/map.asp](http://www.dfw.state.or.us/resources/hunting/big_game/cougar/map.asp); Oregon Department of Fish and Wildlife. 2016 Oregon Big Game Hunting Regulations. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/docs/16ORHD\\_LR.pdf](http://www.dfw.state.or.us/resources/hunting/big_game/docs/16ORHD_LR.pdf)  
 viii. Oregon Department of Fish and Wildlife. 2016 Oregon Big Game Hunting Regulations. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/docs/16ORHD\\_LR.pdf](http://www.dfw.state.or.us/resources/hunting/big_game/docs/16ORHD_LR.pdf)

ix. Ibid.  
 x. Oregon Department of Fish and Wildlife. 2016 Oregon Big Game Hunting Regulations. Retrieved from [http://www.dfw.state.or.us/resources/hunting/big\\_game/docs/16ORHD\\_LR.pdf](http://www.dfw.state.or.us/resources/hunting/big_game/docs/16ORHD_LR.pdf); Oregon Department of Fish and Wildlife. 2006 Oregon Cougar Management Plan. Retrieved from [http://www.azgfd.gov/pdfs/w\\_c/bhsheep/OregonCougarManagementPlan2006.pdf](http://www.azgfd.gov/pdfs/w_c/bhsheep/OregonCougarManagementPlan2006.pdf)  
 xi. Oregon Department of Fish and Wildlife. 2006 Oregon Cougar Management Plan. Retrieved from [http://www.azgfd.gov/pdfs/w\\_c/bhsheep/OregonCougarManagementPlan2006.pdf](http://www.azgfd.gov/pdfs/w_c/bhsheep/OregonCougarManagementPlan2006.pdf)  
 xii. Noguera, David. "Cougar Management In The Spotlight As Population Increases." Oregon Public Broadcasting. Retrieved from <http://www.opb.org/news/article/cougar-management-spotlight-population-increases/>  
 xiii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.  
 xiv. Oregon Department of Fish and Wildlife. Oregon Administrative Rules: Division 079, Appointing Black Bear and/or Cougar Agents. Retrieved from <http://www.dfw.state.or.us/OARs/79.pdf>.

# State of the mountain lion: Texas

FIGURE TX1 Potential mountain lion habitat, Texas



**Potential mountain lion habitat**

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

### Summary

Mountain lions in Texas have no protections from human persecution. The Texas Parks and Wildlife Department does not regulate the hunting of mountain lions and even spotted kittens are fair game to licensed hunters. All legal forms of hunting, including baiting and trapping, are permitted in Texas. The Texas Parks and Wildlife Department has no population estimates nor does it keep records of any mortalities (including poaching, roadkill and predator control) for the species.

An analysis of potential mountain lion habitat and prey analysis found that 91,088,037 acres (368,620 km<sup>2</sup>) of land in Texas could support stable mountain lion populations (Table TX1). This amount of land could support up to 6,267 adult mountain lions across the state (Table TX2). This represents the largest potential population of mountain lions residing in a U.S. state. However, the current population is likely much smaller as a result of threats to mortality, including human persecution.

### State Management

- State Wildlife Agencies:** Texas Parks and Wildlife Department
- Most Recent Mountain Lion Strategic Plan:** None
- Species Status:** Mountain lions are considered a nongame species in Texas (Tex. Bus. & Com. Code § 63.001, TSS 67.001)
- Hunt Season:** No closed season, mountain lions can be harvested at any time in Texas<sup>i</sup>
- 2015 Hunting Quota:** None, mountain lion hunting is not regulated (Tex. Parks & Wildlife Code § 67.004)
- Permitted Hunting Methods:** Mountain lions of all ages, including kittens, can be hunted with any lawful firearm, pellet gun, or other air gun (Tex. Parks & Wildlife Code § 42.002; Tex. Parks & Wildlife Code § 42.005). Lions can also be hunted with archery equipment, crossbows, and hounds. It is legal to hunt mountain lions at night with an artificial light

aid on private property. Baiting and trapping mountain lions on private property is permitted (Tex. Parks & Wildlife Code § 67.001; Tex. Admin. Code 65.19).

**Mountain Lion Hunting Requirements:** A hunting license (\$25 resident; \$315 non-resident) is required to hunt mountain lions in Texas. Non-residents can also get a special hunting license (\$132) or a five-day special hunting license (\$48) to hunt mountain lions. Every hunter born after September 2, 1971 must complete a Hunter Education Training Course (\$15; deferral cost is \$10).<sup>ii</sup>

### Trophy Hunt Mortality

The Texas Parks and Wildlife Department does not regulate mountain lion hunting, nor does it keep mortality records from any cause.

### Potential Habitat

More than 91 million acres of Texas' land could be suitable habitat for mountain lion populations. This amounts to almost 54 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table TX1; Figure TX1).

TABLE TX1 Texas maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	91,088,037
<b>KM<sup>2</sup></b>	368,620
<b>% Potential Habitat of Total State Land</b>	53.8%

### Texas' Mountain Lion Population

The Texas Parks and Wildlife Department does not have a population estimate for mountain lions in Texas. There have been no attempts to identify population size or trend for the state's lions.

**Texas Parks and Wildlife Department's Most Recent Population Estimate:** None

**Maximum Potential Population Estimate<sup>iii</sup>:** 6,267 adult mountain lions statewide (Table TX2). Approximately 36,8620.21 km<sup>2</sup> of habitat throughout Texas could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table TX2).

TABLE TX2 Texas maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	368,620
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	None
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	6,267

Texas habitat could presently sustain an adult mountain lion population of 6,267 individuals (Table TX2).

### Recent Policy Changes

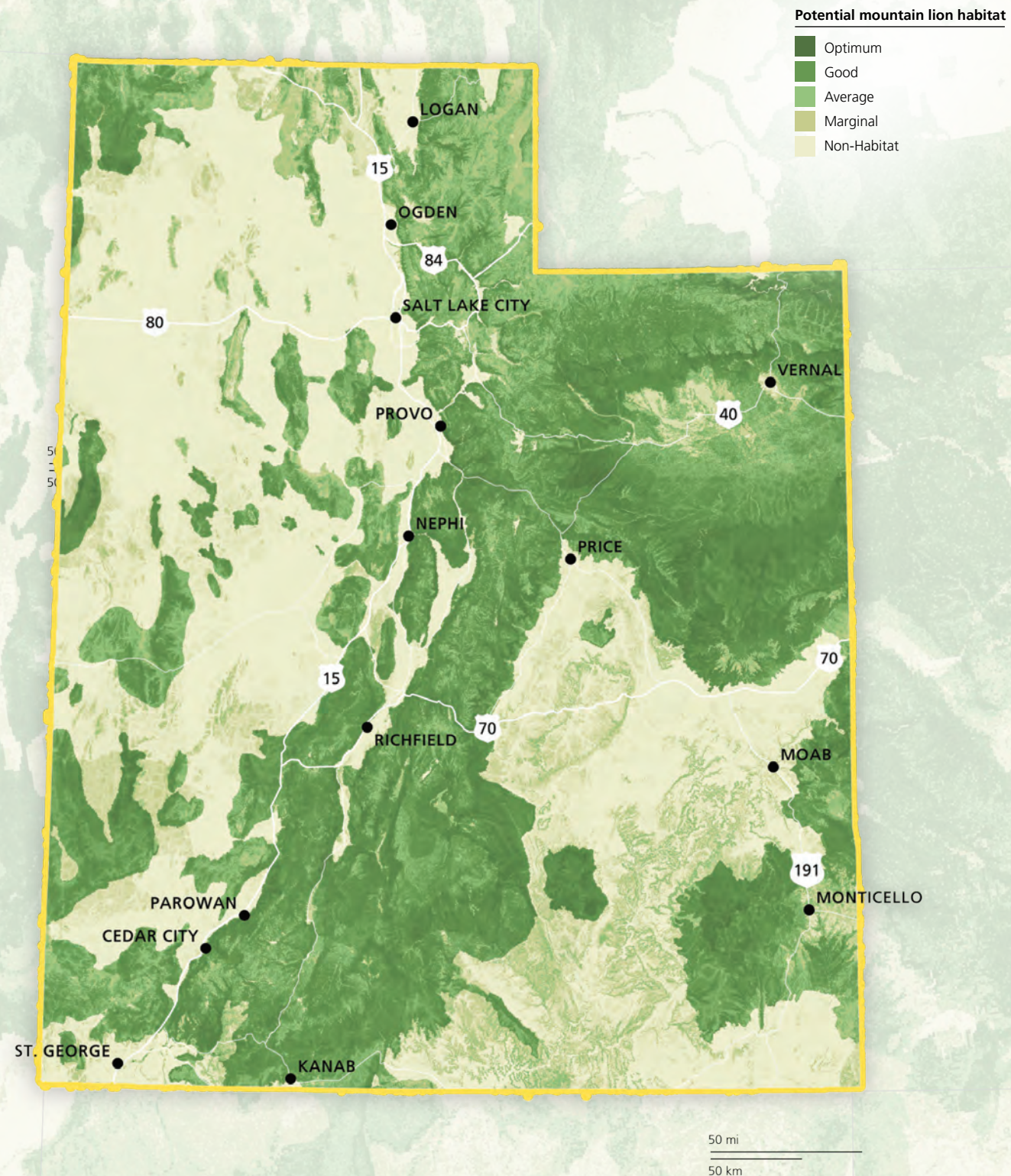
In 2005, the Texas Parks and Wildlife Department published their "Comprehensive Wildlife Conservation Strategy," a Wildlife Action Plan, which are created by states for conserving wildlife and habitat. In the plan, mountain lions are classified as a "species of concern" and "imperiled" [classification as imperiled (S2), pages 17 and 51 Section IV]. The Texas Parks and Wildlife Department provided numerous recommendations for handling the state's mountain lion population, including developing a statewide management plan and reviewing the species' status as unregulated nongame.<sup>iv</sup>

i. Texas Parks and Wildlife. Nongame, Exotic, Endangered, Threatened & Protected Species. Retrieved from Nongame, Exotic, Endangered, Threatened & Protected Species.  
 ii. Texas Parks and Wildlife. General Hunting Rules and Regulations. Retrieved from <http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/>.  
 iii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.

iv. "Texas Mountain Lion Conservation Project." Balanced Ecology Inc. Accessed July 18, 2016. [http://www.balancedecology.org/MountainLionWebSite/TPWD\\_Mountain\\_Lion\\_Classification.html](http://www.balancedecology.org/MountainLionWebSite/TPWD_Mountain_Lion_Classification.html).

# State of the mountain lion: Utah

FIGURE UT1 Potential mountain lion habitat, Utah



### Summary

Utah ranks fourth in the nation for trophy hunt mortality numbers for mountain lions nationwide. Between 2005 and 2014, trophy hunters killed 3,192 mountain lions (Figure UT2). In the 2014 to 2015 hunting season, trophy hunters killed 337 mountain lions. Trophy hunting accounts for 87 percent of all human-caused lion mortality in Utah.

If threats are reduced, primarily from trophy hunting and predator control, Utah's adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, reducing intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep. An analysis of potential mountain lion habitat and prey analysis found that 28,874,486 (116,851 km<sup>2</sup>) of land in Utah could support stable mountain lion populations (Table UT1). This amount of land could support up to 1,986 adult mountain lions across the state, a larger population of adults than what the Utah Division of Wildlife Resources claims is currently present on throughout the state (Table UT2).

The Utah Division of Wildlife Resources permits high levels of trophy hunting and predator control, restricting natural growth of the state's mountain lion population. These ongoing activities could reduce potential mountain lion habitat in the future, further restricting population growth and reducing the number of individual lions in Utah.

### State Management

**State Wildlife Agencies:** Utah Division of Wildlife Resources

**Most Recent Mountain Lion Strategic Plan:** Utah Cougar Management Plan (2015) 2015 to 2025

**Species Status:** Game; Protected Wildlife (Utah Code §23-13-2)

**Hunt Season:** Varies by management area since 2004<sup>i</sup>

**2015 Hunting Quota:** 429 minimum; some units have an unlimited quota.<sup>ii</sup> The 2015 permitted the killing of 11 to 17 percent of the state's broad population estimate, not including those killed in the unlimited hunting units.<sup>iii</sup>

**Bag Limits:** One mountain lion per person, per season<sup>iv</sup>

**Permitted Hunting Methods:** It is legal to hound mountain lions (Utah Admin. Code R. 657-10-12; R. 657-10-25). Hunters may use any firearm not capable of being fired fully automatic, a bow and arrows, including a draw-lock, and a crossbow (Utah Admin. Code R. 657-10-6). Trapping is prohibited (Utah Admin. Code R. 657-10-7). The hunting of spotted kittens is prohibited. The use of artificial lights is prohibited. The use of artificial calls is not prohibited.<sup>v</sup>

**Mountain Lion Hunting Requirements:** Hunters can voluntarily take an education course, but it is not mandatory to receive a general license. In addition to a general hunting license (\$34 for residents, \$65 for non-residents), mountain lion hunters must purchase additional permits:

- Limited-entry permits: \$58, plus \$10 application fee (residents); \$258, plus \$10 application fee (non-residents)
- Harvest-objective permits: \$58 (residents); \$258 (non-residents)
- Cougar control (can take 2nd mountain lion on designated units that

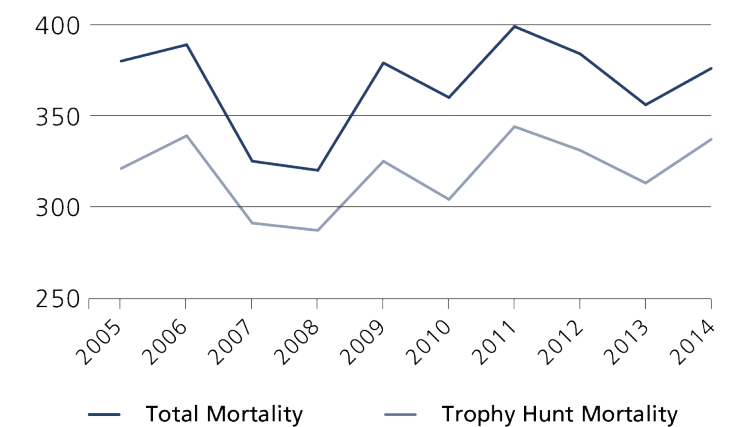
- have unlimited quotas): \$58 (residents); \$258 (non-residents)
- Cougar pursuit (non-lethal): \$30 (residents); \$135 (non-residents)
- Cougar damage: \$30 (residents); \$30 (non-residents)

Hunters must present mountain lions to Utah Division of Wildlife Resources within 2 days (48 hours) of killing for inspection and tagging.<sup>vi</sup>

### Trophy Hunt Mortality

The Utah Division of Wildlife Resources permits trophy hunters to kill large numbers of mountain lions. Between 2005 and 2014, trophy hunters killed approximately 3,192 Utah mountain lions, accounting for 87 percent of all human-caused mountain lion mortalities (Figure UT2). During the 2014 to 2015 hunting season, trophy hunters killed 337 mountain lions. Over the last decade, trophy hunt mortality for mountain lions has closely paralleled total overall mortality.

FIGURE UT2 Mountain lion mortality, Utah 2005-2014



### Potential Habitat

Over 28 million acres of Utah land could be suitable habitat for mountain lion populations. This amounts to over 53 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table UT1; Figure UT1).

TABLE UT1 Utah maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	28,874,486
<b>KM<sup>2</sup></b>	116,851
<b>% Potential Habitat of Total State Land</b>	53.2%

State of the mountain lion: Utah (cont.)

Utah's Mountain Lion Population

The Utah Division of Wildlife Resources has two population estimates for mountain lions based on different sets of data. The first statewide population estimate of 2,528 to 3,936 was created in 1999 while the second offers a mean estimate of 2,927 (date unknown).<sup>vii</sup> Both estimates were referenced in the Utah Cougar Management Plan V.3, 2015. In the plan, the Utah Division of Wildlife Resources states that the two methods produced population estimates that show considerable agreement, but they should be only viewed as general approximations of the statewide mountain lion population.

**Utah Division of Wildlife Resources' Most Recent Population Estimate:** 2,528 to 3,926 mountain lions statewide, or a mean of 2,927, including all age groups.<sup>viii</sup> Based on this estimate, the adult population estimate is likely around 1,542 to 2,395 lions, or a mean of 1,785, which is 61 percent of the total estimate.<sup>ix</sup>

**Maximum Potential Population Estimate:** 1,986 adult mountain lions statewide. Approximately 116,850.9 km<sup>2</sup> of habitat throughout Utah could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table UT2).

TABLE UT2 Utah maximum potential population

Potential Habitat KM <sup>2</sup>	116,851
State Agency Pop., Adults Only (61% of total pop.)	1,542 – 2,395
Potential Adult Pop. Estimate (1.7 Lions/100KM <sup>2</sup> )	1,986

i. Utah Division of Wildlife Resources. 2016-17 Utah Cougar Guidebook. Retrieved from [https://wildlife.utah.gov/guidebooks/2016\\_pdfs/2016-17\\_cougar.pdf](https://wildlife.utah.gov/guidebooks/2016_pdfs/2016-17_cougar.pdf); Utah Division of Wildlife Resources. Utah Cougar Management Plan V. 2.1, 2009-2021. Retrieved from <http://www.mountainlion.org/us/ut/UT-A-UTDWR-2011-Utah-Cougar-Management-Plan-2009-2021-V.2.1.pdf>.  
 ii. Ibid.  
 iii. Because Utah's population estimate includes mountain lions of all ages and unlimited hunting is permitted in some units, the actual impact on adult mountain lions is likely greater than 11-17 percent.  
 iv. Utah Division of Wildlife Resources. 2016-17 Utah Cougar Guidebook. Retrieved from [https://wildlife.utah.gov/guidebooks/2016\\_pdfs/2016-17\\_cougar.pdf](https://wildlife.utah.gov/guidebooks/2016_pdfs/2016-17_cougar.pdf)  
 v. Ibid.

Utah habitat could likely sustain a larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 201 individuals based on a mean population estimate 1,785 (Table UT2).

Recent Policy Changes

In 1996, the Utah Wildlife Board approved the Predator Management Policy, which allows the Utah Division of Wildlife Resources to manage mountain lion-hunting quotas in accordance with the mission of the Utah Division of Wildlife Resources to serve the people of Utah as trustee and guardian of the state's wildlife. Utah also has a Cougar Advisory Board comprised of over 20 people; almost all are men. With two token conservationists on the panel the rest is constituted from houndsmen; deer, elk and big horn sheep hunters; federal Wildlife Services agents and other state and federal governmental officials.

In 1999, the Utah Division of Wildlife Resources adopted a Nuisance Cougar Complaint policy which allows for euthanizing mountain lions that are deemed a nuisance, or are sick and injured and therefore unable to survive in the wild.<sup>x</sup>

In 2015, the Utah Division of Wildlife Resources adopted the Cougar Management Plan, which will be in effect until 2025.

vi. Ibid.  
 vii. Kevin D. Bunnell, Utah Division of Wildlife Resources. 2008. Utah Mountain Lion Status Report. Pages 62-68 in Towell D. E., S. Nadeau and D. Smith, editors. Proceedings of the Ninth Mountain Lion Workshop May 5-8, 2008, Sun Valley, Idaho, USA. P. 64.  
 viii. Kevin D. Bunnell, Utah Division of Wildlife Resources. 2008. Utah Mountain Lion Status Report. Pages 62-68 in Towell D. E., S. Nadeau and D. Smith, editors. Proceedings of the Ninth Mountain Lion Workshop May 5-8, 2008, Sun Valley, Idaho, USA. P. 64.  
 ix. Logan, K. A., and L. L. Sweenor. 2001. Desert puma: evolutionary ecology and conservation of an enduring carnivore. Island Press, Washington, DC.  
 x. Mountain Lion Foundation. Accessed July 18, 2016. [http://mountainlion.org/US/ID/ID\\_DOCUMENTS/ID A 2008 - Status Report - 9th Mountain Lion Workshop.pdf](http://mountainlion.org/US/ID/ID_DOCUMENTS/ID A 2008 - Status Report - 9th Mountain Lion Workshop.pdf).

State of the mountain lion: Washington

FIGURE WA1 Potential mountain lion habitat, Washington



Summary

Washington ranks ninth nationwide for its mountain lion trophy hunting mortalities. Between 2005 and 2014, trophy hunters killed 1,429 mountain lions (Figure WA2). In the 2014 to 2015 hunting season, trophy hunters killed 171 mountain lions. Trophy hunting accounts for over 72 percent of all human-caused lion mortality annually in Washington.

If threats are reduced, primarily from trophy hunting and predator control, Washington's adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, reducing intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep.

An analysis of potential mountain lion habitat and prey analysis found that 27,714,797 acres (112,158 km<sup>2</sup>) of land in Washington could support stable mountain lion populations (Table WA1). This amount of land could

support up to 1907 adult mountain lions across the state, a slightly larger population than what the Washington Department of Fish & Wildlife claims is currently present throughout the state (Table WA2).

The Washington Department of Fish and Wildlife currently manages the state's mountain lion population to maintain stability, restricting trophy hunting quotas so they do not exceed the species' population growth rate. Even so, the state continues to permit trophy hunting of mountain lions, harming the social structure of the state's population, which increases mortality by intraspecific strife and infanticide. Additionally, land development and mineral exploitation are exacerbating habitat loss and fragmentation for mountain lions and their prey. These ongoing activities could reduce potential mountain lion habitat in the future, further restricting population growth and reducing the number of individual lions in Washington.

State of the mountain lion: Washington (cont.)

State Management

**State Wildlife Agencies:** Washington Department of Fish & Wildlife

**Most Recent Mountain Lion Strategic Plan:** Game Management Plan: July 2015 – June 2021, 2014

**Species Status:** Mountain lions are regulated as a big game species (Wash. Rev. Code §77.08.030)

**Hunt Season:** Early season: September 1 to December 31; Late season: January 1 to April 30 or when the hunting quota is reached, whichever occurs first.<sup>i</sup>

**2015 Hunting Quota:** 303 lions,<sup>ii</sup> permitting the killing of 16 percent of the state’s population estimate. No female subquota.

**Bag Limits:** One mountain lion per person, per season<sup>iii</sup>

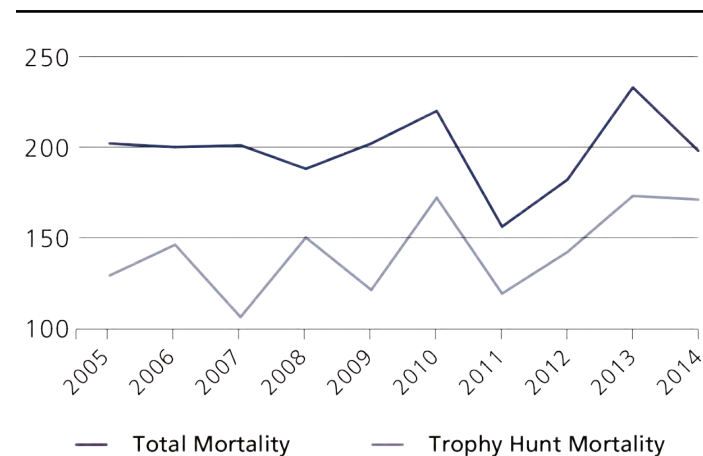
**Permitted Hunting Methods:** The use of dogs to hunt mountain lion is prohibited statewide except during mountain lion management removals authorized by the Washington Fish and Wildlife Commission (Wash. Rev. Code Ann. § 77.15.245(2), (3)(a)). Hunters may use any legal weapon for hunting mountain lions.<sup>iv</sup> Trapping is prohibited (Wash. Rev. Code Ann. § 77.15.194(1), (3)). The hunting of spotted kittens is prohibited. The use of artificial lights is prohibited. The use of artificial calls is not prohibited.<sup>v</sup>

**Mountain Lion Hunting Requirements:** The Washington Department of Fish & Wildlife requires hunters to pay a small fee for a license to kill a mountain lion (resident: \$24, nonresident: \$222). Hunters must notify Washington Department of Fish & Wildlife within 3 days of killing a lion and must have the pelt sealed by the department within 5 days of the notification.<sup>vi</sup>

Trophy Hunt Mortality

The Washington Department of Fish & Wildlife permits trophy hunters to kill large numbers of mountain lions. Between 2005 and 2014, trophy hunters killed approximately 1,429 mountain lions in Washington with an average of 143 lions per year, accounting for more than 72 percent of all human-caused mountain lion mortalities (Figure WA2).

FIGURE WA2 Mountain lion mortality, Washington 2005-2014



Potential Habitat

Almost 28 million acres of Washington’s land could be suitable habitat for mountain lion populations. This amounts to almost 65 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table WA1; Figure WA1).

TABLE WA1 Washington maximum potential habitat

<b>Acreage (Avg., Good, &amp; Optimum Habitat)</b>	27,714,797
<b>KM<sup>2</sup></b>	112,158
<b>% Potential Habitat of Total State Land</b>	64.7%

Washington’s Mountain Lion Population

**Washington Department of Fish & Wildlife’s Most Recent Population Estimate:** 1,849 adult mountain lions statewide<sup>vii</sup>

**Maximum Potential Population Estimate<sup>viii</sup>:** 1,907 adult mountain lions statewide. Approximately 112,157.8 KM<sup>2</sup> of habitat throughout Washington could support mountain lions at a sustainable rate of 1.7 adult lions per 100 km<sup>2</sup> (Table WA2).

TABLE WA2 Washington maximum potential population

<b>Potential Habitat KM<sup>2</sup></b>	112,158
<b>State Agency Pop., Adults Only (61% of total pop.)</b>	1,849
<b>Potential Adult Pop. Estimate (1.7 Lions/100KM<sup>2</sup>)</b>	1,907

Washington habitat could presently sustain a slightly larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population by approximately 58 lions based on the Washington Department of Fish and Wildlife’s most recent population estimate (Table WA2).

Recent Policy Changes

In 1996, Washington voters approved Initiative 655, the Washington Bear-Baiting Act which banned hounds for mountain lions, bobcats and bait and hounds for bears. The initiative passed by approximately 63 percent of the vote. Each year legislators attempt to roll back Initiative 655.

In January 2015, Senator Brian Dassel introduced a bill (SB 5940), that would allow counties to opt into using hounds for mountain lion hunting. The bill passed out of the Senate Natural Resources & Parks Committee but failed to make it out of the Senate Rules Committee.

In April 2015, the Washington Fish & Wildlife Commission raised the hunting quota for mountain lions by 50 to 100 percent in areas of the state where wolves also live. The Commission made this decision without providing prior notice to the public, giving the public no opportunity to comment, and

without the benefit of a formal presentation of mountain lion population dynamics by the Department of Fish and Wildlife’s own biologists.

On June 30, 2015, wildlife conservation organizations and Dr. Gary Koehler, former research scientist with the wildlife department, filed a formal petition that asked the Commission to reverse its decisions. On August 21, the Commission voted 7 to 1 to keep its controversial decision in place, ignoring more than 1,300 citizens and several non-governmental organizations.

On September 18, 2015, The Humane Society of the United States, Center for Biological Diversity, Mountain Lion Foundation, Wolf Haven International, WildFutures, The Cougar Fund, Predator Defense, The Lands Council, Kettle Range Conservation Group and Dr. Gary Kohler, submitted an appeal to Governor Inslee to return mountain lion hunting quotas to scientifically-justifiable levels.

On October 19, 2015, Governor Jay Inslee rescinded the Game Commission’s decision because the Commission failed to abide by the Washington Administrative Procedures Act when it failed to give the public adequate notice of its changes.

In January 2016, HSUS along with the Washington Department of Fish and Wildlife, Washington Cattlemen’s Association, Northeast Washington County Commissioners, Hunter’s Heritage Council and Conservation Northwest formed the Cougar Public Safety Working Group to update the current public safety removal hunt rules, effectively trying to find a compromise to increase public safety while not increasing mountain lion hunt.

In January 2017, the Cougar Public Safety Working Group tentatively agreed to introduce legislation to ban intentional feeding of wild ungulates, ask the Wildlife Commission to eliminate Public Safety removal hunt, allow the Washington Department of Fish and Wildlife to contract with houndsmen for public safety response, and allow two week-long, non-lethal training seasons per year. The development of these actions are currently ongoing.

i. Washington Department of fish and Wildlife. Washington’s 2016 Big Game Hunting Seasons and Regulations. Retrieved from <http://wdfw.wa.gov/publications/01799/wdfw01799.pdf>.  
 ii. Ibid.  
 iii. Ibid.  
 iv. Ibid.  
 v. Ibid.

vi. Ibid.  
 vii. Washington Department of Fish & Wildlife. Game Management Plan: July 2015-June 2021. Retrieved from <http://wdfw.wa.gov/publications/01676/wdfw01676.pdf>.  
 viii. Maximum potential population refers to the number of lions that could be supported on the state’s landscape given a realistic density of 1.7 lions per 100 km<sup>2</sup>. It does not refer to current population size.

# State of the mountain lion: Wyoming

FIGURE WY1 Potential mountain lion habitat, Wyoming



Potential mountain lion habitat

- Optimum
- Good
- Average
- Marginal
- Non-Habitat

### Summary

Wyoming ranks seventh nationwide as having the highest trophy hunting mortality for mountain lions. The Wyoming Game and Fish Department does not have a reliable population estimate for mountain lions. Regardless, the agency permits high levels of trophy hunting, unnecessarily restricting natural growth of the state's mountain lion population. Additionally, the state allows trophy hunters to kill unlimited numbers of lions in several parts of the state. In the 2014 to 2015 hunting season, trophy hunters killed 268 mountain lions.

If threats are reduced, primarily from trophy hunting and predator control, Wyoming's adult mountain lion population could grow and, more important, age, which creates social stability amongst mountain lions, reducing intra-specific strife, infanticide and kitten orphaning. Social stability also reduces both human- and livestock-mountain lion conflicts and protects rare ungulate species such as bighorn sheep.

An analysis of potential mountain lion habitat and prey analysis found that 48,137,002 acres (194,804 km<sup>2</sup>) of land in Wyoming could support stable mountain lion populations (Table WY1). This amount of land could support up to 3,312 adult mountain lions across the state (Table WY2).

### State Management

- State Wildlife Agency:** Wyoming Game and Fish Department
- Most Recent Mountain Lion Strategic Plan:** Wyoming Game and Fish Department Mountain Lion Management Plan, 2006
- Species Status:** Mountain lions are regulated as trophy game [Wyo. Stat. Ann. §23-1-101 (a) (xii) (A)]
- Hunt Season:** Yearlong, beginning on September 1 and ending August 31 of the following year<sup>i</sup>

**2015 Hunting Quota:** 303 lions; No female subquota<sup>ii</sup>

**Bag Limits:** One mountain lion per person, per season<sup>iii</sup>

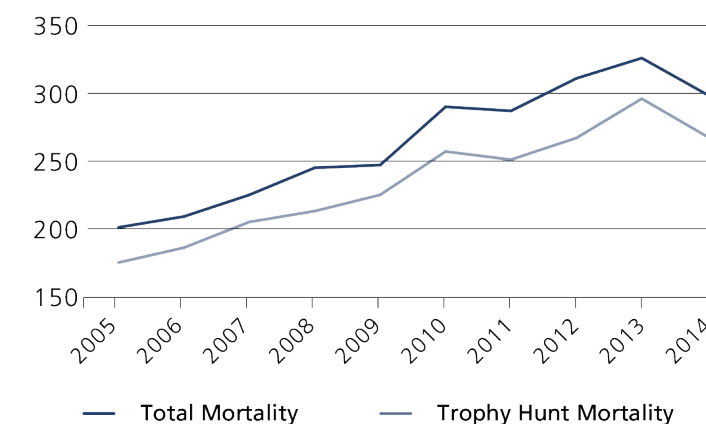
**Permitted Hunting Methods:** It is legal to hound mountain lions (Wyo. Stat. Ann. § 23-3-109(a); Wyo. R. & Regs. ch. 42, § 4(c)). Legal weapons for mountain lion hunting include: bows, crossbows, rifles, muzzle-loading rifles, muzzle-loading handguns, handguns, and shotguns (Wyo. Stat. Ann. §23-3-110). Trapping is prohibited (Wyo. Stat. Ann. § 23-3-304(a)). The hunting of spotted kittens is prohibited. Hand-held and electronic calls are not prohibited. The use of artificial lights is permitted on private land.<sup>iv</sup>

**Mountain Lion Hunting Requirements:** The Wyoming Game and Fish Department requires hunters to pay a small fee for a license to kill a mountain lion (resident: \$30, nonresident: \$362) and an additional \$12.50 for a conservation stamp. Hunters must present the pelt and skull to the department within 3 days of killing a lion.<sup>v</sup>

### Trophy Hunt Mortality

The Wyoming Game and Fish Department permits trophy hunters to kill large numbers of mountain lions, even though the agency does not know how many lions currently live in the state. Rather than conducting a scientific population study to assess the status of mountain lions, the Wyoming Game and Fish Department relies on data from trophy hunting kills to assess relative population stability. This flawed approach fails to adequately protect the state's mountain lion population. Between 2005 and 2014, trophy hunters killed 2,343 mountain lions (Figure WY2). In the 2014 to 2015 hunting season, trophy hunters killed 268 mountain lions. Trophy hunting accounts for almost 90 percent of all human-caused lion mortality annually in Wyoming. Over the last decade, overall mortality for mountain lions has generally increased parallel to mortalities related to trophy hunting.

FIGURE WY2 Mountain lion mortality, Wyoming 2005-2014



### Potential Habitat

Over 48 million acres of Wyoming's land could be suitable habitat for mountain lion populations. This amounts to over 77 percent of the state and includes average, good, and optimum habitat for mountain lions with consideration of prey availability, terrain, and distance to human communities (Table WY1; Figure WY1).

TABLE WY1 Wyoming maximum potential habitat

Acreage (Avg., Good, & Optimum Habitat)	48,137,002
KM <sup>2</sup>	194,804
% Potential Habitat of Total State Land	76.9%

### Wyoming's Mountain Lion Population

Rather than conducting population studies, the Wyoming Game and Fish Department relies on mortality data, such as the annual number of trophy hunting kills to assess its mountain lion population. In 1988, however, the department issued an estimated population estimate of 930 to 1,173 animals, based on a 1980 unpublished report prepared by one of the Wyoming Game and Fish Department's staff.<sup>vi</sup> The estimate is too dated and based on inadequate science to provide any reliable index.

**Wyoming Game and Fish Department's Most Recent Population Estimate:** None

**Maximum Potential Population Estimate<sup>vii</sup>:** 3,311 adult mountain lions statewide. Approximately 1,948.04 km<sup>2</sup> of habitat throughout Wyoming could support mountain lions at a sustainable rate of 1.7 lions per 100 km<sup>2</sup> (Table WY2).

TABLE WA2 Washington maximum potential population

Potential Habitat KM <sup>2</sup>	194,804
State Agency Pop., Adults Only (61% of total pop.)	N/A
Potential Adult Pop. Estimate (1.7 Lions/100KM <sup>2</sup> )	N/A

In recent years, the Wyoming Game and Fish Department has sought to drive down the state's mountain lion population,<sup>viii</sup> even though Wyoming habitat could presently sustain a larger adult mountain lion population if threats are reduced. Ending trophy hunting and protecting suitable habitat for mountain lions and their prey could increase the adult lion population.

### Recent Policy Changes

In 2012, the Wyoming Game and Fish Department increased mountain lion hunting in the Black Hills, an area that is vital to the potential reestablishment of lion populations in areas where they have been extirpated in the Midwest.

In January 2016, Wyoming Representative Jim Allen introduced a bill (HB 12) that would allow any person with a valid hunting license to kill a mountain lion using cruel traps and snares. Fortunately, the measure was

*State of the mountain lion: Wyoming (cont.)*

defeated by a diverse group of opponents, including The Humane Society of the United States, The Cougar Fund, Wyoming Untrapped wildlife advocates and hunting groups.

In 2016, the Wyoming Game and Fish Commission made the decision to reduce the mountain lion hunting quota in the Grand Teton region based on valuable research done by Panthera on the region's lion population. The reduction in hunting quota will better protect and conserve the small population of lions still residing in the Grand Tetons. Additionally, the Wyoming Game and Fish Commission approved changing the term "kitten" to "dependent young" in the state's mountain lion hunting regulations to better protect young mountain lions that cannot survive without their mothers.

**APPENDIX C: U.S. Mountain lion mortality by state**

**TABLE C1: 10 Year mountain lion total mortality, 2005-2014**

State	AZ	CO	ID	MT	NE	NV	NM	ND	OR	SD	TX**	UT	WA	WY
<b>Year</b>														
2014	268	539	556	528	16	122	284	16	385	80	N/A	376	198	299
2013	345	527	626	597	5	153	255	22	531	92	N/A	356	233	326
2012	276	555	586	613	6	227	317	25	530	122	N/A	384	182	311
2011	329	443	508	547	4	173	243	32	506	94	N/A	399	156	287
2010	285	433	479	472	6	197	196	13	482	94	N/A	360	220	290
2009	283	429	458	401	1	169	194	14	473	67	N/A	379	202	247
2008	311	443	465	427	2	152	164	11	492	37	N/A	320	188	245
2007	289	342	499	358	2	189	202	15	537	67	N/A	325	201	225
2006	262	265	507	298	3	168	224	8	453	56	N/A	389	200	209
2005	245	282	452	326	1	146	131	4	407	40	N/A	380	202	201
<b>Total</b>	<b>2893</b>	<b>4258</b>	<b>5136</b>	<b>4567</b>	<b>46</b>	<b>1696</b>	<b>2210</b>	<b>160</b>	<b>4796</b>	<b>749</b>	<b>N/A</b>	<b>3668</b>	<b>1982</b>	<b>2640</b>

**TABLE C2: 10 Year mountain lion trophy hunt mortality data, 2005-2014**

State	AZ	CO	ID	MT	NE*	NV	NM	ND	OR	SD	TX**	UT	WA	WY
<b>Year</b>														
2014	229	467	514	476	5	99	232	13	208	57	N/A	337	171	268
2013	302	442	569	522	N/A	118	203	16	292	57	N/A	313	173	296
2012	235	467	543	546	N/A	182	256	15	253	64	N/A	331	142	267
2011	287	383	469	476	N/A	103	198	18	241	73	N/A	344	119	251
2010	247	374	444	421	N/A	146	168	11	240	49	N/A	304	172	257
2009	246	371	447	351	N/A	131	156	11	274	40	N/A	325	121	225
2008	264	357	451	342	N/A	117	122	8	272	26	N/A	287	150	213
2007	256	298	483	314	N/A	145	163	4	309	19	N/A	291	106	205
2006	220	265	486	282	N/A	134	178	3	289	16	N/A	339	146	186
2005	204	240	427	318	N/A	116	106	4	224	14	N/A	321	129	175
<b>Total</b>	<b>249</b>	<b>366</b>	<b>483</b>	<b>405</b>	<b>N/A</b>	<b>129</b>	<b>178</b>	<b>10</b>	<b>260</b>	<b>42</b>	<b>N/A</b>	<b>319</b>	<b>143</b>	<b>234</b>

\*Nebraska only held a trophy hunt of mountain lions in 2014.

\*\*Texas does not regulate the trophy hunting of mountain lions and does not keep mortality records.

i. Wyoming Game and Fish Commission. 2016 Mountain Lion Hunting Seasons. Retrieved from [https://wgfd.wyo.gov/Regulations/Regulation-PDFs/REGULATIONS\\_CH42\\_BROCHURE.pdf](https://wgfd.wyo.gov/Regulations/Regulation-PDFs/REGULATIONS_CH42_BROCHURE.pdf).  
 ii. Ibid.  
 iii. Ibid.  
 iv. Ibid.  
 v. Ibid.  
 vi. Proceedings of The Third Mountain Lion Workshop, December 6-8, 1988. Prescott, AZ. AZ Chapter, The Wildlife Society & Arizona Game and Fish Department. p. 38. [cites Strickland, Dale, 1980. Mountain lion populations. Unpublished Report, Wyoming Game and Fish Department.]

vii. Maximum potential population refers to the number of lions that could be supported on the state's landscape given a realistic density of 1.7 lions per 100 km2. It does not refer to current population size.  
 viii. Associated Press. 2016. "Wyoming mountain lion populations down." [http://trib.com/news/state-and-regional/wyoming-mountain-lion-populations-down/article\\_e8cfc9dd-19bd-59cd-b2fe-43c925ae82a2.html](http://trib.com/news/state-and-regional/wyoming-mountain-lion-populations-down/article_e8cfc9dd-19bd-59cd-b2fe-43c925ae82a2.html)

**APPENDIX D:** National population data, state agency estimates and potential estimates

**TABLE D1:** U.S. mountain lion population data: state agency estimates and potential estimates

ARIZONA	Average (Avg., Good, & Optimum)	Km <sup>2</sup>	Adult Population Estimate (1.7 Lions/100km <sup>2</sup> )	State Agency Population Estimate	State Agency Population of Adults Only (61% of total population, Logan & Swenor 2001)
Average	27,281,300				
Good (breeding)	18,420,061				
Optimum (Core)	4,992,072				
<b>Total</b>	<b>50,693,433</b>	<b>205149.05</b>	<b>3487.53</b>	<b>2,500-3,000</b>	<b>1525 - 1830</b>
<b>CALIFORNIA</b>					
Average	22,029,295				
Good (breeding)	25,809,071				
Optimum (Core)	10,261,435				
<b>Total</b>	<b>58,099,801</b>	<b>235121.55</b>	<b>3997.07</b>	<b>4,000-6,000</b>	<b>2440-366</b>
<b>COLORADO</b>					
Average	9,007,626				
Good (breeding)	15,824,069				
Optimum (Core)	17,428,044				
<b>Total</b>	<b>42,259,738</b>	<b>171019.09</b>	<b>2907.32</b>	<b>3,500-4,500</b>	<b>2135-2745</b>
<b>FLORIDA</b>					
Average	3,380,046				
Good (breeding)	2,606,178				
Optimum (Core)	874,256				
<b>Total</b>	<b>6,860,481</b>	<b>27763.38</b>	<b>471.97</b>	<b>100-180 (adults &amp; subadults)</b>	<b>100-180 (adults and subadults)</b>
<b>IDAHO</b>					
Average	9,848,102				
Good (breeding)	15,114,171				
Optimum (Core)	14,535,959				
<b>Total</b>	<b>39,498,232</b>	<b>159843.67</b>	<b>2717.34</b>	<b>2,000-3,000</b>	<b>1220-1830</b>
<b>MONTANA</b>					
Average	24,608,005				
Good (breeding)	19,567,721				
Optimum (Core)	24,742,512				
<b>Total</b>	<b>68,918,239</b>	<b>278902.22</b>	<b>4741.34</b>	<b>2,784-5,156</b>	<b>1698-3145</b>
<b>NEBRASKA</b>					
Average	10,360,369				
Good (breeding)	89,984				
Optimum (Core)	564,092				
<b>Total</b>	<b>11,014,445</b>	<b>44573.88</b>	<b>757.76</b>	<b>22-33</b>	<b>13-20 (Pine Ridge only)</b>
<b>NEVADA</b>					
Average	8,851,032				
Good (breeding)	14,398,054				
Optimum (Core)	11,444,306				
<b>Total</b>	<b>34,693,392</b>	<b>140399.18</b>	<b>2386.78</b>	<b>1,100-1,500 (adults)</b>	<b>1100-1500</b>

NEW MEXICO	Average (Avg., Good, & Optimum)	Km <sup>2</sup>	Adult Population Estimate (1.7 Lions/100km <sup>2</sup> )	State Agency Population Estimate	State Agency Population of Adults Only (61% of total population, Logan & Swenor 2001)
Average	21,680,688				
Good (breeding)	19,705,332				
Optimum (Core)	9,870,817				
<b>Total</b>	<b>50,693,433</b>	<b>205149.05</b>	<b>3487.53</b>	<b>2,500-3,000</b>	<b>1525 - 1830</b>
<b>NORTH DAKOTA</b>					
Average	8,437,182				
Good (breeding)	254,966				
Optimum (Core)	180,767				
<b>Total</b>	<b>8,872,915</b>	<b>35907.41</b>	<b>610.42</b>	<b>no estimate</b>	<b>no estimate</b>
<b>OREGON</b>					
Average	14,537,860				
Good (breeding)	26,590,984				
Optimum (Core)	9,774,422				
<b>Total</b>	<b>50,903,266</b>	<b>205998.21</b>	<b>3501.97</b>	<b>6,200</b>	<b>3,782</b>
<b>SOUTH DAKOTA</b>					
Average	11,953,948				
Good (breeding)	268,222				
Optimum (Core)	1,922,086				
<b>Total</b>	<b>14,144,256</b>	<b>57239.77</b>	<b>973.08</b>	<b>185 adults &amp; subadults 245 total</b>	<b>150</b>
<b>TEXAS</b>					
Average	83,287,278				
Good (breeding)	4,555,286				
Optimum (Core)	3,245,473				
<b>Total</b>	<b>91,088,037</b>	<b>368620.21</b>	<b>6266.54</b>	<b>no estimate</b>	<b>no estimate</b>
<b>UTAH</b>					
Average	2,050,097				
Good (breeding)	11,950,817				
Optimum (Core)	14,873,572				
<b>Total</b>	<b>28,874,486</b>	<b>116850.9</b>	<b>1986.45</b>	<b>2,528-3,926</b>	<b>1542-2395</b>
<b>WASHINGTON</b>					
Average	7,220,257				
Good (breeding)	12,272,638				
Optimum (Core)	8,221,902				
<b>Total</b>	<b>27,714,797</b>	<b>112157.8</b>	<b>1906.69</b>	<b>1,849 adults</b>	<b>1849</b>
<b>WYOMING</b>					
Average	13,497,327				
Good (breeding)	23,481,373				
Optimum (Core)	11,158,302				
<b>Total</b>	<b>48,137,002</b>	<b>194803.54</b>	<b>3311.67</b>	<b>no estimate</b>	<b>no estimate</b>



**APPENDIX E: U.S. mountain lion laws and regulations<sup>i</sup>**

**TABLE E1: U.S. mountain lion laws and regulations**

<b>AL Status:</b> Game Animals (Ala. Reg. 220-2-.06)			
<b>Sport Hunting Allowed?</b>	<b>Hounding Allowed?</b>	<b>Baiting Allowed?</b>	<b>Trapping Allowed?</b>
No	No	No	No
<b>Laws Relating to Depredation</b> Protected wildlife causing crop damage, property damage, or a reasonable concern for human safety, may be taken at times and by means otherwise unlawful by first procuring a permit from the Department of Conservation and Natural Resources. Permits will only be issued to the owner or an agent thereof, or a leaseholder of the land with the owner's permission. Permits will be issued if, after investigation, it is determined that the "protected wildlife" should be removed for "human safety, or to protect agricultural crops or other property from excessive damage." (Ala. Reg. 220-2-.27)		<b>Additional Laws and Regulations</b> 220-2-.26 Restrictions On Possession, Sale, Importation And/Or Release Of Certain Animals And Fish. (1)	
<b>AK Status:</b> Unclassified Game, (Alaska Admin. Code tit. 5, § 92.990(83); Alaska Stat. Ann. § 16.05.940(19))			
<b>Sport Hunting Allowed?</b>	<b>Hounding Allowed?</b>	<b>Baiting Allowed?</b>	<b>Trapping Allowed?</b>
Yes. Both residents and non-residents may hunt "game" (Alaska Stat. Ann. § 16.05.340)	Yes. "Unclassified game" may be taken by any method not prohibited by Alaska Admin. Code tit. 5, § 92.080. Section 92.080 does not prohibit the hounding of "unclassified game."	Yes. "Unclassified game" may be taken by any method not prohibited by Alaska Admin. Code tit. 5, § 92.075(b)); Section 92.080 of Alaska's Administrative Code generally does not prohibit the baiting of "unclassified game," except that artificial salt licks and chemicals (excluding scent lures) are prohibited (Alaska Admin. Code tit. 5, § 92.080(7))	Yes. A "killer style trap with a jaw spread of less than 13 inches" and snares may be used to take "unclassified game animals" (Alaska Admin. Code tit. 5, § 92.080(7)(B); Alaska Admin. Code tit. 5, § 92.080(8)); However, conventional steel traps "with an inside jaw spread over nine inches" are prohibited (Alaska Admin. Code tit. 5, § 92.080(7))
<b>Laws Relating to Depredation</b> "Nuisance wildlife," which includes "unclassified game" that "causes property damage," Alaska Admin. Code tit. 5, § 92.990(53), may be taken by any method not otherwise prohibited, Alaska Admin. Code tit. 5, § 92.075(e); see Alaska Admin. Code tit. 5, § 92.080 (prohibited methods for taking "game" and "unclassified game"). The Department of Fish and Game may issue a "nuisance wild animal control license" to certain individuals, who may then take "nuisance wildlife" on land owned by another person when: (i) "the animal being taken has invaded a dwelling, is causing damage to property, or is an immediate threat to health, safety, or property;" (ii) "the necessity for the taking is not brought about by harassment or provocation of the animals, or by an unreasonable invasion of the animal's habitat;" (iii) "the necessity of the taking is not brought about by the improper disposal of garbage or a similar attractive nuisance;" and (iv) "all other practical means to protect property are exhausted before the game is taken." Alaska Admin. Code tit. 5, § 92.420.		<b>Additional Laws and Regulations</b> "Nuisance wildlife," which includes "unclassified game" that "causes property damage," Alaska Admin. Code tit. 5, § 92.990(53), may be taken by any method not otherwise prohibited, Alaska Admin. Code tit. 5, § 92.075(e); see Alaska Admin. Code tit. 5, § 92.080 (prohibited methods for taking "game" and "unclassified game"). The Department of Fish and Game may issue a "nuisance wild animal control license" to certain individuals, who may then take "nuisance wildlife" on land owned by another person when: (i) "the animal being taken has invaded a dwelling, is causing damage to property, or is an immediate threat to health, safety, or property;" (ii) "the necessity for the taking is not brought about by harassment or provocation of the animals, or by an unreasonable invasion of the animal's habitat;" (iii) "the necessity of the taking is not brought about by the improper disposal of garbage or a similar attractive nuisance;" and (iv) "all other practical means to protect property are exhausted before the game is taken." Alaska Admin. Code tit. 5, § 92.420.	
<b>AZ Status:</b> Game Mammals and Big Game (Ariz. Rev. Stat. Ann. § 17-101(B)(2), (3))			
<b>Sport Hunting Allowed?</b>	<b>Hounding Allowed?</b>	<b>Baiting Allowed?</b>	<b>Trapping Allowed?</b>
Yes. Both residents and non-residents may hunt mountain lions (Ariz. Admin. Code R. 12-4-102(C))	Yes. Dogs may be used to pursue mountain lions (Ariz. Admin. Code R. 12-4-304(A)(8)(k)); Dogs also may be used to facilitate the pursuit of depredating mountain lions (Ariz. Rev. Stat. Ann. § 17-302(A)(6))	No. The use of edible or ingestible substances to aid in the taking of "big game" is prohibited (Ariz. Admin. Code R. 12-4-303(A)(4))	No (Ariz. Rev. Stat. Ann. § 17-361(A); Ariz. Admin. Code R. 12-4-307(A))
<b>Laws Relating to Depredation</b> "[A] landowner or lessee, who is a livestock operator and who has recently had livestock attacked or killed" by a mountain lion may, without a license, "lawfully exercise such measures as necessary to prevent further damage" from the mountain lion, including the taking of the mountain lion by: (i) "leg hold traps without teeth and with an open jaw spread not exceeding eight and one-half inches;" (ii) leg snares; (iii) firearms; and (iv) "other legal hunting weapons and devices" (Ariz. Rev. Stat. Ann. § 17-302(A), (A)(2)); Dogs may be used to facilitate the pursuit of depredating mountain lions (Ariz. Rev. Stat. Ann. § 17-302(A)(6))		<b>Additional Laws and Regulations</b> Ariz. Admin. Code R. 12-4-304 (Lawful Methods for Taking Wilde Mammals); Ariz. Admin. Code R. 12-4-305 (Possessing, Transporting, Importing, Exporting, and Selling Carcasses or Parts of Wildlife); Ariz. Admin. Code R. 12-4-318 (Seasons for Lawfully Taking Wild Mammals, Birds, and Reptiles); Arizona Game and Fish Department, "2016 – 2017 Arizona Hunting Regulations" (pp. 60–63): <a href="https://portal.azgfd.stagingaz.gov/Portallimages/files/regs/mainregs.pdf">https://portal.azgfd.stagingaz.gov/Portallimages/files/regs/mainregs.pdf</a>	

<b>CA Status:</b> Specially Protected Mammal (Cal. Fish & Game Code § 4800(a))			
<b>Sport Hunting Allowed?</b>	<b>Hounding Allowed?</b>	<b>Baiting Allowed?</b>	<b>Trapping Allowed?</b>
No. The taking or injuring of mountain lions is prohibited, except in the case of depredating mountain lions ( Cal. Fish & Game Code § 4800(b)(1))	No. The use of dogs to pursue mountain lions is prohibited, except to pursue and take mountain lions pursuant to a depredation permit issued under Cal. Fish & Game Code § 4803 (Cal. Code Regs., tit. 14, § 265(a)(3), (b)(3))	The laws and regulations are silent as to the baiting of mountain lions.	No (Cal. Fish & Game Code § 4809; Cal. Code Regs., tit. 14, § 402(b))
<b>Laws Relating to Depredation</b> Any person, or the employee or agent of a person, whose livestock or other property is being or has been injured, damaged, or destroyed by a mountain lion may report that fact to the department and request a permit to take the mountain lion (Cal. Fish & Game Code § 4802); Once the California Department of Fish and Game has taken steps to confirm and is "satisfied" that depredation by a mountain lion has occurred as reported, "the department shall promptly issue a permit to take the depredating mountain lion" (Cal. Fish & Game Code § 4803); Additionally, "[a]ny mountain lion that is encountered while in the act of pursuing, inflicting injury to, or killing livestock, or domestic animals, may be taken immediately by the owner of the property or the owner's employee or agent" (Cal. Fish & Game Code § 4807); Further laws and regulations regarding permits to take depredating mountain lions may be found at Cal. Fish & Game Code § 4804 (Permit; Conditions), Cal. Fish & Game Code § 4805 (Oral Authorization of Taking) and Cal. Code Regs., tit. 14, § 402 (Issuance of Permits to Kill Mountain Lion Causing Damage).		<b>Additional Laws and Regulations</b> Cal. Fish & Game Code § 4800 (rules regarding the possession, transport, import and sale of a mountain lion or the product of a mountain lion); Cal. Code Regs., tit. 14, § 251.4 (Mountain Lion Possession Permit)	
<b>CO Status:</b> Big Game (Colo. Rev. Stat. Ann. § 33-1-102(2))			
<b>Sport Hunting Allowed?</b>	<b>Hounding Allowed?</b>	<b>Baiting Allowed?</b>	<b>Trapping Allowed?</b>
Yes. Any hunter may obtain one mountain lion license (2 Colo. Code Regs. § 406-2:205(A)(6)(a))	Yes. Dogs may be used to "hunt or take" mountain lion, "only as an aid to pursue, bring to bay, retrieve, flush or point, but not otherwise" (2 Colo. Code Regs. § 406-0:004(A)(2)(a)(1)); The pack size of dogs used to hunt mountain lion must be limited to no more than eight dogs (2 Colo. Code Regs. § 406-2:242(A)(1)); In addition, individuals taking mountain lions must be present "at the time and place that any dogs are released on the track of a mountain lion and must continuously participate in the hunt until it ends" (2 Colo. Code Regs. § 406-2:242(A)(2))	No. The laws and regulations do not expressly authorize the use of bait in taking "big game" or "mountain lions." See 2 Colo. Code Regs. § 406-0:004(A) ("Except as expressly authorized by these regulations, the use of baits and other aids in hunting or taking big game . . . is prohibited.").	No. The taking of "wildlife with any leghold trap, any instant kill body-gripping design trap, or by poison or snare" is prohibited (Colo. Rev. Stat. Ann. § 33-6-203(1)); However, the trapping of depredating mountain lions is permitted (Colo. Rev. Stat. Ann. § 33-3-106(3)); In addition, the prohibition on leghold traps, instant kill body-gripping design traps and snares under Colo. Rev. Stat. Ann. § 33-6-203(1) does not apply to the owner or lessee of private property primarily used for commercial livestock or crop production, or their employees, if, among other things, the owner or lessee can present "on-site evidence to the division that ongoing damage to livestock or crops has not been alleviated by the use of methods other than those prohibited" by Colo. Rev. Stat. Ann. § 33-6-203(1) (Colo. Rev. Stat. Ann. § 33-6-207(1)); Moreover, for the purpose of taking depredating mountain lions, mechanical foot snares may be used within 30 feet of a carcass (8 Colo. Code Regs. § 1201-12:7.00(D))
<b>Laws Relating to Depredation</b> Where wildlife is causing excessive damage to property, as determined by the division after consultation with the property owner, the division is authorized to issue a permit to the property owner, the property owner's designee, or to such other person selected by the division to kill a specified number of the species of wildlife causing such excessing damage (Colo. Rev. Stat. Ann. § 33-3-106(1)(a)); In addition, the "trapping, killing, or other disposal" of "mountain lions" without a permit is allowed "when it is necessary to prevent them from inflicting death, damage, or injury to livestock, real property, a motor vehicle, or human life" (Colo. Rev. Stat. Ann. § 33-3-106(3)). An owner or lessee of private property, or the employees of the owner or lessee, may use leghold traps, instant kill body-gripping design traps and snares otherwise prohibited under Colo. Rev. Stat. Ann. § 33-6-203(1) to trap depredating wildlife if: (i) the property is primarily used for commercial livestock or crop production; (ii) the use of such methods occurs only on the property; (iii) such use does not exceed one 30-day period per year; and (iv) the owner or lessee can present "on-site evidence to the division that ongoing damage to livestock or crops has not been alleviated by the use of methods other than those prohibited" by Colo. Rev. Stat. Ann. § 33-6-203(1) (Colo. Rev. Stat. Ann. § 33-6-207(1)); Moreover, mechanical foot snares may be used within 30 feet of a carcass for the purpose of taking depredating mountain lions (Colo. Code Regs. § 1201-12:7.00(D)) Mountain lions also may be "shot or live trapped and killed by owners of agricultural products, their families, employees, and approved identified designees of such property." 8 Colo. Code Regs. § 1201-12:7.00(B).			
<b>Additional Laws and Regulations</b> 2 Colo. Code Regs. § 406-0:020 (including regulations regarding the Possession of Edible and Non-Edible Portions of Mountain Lions); 2 Colo. Code Regs. § 406-2:203 (Manner of Take); 2 Colo. Code Regs. § 406-2:205 (Annual Bag Limits and Maximum Numbers of Licenses per Person); 2 Colo. Code Regs. § 406-2:242 (Rifle and Associated Methods; Mountain Lion Seasons); Colorado Parks & Wildlife, "2015 – 2016 Colorado Mountain Lion Hunting:" <a href="https://cpw.state.co.us/Documents/RulesRegs/Brochure/MountainLion.pdf">https://cpw.state.co.us/Documents/RulesRegs/Brochure/MountainLion.pdf</a>			

<sup>i</sup> This Appendix was compiled from a survey of state laws pertaining to mountain lions conducted by Richards Kibbe & Orbe LLP and we thank them for their contributions to this report.

<b>CT Status:</b> The “mountain lion (felis concolor)” is classified as a “threatened species,” pursuant to the Endangered Species Act (Conn. Gen. Stat. Ann. § 26-304(8)); The “Eastern cougar (Puma concolor cougar)” is classified as a “species of special concern” (Conn. Gen. Stat. Ann. § 26-304(9); Conn. Agencies Regs. § 26-306-6(a))			
<b>Sport Hunting Allowed?</b> No. There is no open season for hunting or trapping mountain lions (Conn. Agencies Regs. § 26-66-3(f); Conn. Agencies Regs. § 26-66-7©)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> The laws and regulations are silent as to whether depredation permits may be issued with respect to “species of special concern” or “threatened species,” such as Eastern cougars/mountain lions (see Conn. Gen. Stat. Ann. § 26-311; Conn. Gen. Stat. Ann. § 26-47(a); Conn. Agencies Regs. § 26-47-1(e))		<b>Additional Laws and Regulations</b> Conn. Gen. Stat. Ann. § 26-40a (Possession of Potentially Dangerous Animal); Conn. Agencies Regs. § 26-55-6 (Importation, Possession or Liberation of Wild Mammals); Conn. Agencies Regs. § 26-78-1 (Possession and Sale of Game and Furbearing Animals)	

<b>DE Status:</b> Delaware’s laws and regulations do not address mountain lions; the “Eastern Cougar (Puma (Felis) concolor cougar)” and “Florida Panther (Puma (Felis) concolor coryi)” would be classified as an “endangered species” pursuant to the Endangered Species Act. (Del. Admin. Code 3900-16.3.1)			
<b>Sport Hunting Allowed?</b> No. The hunting of “protected wildlife,” which would include cougars, is prohibited except as provided by law or regulation (7 Del. Admin. Code 3900-4.3.1; see Del. Code Ann. tit. 7, § 101(4))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> When the Department of Natural Resources receives a report that “any species of protected wildlife has become, under extraordinary conditions, seriously injurious to agriculture or other interests in any particular community,” the Department must perform an investigation to determine the “nature and extent of the injury, whether the protected wildlife alleged to be doing the damage should be killed or captured, and, if so, by whom, during what times and by what means” (Del. Code Ann. tit. 7, § 113); In addition, the Department must investigate a report from an owner or tenant that “any 1 or more species of protected wildlife are detrimental to his or her crops, property or other interests on the land,” and if it determines that the injury is “substantial and can be abated only by killing or capturing the protected wildlife,” the Department must issue a permit to kill or capture the protected wildlife, including the means and methods to be used (Del. Code Ann. tit. 7, § 114)		<b>Additional Laws and Regulations</b> None	

<b>DE Status:</b> “Florida panthers (Felis concolor coryi)” are classified as an “endangered species” (Fla. Admin. Code R. 68A-27.003(1)(g))			
<b>Sport Hunting Allowed?</b> No. The taking or killing of Florida panthers as an “endangered species” is prohibited (Fla. Stat. Ann. § 379.4115; Fla. Admin. Code R. 68A-12.002(7); Fla. Admin. Code R. 68A-27.003(1)(a); Fla. Admin. Code R. 68A-27.0011)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> Florida panthers, as an “endangered species,” may not be taken as “nuisance wildlife” (Fla. Admin. Code R. 68A-9.010)		<b>Additional Laws and Regulations</b> Fla. Admin. Code R. 68A-4.004 (Possession of Wildlife); Fla. Admin. Code R. 68A-6.002 (Categories of Captive Wildlife)	

<b>GA Status:</b> Game Animals (Ga. Code Ann. § 27-1-2(34)); “Florida panthers (Puma concolor coryi)” are classified as “endangered” (Ga. Comp. R & Regs. 391-4-10.09(1)(h))			
<b>Sport Hunting Allowed?</b> No. There is no open season for hunting cougar (Ga. Code Ann. § 27-3-15(a)(11))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> As “game animals,” cougars (Felis concolor) may be killed pursuant to “wildlife control permits.” The Georgia Department of Natural Resources may issue “wildlife control permits” authorizing the permittee to kill wildlife “where such action is otherwise prohibited by law or regulation,” when the Department “determines that there is a substantial likelihood the presence of such wildlife will endanger or cause injury to persons or will destroy or damage agricultural crops domestic animals, buildings, structures, or other personal property” (Ga. Code Ann. § 27-2-31(a)(1)); As an “endangered” species, Florida panthers (Puma concolor coryi) may not be killed pursuant to a “wildlife control permit” (Ga. Code Ann. § 27-2-31(c))		<b>Additional Laws and Regulations</b> Ga. Code Ann. § 27-5-5 (Wild Animals for Which a License or Permit is Required)	

<b>HI Status:</b> Hawaii’s laws and regulations do not address cougars. Cougars would be classified as “introduced wildlife” (Haw. Code R. § 13-124-2)			
<b>Sport Hunting Allowed?</b> No. Only specified “game mammals” may be hunted (Haw. Code R. § 13-123-2)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> The Board of Land and Natural Resources may issue permits to destroy or otherwise control “introduced wildlife” that are “causing substantial damage to agricultural or aquacultural crops, indigenous plants or wildlife, or post a threat to human health and safety” if, among other things, the Department has investigated the complaint and is “satisfied that substantial damage has occurred or is likely to occur” (Haw. Code R. § 13-124-7(a)(1)); With respect to species of “introduced wildlife” that are “found to be generally harmful or destructive to agriculture or aquaculture, native plants or wildlife, or constituting a threat to human health or safety,” the Board may authorize the “destruction or control of the species in any area for a specified time period without requiring permits or reports” (Haw. Code R. § 13-124-7(a)(4))		<b>Additional Laws and Regulations</b> None	

<b>ID Status:</b> Big Game Animal (Idaho Admin. Code R. 13.01.06.100 (1)(h); Idaho Admin. Code R. 13.01.08.010(1)(j))			
<b>Sport Hunting Allowed?</b> Yes. Both residents and non-residents are eligible to hunt mountain lions (Idaho Code Ann. § 36-409)	<b>Hounding Allowed?</b> Yes. Dogs may be used to take or pursue mountain lions (Idaho Admin. Code R. 13.01.08.410(5)(c); Idaho Admin. Code R. 13.01.15.100(2), (3))	<b>Baiting Allowed?</b> No. The baiting of “big game animals” is prohibited (Idaho Admin. Code R. 13.01.08.410(5)(b))	<b>Trapping Allowed?</b> No. “Big game animals” may not be taken with “any net, snare, or trap” (Idaho Admin. Code R. 13.01.08.410(5)(d))
<b>Laws Relating to Depredation</b> Mountain lions “may be disposed of by livestock owners, their employees, agents and animal damage control personnel when same are molesting or attacking livestock and it shall not be necessary to obtain any permit from the department. . . . Livestock owners may take steps they deem necessary to protect their livestock” (Idaho Code Ann. § 36-1107)		<b>Additional Laws and Regulations</b> Idaho Admin. Code R. 13.01.08.410 (Unlawful Methods of Take)	

<b>IL Status:</b> Protected Species (Ill. Comp. Stat. Ann. § 5/2.2)			
<b>Sport Hunting Allowed?</b> No. The taking of cougars is prohibited, except in cases of depredation (Ill. Comp. Stat. Ann. § 5/2.2)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> The Department of Natural Resources may authorize the trapping of cougars pursuant to a Nuisance Control Permit (Ill. Comp. Stat. Ann. § 5/2.2b(b); Ill. Admin. Code tit. 17, pt. 525.30(c)); Only the following types of traps may be used: (i) box traps, cage traps or traps of similar design; (ii) EGG traps, Dog-Proof traps, or traps of similar design; (iii) “cushion-hold traps” with certain specifications; and (iv) body-gripping traps with certain specifications as to size and form (Ill. Admin. Code tit. 17, pt. 525.30(c)(1)); The use of any trap with saw-toothed, serrated, spiked, or toothed jaws is prohibited (Ill. Admin. Code tit. 17, pt. 525.30(c)(7))

<b>Laws Relating to Depredation</b> An owner or tenant of land, or a designated agent thereof, may “immediately take” on his or her property a cougar if the cougar is “stalking or causing an imminent threat or there is a reasonable expectation that it causes an imminent threat of physical harm or death to a human, livestock, or domestic animals or harm to structures or other property on the owner’s or tenant’s land” (Ill. Comp. Stat. Ann. § 5/2.2b(a)); In addition, the Department may grant a nuisance permit to the owner or tenant of land, or a designated agent thereof, for the taking of cougar that is causing a threat that is not an “immediate threat” (Ill. Comp. Stat. Ann. § 5/2.2b(b)); Methods for taking animals pursuant to a Nuisance Wildlife Control Permit include trapping and shooting (Ill. Admin. Code tit. 17, pt. 525.30(c))		<b>Additional Laws and Regulations</b> Ill. Comp. Stat. Ann. § 5/2.33 (Prohibitions); Ill. Comp. Stat. Ann. § 5/48-10 (Dangerous Animals); Ill. Admin. Code tit. 8, pt. 25.110 (Animals Prohibited from Sale)	
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<b>IN</b>	<b>Status:</b> Exotic Mammal (312 Ind. Admin. Code 9-3-18.5(a)(11))			
<b>Sport Hunting Allowed?</b> No. The taking of mountain lions is prohibited, except in cases of depredation (312 Ind. Admin. Code 9-3-18.5(a), (b); see also Ind. Code Ann. § 14-8-2-278(1)(A))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No	
<b>Laws Relating to Depredation</b> “Exotic mammals” may be taken “by a resident landowner or tenant while destroying or causing substantial property damage” (312 Ind. Admin. Code 9-3-18.5(b)(1)); “Exotic mammals” may not be hunted, trapped, or chased with any weapon or device other than certain firearms and a bow and arrow (Ind. Code Ann. § 14-22-32-2(2))		<b>Additional Laws and Regulations</b> 312 Ind. Admin. Code 9-3-18.5 (Exotic Mammals, including possession)		

<b>IA</b>	<b>Status:</b> Iowa’s hunting-related laws and regulations do not address cougars. Cougars would be classified as “nongame animals” (Iowa Code Ann. § 481A.1(21))			
<b>Sport Hunting Allowed?</b> The laws and regulations are silent as to the taking of “nongame animals,” except to limit the taking of specified “protected nongame,” which does not include cougars (Iowa Code Ann. § 481A.38; Iowa Code Ann. § 481A.42); This would suggest that the taking of other “nongame animals” may be permitted.	<b>Hounding Allowed?</b> The laws and regulations are silent as to the hounding of “nongame animals.”	<b>Baiting Allowed?</b> The laws and regulations are silent as to the baiting of “nongame animals.”	<b>Trapping Allowed?</b> The laws and regulations are silent as to the trapping of “nongame animals.” However, the laws and regulations governing trapping appear to apply to “fur-bearing animals,” which would not include cougars; Traps may be used to capture “nuisance animals,” which would include depredating cougars (Iowa Admin. Code R. 571-114.2); In trapping “nuisance animals,” live traps including box traps, and leghold traps “should be used whenever possible,” while “humane traps, which are those designed to kill instantly and which have a jaw spread exceeding eight inches,” are prohibited (Iowa Admin. Code R. 571-114.11)	
<b>Laws Relating to Depredation</b> A “Nuisance Wildlife Control Operator” may apply for a permit to “remove nuisance wildlife from private property” (Iowa Admin. Code R. 571-114.1); Legal methods for capture include certain types of traps. In addition, “[i]f traditional capture methods fail, the permittee may use chemicals, smoking devices, mechanical ferrets, wire, tools, instruments, or water to remove nuisance animals” (Iowa Admin. Code R. 571-114.11)		<b>Additional Laws and Regulations</b> Iowa Admin. Code R. 21-77.1(717F) (Defining Dangerous Wild Animals); Iowa Admin. Code R. 21-77.2(717F) (Possession of Dangerous Wild Animals)		

<b>KS</b>	<b>Status:</b> Kansas’s laws and regulations do not address cougars. Cougars would be classified as a “nongame species” (Kan. Stat. Ann. § 32-958(d); Kan. Stat. Ann. § 32-958(g))			
<b>Sport Hunting Allowed?</b> The laws and regulations are silent as to the hunting of “nongame species,” except to prohibit the taking of specified “nongame species in need of conservation,” which do not include cougars (Kan. Stat. Ann. § 32-1009; Kan. Admin. Regs. § 115-15-2(6)); This would suggest that the taking of other “nongame species” may be permitted. However, the laws also provide that, “[u]nless and except as permitted by law or rules and regulations,” “it is unlawful for any person to hunt, fish, furharvest or take any wildlife in this state by any means or manner” (Kan. Stat. Ann. § 32-1002(a)(1))	<b>Hounding Allowed?</b> The laws and regulations are silent as to the hounding of “wildlife” or “nongame species” for sport, and hounding may be prohibited if not explicitly allowed (see Kan. Stat. Ann. § 32-1002(a)(1), “Unless and except as permitted by law or rules and regulations,” “it is unlawful for any person to hunt, fish, furharvest or take any wildlife in this state by any means or manner”); The use of dogs to take depredating wildlife, pursuant to a wildlife control permit, is permitted (Kan. Admin. Regs. § 115-16-6(d))	<b>Baiting Allowed?</b> The use of bait “while hunting or preparing to hunt on department lands” is prohibited (Kan. Admin. Regs. § 115-8-23(a)); Liquid scents and sprays are not considered to be “bait” (Kan. Admin. Regs. § 115-8-23(d))	<b>Trapping Allowed?</b> Trapping is permitted to take depredating wildlife pursuant to a wildlife control permit (Kan. Admin. Regs. § 115-16-6(d)); The following trapping equipment may be used: (i) foothold traps; (ii) body-gripping traps; (iii) box traps; (iv) live traps; and (v) snares (Kan. Admin. Regs. § 115-16-6(d)(1)); The laws and regulations are silent as to the trapping of “wildlife” or “nongame species” for sport, and trapping may be prohibited if not explicitly allowed (see Kan. Stat. Ann. § 32-1002(a)(1), “Unless and except as permitted by law or rules and regulations,” “it is unlawful for any person to hunt, fish, furharvest or take any wildlife in this state by any means or manner”)	

<b>Laws Relating to Depredation</b> Certain individuals may apply for a wildlife control permit, which authorizes them to “take, transport, release, and euthanize wildlife,” including “nongame mammals” such as cougars, when: (i) the wildlife is found in or near buildings; (ii) the wildlife is destroying or about to destroy property; or (iii) the wildlife is creating a public health or safety hazard or other nuisance (Kan. Admin. Regs. § 115-16-6(a)–(c)); Wildlife taken pursuant to a wildlife control permit may be taken by: (i) certain trapping equipment; (ii) certain firearms and accessory equipment; (iii) BB guns and pellet guns; (iv) archery equipment; (v) dogs; (vi) falconry; and (vii) certain toxicants (Kan. Admin. Regs. § 115-16-6(d)); In addition, “[a]ny owner or operator of land used for agricultural purposes” may apply for a permit to use a cyanide gas gun “in an authorized wildlife control program for the purpose of livestock protection” (Kan. Admin. Regs. § 116-16-1); A wildlife damage control permit also may be obtained to use sodium fluoracetate, which must be approved by an extension specialist in wildlife damage control at Kansas State University (Kan. Stat. Ann. § 32-955(a))		<b>Additional Laws and Regulations</b> None		
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<b>KY</b>	<b>Status:</b> Kentucky’s laws and regulations do not address cougars. Cougars would be classified as “protected wildlife” (Ky. Rev. Stat. Ann. § 150.010(25); 301 Ky. Admin. Regs. 3:030, § 3)			
<b>Sport Hunting Allowed?</b> No. The Kentucky Department of Fish & Wildlife Resources has not established an open hunting or trapping season for cougar (Ky. Rev. Stat. Ann. § 150.370(1))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> Traps may be used to kill depredating cougars pursuant to a “Nuisance Wildlife Control Operator’s” permit (301 Ky. Admin. Regs. 3:120, § 5(1)); In general, steel traps, snares, wire cage, and box traps are permitted, although snares must not be large enough to take deer, elk, or bear (Ky. Rev. Stat. Ann. § 150.400)	

<b>Laws Relating to Depredation</b> Landowners, tenants, their spouses or dependent children, or their designee (who must be approved by the Commissioner), may, without a permit and during closed seasons, “kill or trap on their lands any wildlife” that is “causing damage to the lands or any personal property situated thereon” (Ky. Rev. Stat. Ann. § 150.170(7)); In addition, certain individuals may obtain a “Nuisance Wildlife Control Operator’s” permit to take “nuisance wildlife,” which would include cougars that “cause or may cause damage or threat to agriculture, human health or safety, property or natural resources” (301 Ky. Admin. Regs. 3:120, § 1(4)); “Nuisance wildlife” may be taken by trapping or shooting (301 Ky. Admin. Regs. 3:120, § 5)		<b>Additional Laws and Regulations</b> Ky. Rev. Stat. Ann. § 65.877 (Local Governments’ Authority to Regulate Holding of Inherently Dangerous Wildlife; List of Inherently Dangerous Wildlife); 301 Ky. Admin. Regs. 2:081 (Transportation and Holding of Live Native Wildlife)		
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<b>LA</b>	<b>Status:</b> Cougars are classified as “wild quadrupeds,” in general, and as “protected quadrupeds,” in particular (La. Rev. Stat. Ann. § 56:8(144)(a)(iii))			
<b>Sport Hunting Allowed?</b> The laws and regulations are silent as to the hunting of cougars. While certain “protected quadrupeds” may be hunted, such as bobcats, and foxes, the 2016 – 2017 regulations do not discuss open seasons or bag limits for hunting cougars. See Louisiana Department of Wildlife & Fisheries, “Louisiana Hunting Regulations 2016 – 2017,” available at <a href="http://www.wlf.louisiana.gov/sites/default/files/pdf/publication/37904-2016-2017-louisiana-hunting-regulations/2016-2017_idwf_hunting_regulations_low-res1.pdf">http://www.wlf.louisiana.gov/sites/default/files/pdf/publication/37904-2016-2017-louisiana-hunting-regulations/2016-2017_idwf_hunting_regulations_low-res1.pdf</a> . This would suggest that the sport hunting of cougars may be prohibited.	<b>Hounding Allowed?</b> The laws and regulations are silent as to the hounding of cougars	<b>Baiting Allowed?</b> The laws and regulations are silent as to the baiting of cougars as “protected quadrupeds”	<b>Trapping Allowed?</b> The laws and regulations are silent as to the trapping of cougars as “protected quadrupeds”; In general, however, the use of a hook or trap with teeth for the purpose of taking “wild quadrupeds” is prohibited (La. Rev. Stat. Ann. § 56:121.1(A))	

<b>Laws Relating to Depredation</b> If “any species” of “wild quadruped” shall become so destructive of private property as to be a nuisance, the Secretary may direct any [authorized] officer, or any reputable citizen of this state, to take and dispose of such species of quadruped in the manner and under the conditions specified by the Secretary” (La. Rev. Stat. Ann. § 56:112(A))		<b>Additional Laws and Regulations</b> La. Rev. Stat. Ann. § 56:116.1 (Wild Birds and Wild Quadrupeds; Times and Methods of Taking; Penalties); La. Admin. Code tit. 76, § 115 (Possession of Potentially Dangerous Wild Quadrupeds)		
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<b>ME</b>	<b>Status:</b> Maine’s laws and regulations do not address cougars. Cougar would be classified as a “wild animal” (Me. Stat. Ann. tit. 12, § 10001(69))			
<b>Sport Hunting Allowed?</b> No. There is no open season for cougars (09-137 Me. Code R. § 4.01(A); Me. Stat. Ann. tit. 12, § 10951; Me. Stat. Ann. tit. 12, § 11201; Me. Stat. Ann. tit. 12, § 12251)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> The Commissioner may authorize a full-time Department employee to trap “wild animals” without a license for the purpose of “animal damage control” (Me. Stat. Ann. tit. 12, § 12201(1-A); The use of snares to trap “any wild animal” is prohibited, as is the use of auxiliary teeth on any leg-hold trap (Me. Stat. Ann. tit. 12, § 12252(1)(2)(A))	

<b>Laws Relating to Depredation</b> A person “may lawfully kill, or cause to be killed, any wild animal, night or day, found in the act of attacking, worrying or wounding that person’s domestic animals or domestic birds or destroying that person’s property” (Me. Stat. Ann. tit. 12, § 12401) In addition, “the cultivator, owner, mortgagee or keeper of any orchard or growing crop” may take or kill “wild animals day or night when the wild animals are located within the orchard or crop where substantial damage caused by the wild animal to the orchard or crop is occurring” (Me. Stat. Ann. tit. 12, § 12402(1)); An individual also may employ someone to take or kill wild animals by contacting the game warden. If the warden is “satisfied that substantial damage is occurring, the warden may arrange for a department agent to alleviate the damage” (Me. Stat. Ann. tit. 12, § 12402(2)); In addition, the Commissioner may authorize a full-time Department employee to trap “wild animals” without a license for the purpose of “animal damage control” (Me. Stat. Ann. tit. 12, § 12201(1-A))		<b>Additional Laws and Regulations</b> None		
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<b>MD Status:</b> “Eastern cougar ( <i>Puma concolor couguar</i> )” is classified as “endangered extirpated species” (Md. Code Regs. 08.03.08.06(J)(3)). If a “viable, naturally occurring population” of Eastern cougar is ever discovered, it will be re-classified as an “endangered species” (Md. Code Regs. 08.03.08.06(B))			
<b>Sport Hunting Allowed?</b> No. The taking of “endangered species” is prohibited, except for scientific or educational purposes, as authorized by special permit from the Director (Md. Code Regs. 08.03.08.04(B))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> None		<b>Additional Laws and Regulations</b> Md. Code Ann., Crim. Law § 10-621 (Import, Offer for Sale, Trade, Barter, Possess, Breed, or Exchange Certain Live Animals Prohibited)	

<b>MA Status:</b> Massachusetts’s laws and regulations do not address cougars. The “Eastern Cougar ( <i>Puma (Felis) concolor couguar</i> )” and “Florida Panther ( <i>Puma (Felis) concolor coryi</i> )” would be classified as an “endangered species,” and the “Mountain Lion ( <i>Puma (Felis) concolor</i> (all subspecies except <i>coryi</i> ))” would be classified as a “threatened species” pursuant to the Endangered Species Act (Mass. Gen. Laws Ann. ch., 131A § 1; see 50 C.F.R. § 17.11)			
<b>Sport Hunting Allowed?</b> No. The taking of cougars is prohibited, except pursuant to a permit issued by the Director for scientific, conservation, management, or educational purposes, or in response to a public health hazard (Mass. Gen. Laws Ann. ch. 131A, § 3; 321 Code Mass. Regs. 10.04	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> None		<b>Additional Laws and Regulations</b> None	

<b>MI Status:</b> Endangered Species (Mich. Admin. Code R. 299.1027(1))			
<b>Sport Hunting Allowed?</b> No. The taking of cougars is prohibited, except in cases of depredation (Mich. Comp. Laws Ann. § 324.36505(1)(a), (5))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> “Upon good cause shown and where necessary to alleviate damage to property or to protect human health, endangered or threatened species found on the state list may be removed, captured, or destroyed, but only as authorized by a permit issued by the Department of Natural Resources” (Mich. Comp. Laws Ann. § 324.36505(5)); In addition, “[c]arnivorous animals found on the state list may be removed, captured, or destroyed by any person in emergency situations involving an immediate threat to human life” (Mich. Comp. Laws Ann. § 324.36505(5))		<b>Additional Laws and Regulations</b> Mich. Comp. Laws Ann. § 285.363 (Indemnification for the death, injury, or loss of livestock from cougars); Mich. Comp. Laws Ann. § 287.1102 (Large Carnivore Act, Definitions)	

<b>MN Status:</b> Small Game (Minn. Stat. Ann. § 97A.015(45)); Cougars also are classified as “protected wild animals,” the definition of which includes “small game” (Minn. Stat. Ann. § 97A.015(39)); Cougars are further designated as a “species of special concern” (Minn. R. 6134.0200.1(C))			
<b>Sport Hunting Allowed?</b> No. There is no open season for cougar (Minn. Stat. Ann. § 97B.641)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> Although the laws and regulations are silent as to the killing of depredating cougars, the Minnesota Department of Natural Resources indicates that, as a “protected species,” cougars may not be killed, “even if livestock or pets are threatened.” <a href="http://dnr.state.mn.us/mammals/cougar/index.html">http://dnr.state.mn.us/mammals/cougar/index.html</a>		<b>Additional Laws and Regulations</b> None	

<b>MS Status:</b> The “Florida Panther ( <i>Puma concolor coryi</i> )” is classified as an “endangered species” (Miss. Admin. Code § 40-5:2.4(A))			
<b>Sport Hunting Allowed?</b> No. The taking of Florida panthers is prohibited, except as permitted by the Mississippi Commission on Wildlife, Fisheries and Parks (Miss. Code Ann. § 49-5-109(c); Miss. Admin. Code § 40-5:2.4(B))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> “Upon good cause shown, and where necessary to alleviate damage to property or to protect human health, endangered species may be removed, captured or destroyed but only pursuant to permit issued by the Commission and, where possible, by or under the supervision of an agent of the Commission” (Miss. Code Ann. § 49-5-111(e)); In addition, “endangered species may be removed, captured or destroyed without permit by any person in emergency situations involving an immediate threat to human life” (Miss. Code Ann. § 49-5-111(e))			<b>Additional Laws and Regulations</b> Miss. Admin. Code § 40-2:8.3 (Regulations for Animals Inherently Dangerous to Humans)

<b>MO Status:</b> Furbearing Animal (Mo. Code Regs. tit. 3, § 10-20.805(25))			
<b>Sport Hunting Allowed?</b> No. There are no hunting or trapping seasons for mountain lions (Mo. Code Regs. tit. 3, § 10-4.110(1))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> Traps may be used to capture or kill depredating mountain lions (Mo. Code Regs. tit. 3, § 10-4.130(2)); Permissible traps include foot-hold traps, Conibear and other “killing-type traps” with jaw spreads less than 5 inches, “foot enclosing-type” traps, cage-type traps, and cable restraint devices (Mo. Code Regs. tit. 3, § 10-8.510(1), (3), (4)); The use of pitfalls, deadfalls, snares set in a dry land set, and nets are prohibited (Mo. Code Regs. tit. 3, § 10-8.510(1))
<b>Laws Relating to Depredation</b> Mountain lions “may be killed without prior permission [of an agent of the Department of Conservation] if they are attacking or killing livestock or domestic animals, or if they are threatening human safety” (Mo. Code Regs. tit. 3, § 10-4.130(6))		<b>Additional Laws and Regulations</b> None	

<b>MT Status:</b> Game Animal (Mont. Code Ann. § 87-6-101(12)), and as a “large predator” (Mont. Code Ann. § 87-1-217(6)(c))			
<b>Sport Hunting Allowed?</b> Yes. Residents and non-residents may hunt mountain lion (Mont. Code Ann. § 87-2-507; Mont. Code Ann. § 87-2-508)	<b>Hounding Allowed?</b> Yes. Dogs may be used to “hunt” mountain lions, as well as to pursue mountain lions under a hound training license (Mont. Code Ann. § 87-6-404(3)(b), (4)); “Hunting” includes using a dog for the purpose of “shooting, wounding, taking, harvesting, killing, possessing, or capturing wildlife” (Mont. Code Ann. § 87-6-101(14)); Dogs also may be used to pursue “stock-killing mountain lions” (Mont. Code Ann. § 87-3-127(1))	<b>Baiting Allowed?</b> No. A person may not hunt or attempt to hunt any “game animal,” by the aid of or with the use of any bait (Mont. Code Ann. § 87-6-401(1)(a)); In addition, a person may not “purposely or knowingly” attract mountain lions with “supplemental feed attractants” (Mont. Code Ann. § 87-6-216(1)(a)); “Supplemental feed attractants” include “any food, garbage, or other attractant for game animals” (Mont. Code Ann. § 87-6-101(31))	<b>Trapping Allowed?</b> No. A person may not hunt or attempt to hunt any “game animal” by the aid of or with the use of “any snare or trap” (Mont. Code Ann. § 87-6-401(1)(a)); However, snare traps may be used to take depredating mountain lions (Mont. Code Ann. § 87-6-401(1)(a); Mont. Admin. R. 12.6.1001)
<b>Laws Relating to Depredation</b> “Wildlife” may be taken “if the wildlife is attacking, killing, or threatening to kill a person or livestock” (Mont. Code Ann. § 87-6-106(1)); In addition, a person may kill or attempt to kill a “mountain lion” that “is in the act of attacking or killing a domestic dog” (Mont. Code Ann. § 87-6-106(2)); Livestock owners, their agents, or employees of the Montana Fish, Wildlife, and Parks Department may use dogs in pursuit of “stock-killing mountain lions,” as well as “other means” of “killing stock-killing mountain lions, except the deadfall” (Mont. Code Ann. § 87-3-127(1)); In particular, livestock owners and state and federal agents may take “depredating mountain lions” by means of snare traps (Mont. Admin. R. 12.6.1001)		<b>Additional Laws and Regulations</b> Mont. Code Ann. § 87-6-202 (Unlawful Possession, Shipping, or Transportation of Game Animal); Montana Fish, Wildlife, and Parks Department, “2016 Mountain Lion Hunting Regulations:” <a href="http://fwp.mt.gov/eBook/hunting/regulations/2016/mountainLion/index.html">http://fwp.mt.gov/eBook/hunting/regulations/2016/mountainLion/index.html</a>	

<b>NE Status:</b> Game Animal (Neb. Rev. Stat. Ann. § 37-228)			
<b>Sport Hunting Allowed?</b> Yes (Neb. Rev. Stat. Ann. § 37-473(1)); However, mountain lion seasons were not authorized for 2015 or 2016.	<b>Hounding Allowed?</b> Yes. Dogs may only be used to hunt mountain lions during certain seasons and in certain regions (163 Neb. Admin. Code, ch. 4, § 037.10C)	<b>Baiting Allowed?</b> No. Mountain lions may not be hunted with the aid of bait (163 Neb. Admin. Code, ch. 4, § 037.10C)	<b>Trapping Allowed?</b> No. Mountain lions may not be hunted with the aid of traps (163 Neb. Admin. Code, ch. 4, § 037.10C)
<b>Laws Relating to Depredation</b> The Nebraska Game and Parks Commission may issue a permit to a farmer or rancher owning or operating a farm or ranch to kill mountain lions that are “preying on livestock or poultry.” Prior to issuing a permit, the Commission must confirm that livestock or poultry on the property was subject to depredation by a mountain lion (Neb. Rev. Stat. Ann. § 37-472); In addition, any farmer or rancher owning or operating a farm or ranch, or an agent thereof, may “kill a mountain lion immediately without prior notice to or permission from the Commission if he or she encounters a mountain lion and the mountain lion is in the process of stalking, killing, or consuming livestock on the farmer’s or rancher’s property” (Neb. Rev. Stat. Ann. § 37-559(2))		<b>Additional Laws and Regulations</b> 163 Neb. Admin. Code, ch. 4, § 001 (General Regulations Governing Wildlife Species); 163 Neb. Admin. Code, ch. 4, § 037 (Mountain Lions); Nebraska Game and Parks Commission, “Mountain Lions in Nebraska:” <a href="http://outdoornebraska.gov/mountainlions/">http://outdoornebraska.gov/mountainlions/</a>	

<b>NY Status:</b> Big Game Mammal (Nev. Rev. Stat. Ann. § 501.005; Nev. Admin. Code § 502.020(1))			
<b>Sport Hunting Allowed?</b> Yes. Any resident or non-resident is eligible to obtain not more than two mountain lion tags per year (Nev. Admin. Code § 502.370(1))	<b>Hounding Allowed?</b> Yes. Dogs may be used to “hunt, chase, and pursue” mountain lions (Nev. Admin. Code § 503.147); Note that mountain lions are the only “big game mammal” that may be hunted with dogs (see Nev. Admin. Code § 503.150(1)(g))	<b>Baiting Allowed?</b> No. The baiting of “big game mammals” is prohibited (Nev. Admin. Code § 503.149)	<b>Trapping Allowed?</b> The laws and regulations are silent as to the trapping of mountain lions. However, the laws and regulations governing trapping appear to apply to “fur-bearing mammals,” which does not include mountain lions.
<b>Laws Relating to Depredation</b> The Director of the Nevada Department of Wildlife may, “after thorough investigation, issue a permit to frighten, herd or kill wildlife if: (a) He or she has received information from the owner or tenant of any land or property indicating that such land or property is being damaged or destroyed or is in danger of being damaged or destroyed by wildlife; and (b) the injury complained of is substantial and can be abated” (Nev. Admin. Code § 503.710(1))		<b>Additional Laws and Regulations</b> Nev. Rev. Stat. Ann. § 501.376 (Unlawful Killing or Possession of Mountain Lion; Criminal Penalties); Nev. Admin. Code § 502.370(1) (Mountain Lions: Tags; Open Season; Miscellaneous Requirements; Unlawful Acts); Nev. Admin. Code § 503.142 (Hunting Big Game Mammal with Firearm); Nev. Admin. Code § 503.143 (Hunting with Crossbow); Nev. Admin. Code § 503.144 (Hunting with Bow and Arrow); Nev. Admin. Code § 503.150 (Manner of Hunting Game Birds or Mammals: Unlawful Acts); Nev. Admin. Code § 503.189 (Use of Flashlight When Hunting Mountain Lion); Nev. Admin. Code § 504.701 (Guiding Hunt for Mountain Lion)	

<b>NH Status:</b> Nongame Species (N.H. Rev. Stat. Ann. § 212-B:3)			
<b>Sport Hunting Allowed?</b> No. The taking, hunting, or shooting of “mountain lions” is prohibited, except in the case of depredating mountain lions (N.H. Rev. Stat. Ann. § 208:1-b)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> The Executive Director “may, should mountain lions become a nuisance in any part of the state, take and authorize such measures as the Executive Director deems necessary for control of this animal” (N.H. Rev. Stat. Ann. § 208:1-c); Moreover, the prohibition on the taking, hunting, or shooting of mountain lions does not apply to “a person acting in self-protection or protecting such person’s property” (N.H. Rev. Stat. Ann. § 208:1-b)		<b>Additional Laws and Regulations</b> N.H. Rev. Stat. Ann. § 207:23-a (Damage by Mountain Lions); N.H. Code Admin. R. Fis. 803.06 (Controlled Species – Importation); N.H. Code Admin. R. Fis. 804.05 (Controlled Species – Possession)	

<b>NJ Status:</b> New Jersey’s laws and regulations do not address cougars The “Eastern Cougar (Puma (Felis) concolor cougar)” and “Florida Panther (Puma (Felis) concolor coryi)” would be classified as an “endangered species,” and the “Mountain Lion (Puma (Felis) concolor (all subspecies except coryi))” would be classified as a “threatened species” pursuant to the Endangered Species Act (N.J. Stat. Ann. § 23:2A-3; see 50 C.F.R. § 17.11); Cougars also would be classified as a “nongame species” (N.J. Admin. Code § 7:25-4.1); Cougars would be further classified as an “exotic mammal” (N.J. Admin. Code § 7:25-4.1)			
<b>Sport Hunting Allowed?</b> No. There is no open season for cougars (N.J. Admin. Code § 7:25-4.1)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> None		<b>Additional Laws and Regulations</b> None	

<b>NJ Status:</b> Game Mammal (N.M. Stat. Ann. § 17-2-3(A)(10)). The cougar is also classified as a “big game species” (N.M. Code R. § 19.31.10.7(A))			
<b>Sport Hunting Allowed?</b> Yes. Both residents and non-residents may hunt cougar (N.M. Stat. Ann. § 17-3-13(B))	<b>Hounding Allowed?</b> Yes. Dogs may be used to hunt cougar during specific open seasons (N.M. Code R. § 19.31.11.10(F)); The licensed hunter, who intends to kill the cougar, must be present continuously from the initial release of any dogs (N.M. Code R. § 19.31.11.10(F)(4))	<b>Baiting Allowed?</b> No. The use of baits or scents in taking, or attempting to take, cougars is prohibited (N.M. Code R. § 19.31.11.10(G))	<b>Trapping Allowed?</b> Yes. Hunters with a valid cougar license may use traps or foot snares to harvest cougars on state trust land or on private land with written permission from the landowner (N.M. Code R. § 19.31.11.10(O)); Any taking of cougar by use of traps or snares on public land, other than state trust lands, is prohibited unless authorized by the director (N.M. Code R. § 19.31.11.10(P)); Additional restrictions on the trapping of cougars include: i. “No foot-hold trap with an outside spread larger than 7 inches if laminated above the jaw surfaces or tooth-jawed traps, shall be used in making a land set. All foot-hold traps with an inside jaw spread equal to or greater than 5.5 inches shall be offset unless they have padded jaws” (N.M. Code R. § 19.32.2.10(B)(2); N.M. Code R. § 19.31.11.10(O)); ii. “No body-gripping trap with an inside jaw spread greater than 7 inches may be set on land. Body-gripping traps with inside jaw spreads of between 6 and 7 inches set on land shall be used in conjunction with a cubby set such that the trap trigger is recessed in the cubby at least 8 inches from an entrance” (N.M. Code R. § 19.32.2.10(B)(9); N.M. Code R. § 19.31.11.10(O)); iii. Neck snares are prohibited (N.M. Code R. § 19.31.11.10(O)); iv. Foot snares are prohibited in certain “Management Zones,” including in portions designated by the U.S. Fish and Wildlife Service as critical habitat for jaguar (N.M. Code R. § 19.31.11.10(O))
<b>Laws Relating to Depredation</b> “[T]he owner of domestic livestock in this state or his regular employee may hunt, take, capture or kill any cougar . . . which has killed domestic livestock” (N.M. Stat. Ann. § 17-2-7(B)); In addition, the Department of Game and Fish will investigate all bighorn sheep deaths to determine if cougar depredation has occurred. If the Department determines that cougar depredation has occurred, a permit for taking each depredating cougar will be issued to the local district wildlife officer. The decision whether to hound hunt or snare the depredating cougar will be based on evidence at the kill site (N.M. Code R. § 19.31.11.13)		<b>Additional Laws and Regulations</b> N.M. Stat. Ann. § 17-2-7.2 (Landowner Taking; Conditions; Department Responsibilities); N.M. Code R. § 19.31.10 (Hunting and Fishing – Manner and Method of Taking); N.M. Code R. § 19.31.11 (Bear and Cougar); New Mexico Department of Game and Fish, “Cougar:” <a href="http://www.wildlife.state.nm.us/download/publications/rib/2014/hunting-rib/27-Cougar.pdf">http://www.wildlife.state.nm.us/download/publications/rib/2014/hunting-rib/27-Cougar.pdf</a>	

<b>NY Status:</b> New York’s laws and regulations do not address cougars. The “Eastern Cougar (Puma (Felis) concolor cougar)” and “Florida Panther (Puma (Felis) concolor coryi)” would be classified as an “endangered species,” and the “Mountain Lion (Puma (Felis) concolor (all subspecies except coryi))” would be classified as a “threatened species” pursuant to the Endangered Species Act (N.Y. Envtl. Conservation Law § 11-0535(1); N.Y. Comp. Codes R. & Regs. tit. 6, § 182.2(e), (y); see 50 C.F.R. § 17.11)			
<b>Sport Hunting Allowed?</b> No. The taking of cougars is prohibited, except pursuant to an incidental take permit issued by the Department (N.Y. Envtl. Conservation Law § 11-0535(2); N.Y. Comp. Codes R. & Regs. tit. 6, § 182.7; N.Y. Comp. Codes R. & Regs. tit. 6, § 182.8; N.Y. Comp. Codes R. & Regs. tit. 6, §§ 182.11–.13)	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> None		<b>Additional Laws and Regulations</b> N.Y. Envtl. Conservation Law § 11-0536 (Sale of Certain Wild Animals or Wild Animal Products Prohibited); N.Y. Envtl. Conservation Law § 11-0538 (Direct Contact Between Public and Big Cats Prohibited)	

<b>NC Status:</b> The “Eastern cougar ( <i>Puma concolor</i> )” is classified as a “federally-listed endangered species” (15A N.C. Admin. Code 10I.0103(a)(5)(B))			
<b>Sport Hunting Allowed?</b> No. There is no open season for cougars (N.C. Gen. Stat. Ann. § 113-337(a)(1); 15A N.C. Admin. Code 10I.0102(a))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> No
<b>Laws Relating to Depredation</b> Depredation permits may not be issued to take any “endangered” wildlife, including Eastern cougars, by reason of depredations to property (15A N.C. Admin. Code 10B.0106(a)); However, an individual “shall” report any “endangered” species that constitutes a “demonstrable but non-immediate threat to human safety” to a federal or state wildlife enforcement officer (15A N.C. Admin. Code 10B.0106(a)); A state, federal or conservation officer or employee then may, when acting in the course of official duties, take an “endangered” species without a permit if necessary to “remove specimens that constitute a demonstrable but non-immediate threat to human safety, provided the taking is done in a humane and non-injurious manner. The taking may involve injuring or killing endangered . . . species only if it is not possible to eliminate the threat by live-capturing and releasing the specimen unharmed, in a habitat that is suitable for the survival of that species” (15A N.C. Admin. Code 10I.0102(c)(2)(D)) In addition, an individual may take an “endangered” species without a permit in “immediate” “defense of his own life or the lives of others.” 15A N.C. Admin. Code 10B.0106(a); 15A N.C. Admin. Code 10I.0102(c)(1).			<b>Additional Laws and Regulations</b>  N.C. Gen. Stat. Ann. § 113-294 (Specific Violations, including penalty for unlawfully taking cougars)

<b>ND Status:</b> Furbearer (N.D. Cent. Code Ann. § 20.1-01-02(18))			
<b>Sport Hunting Allowed?</b> Yes. Mountain lions may only be hunted by North Dakota residents (N.D. Cent. Code Ann. § 20.1-03-07(2))	<b>Hounding Allowed?</b> Yes. The laws and regulations are silent as to the hounding of “furbearers” or “mountain lions.” However, the North Dakota Game and Fish Director’s Proclamation for 2016 – 2017 indicates that the use of dogs to pursue mountain lions is permitted in certain “Zones” and during certain seasons. North Dakota Game and Fish Director, “2016 – 2017 Small Game, Waterfowl and Furbearer Proclamation,” available at <a href="https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf">https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf</a> .	<b>Baiting Allowed?</b> No. The use of bait for “attracting, luring, feed, or habituating wildlife to the bait location for any purpose” in wildlife management areas is generally prohibited (N.D. Admin. Code 30-04-02-17)	<b>Trapping Allowed?</b> No. The laws and regulations are silent as to the trapping of mountain lions for sport. However, the North Dakota Game and Fish Director’s Proclamation for 2016 – 2017 indicates that the use of “traps or cable devices (snares)” to take mountain lions is prohibited. North Dakota Game and Fish Director, “2016 – 2017 Small Game, Waterfowl and Furbearer Proclamation,” available at <a href="https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf">https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf</a> ; The trapping of depredating mountain lions may be permitted (see N.D. Cent. Code Ann. § 20.1-07-04, a landowner or tenant may “catch or kill” any depredating “wild fur-bearing animal”)
<b>Laws Relating to Depredation</b> A landowner or tenant or an agent thereof may “catch or kill any wild fur-bearing animal that is committing depredations upon that person’s poultry, domestic animals, or crops” (N.D. Cent. Code Ann. § 20.1-07-04)		<b>Additional Laws and Regulations</b> N.D. Cent. Code Ann. § 20.1-07-05 (Manner of Taking Protected Fur-Bearing Animals Restricted); North Dakota Game and Fish Director, “2016 – 2017 Small Game, Waterfowl and Furbearer Proclamation:” <a href="https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf">https://gf.nd.gov/gnf/regulations/docs/smallgame/proc-sm-game-2016.pdf</a> ; North Dakota Game and Fish Department, “2016 – 2017 North Dakota Furbearer Hunting and Trapping Guide:” <a href="https://gf.nd.gov/gnf/regulations/docs/furbearer/furbearer-guide.pdf">https://gf.nd.gov/gnf/regulations/docs/furbearer/furbearer-guide.pdf</a>	

<b>OH Status:</b> Ohio’s laws and regulations do not address cougars. Cougars would be classified as a “wild animal” (Ohio Rev. Code Ann. § 1531.01(X); Ohio Admin. Code Ann. 1501:31-1-02(ZZZZZ))			
<b>Sport Hunting Allowed?</b> No. There is no open hunting season on “wild animals” except as expressly set forth in the laws and regulations (Ohio Admin. Code Ann. 1501:31-15-17(A))	<b>Hounding Allowed?</b> No. The laws and regulations may contemplate the use of dogs to capture depredating cougars (see Ohio Admin. Code Ann. 1501:31-15-03(E)(1)(a), discussing the measurement of foothold traps used to capture “nuisance wildlife” by reference to the trap’s position relative to a dog)	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> Traps may be used to kill depredating cougars by individuals and Commercial Nuisance Wild Animal Control Operators (Ohio Admin. Code Ann. 1501:31-15-03); The following traps may be used: (i) foothold traps, with limitations as to size for individuals and Commercial Nuisance Wild Animal Control Operators, respectively; (ii) body-gripping traps, with limitations as to size for individuals and Commercial Nuisance Wild Animal Control Operators, respectively; (iii) snares, with limitations as to type and size for individuals and Commercial Nuisance Wild Animal Control Operators, respectively; and (iv) cage or box traps (Ohio Admin. Code Ann. 1501:31-15-03(E))
<b>Laws Relating to Depredation</b> Individuals or businesses may apply for a “Commercial Nuisance Wild Animal Control Operator’s” permit to take “nuisance wild animals,” meaning a “wild animal that interferes with the use or enjoyment of property, is causing a threat to public safety, or may cause damage or harm to a structure, property or person” (Ohio Rev. Code Ann. § 1531.40); In addition, the regulations appear to contemplate that individuals also may take or trap “nuisance wildlife” without a permit if they do not charge a fee (see Ohio Admin. Code Ann. 1501:31-15-03(A)); Individuals and Commercial Nuisance Wild Animal Control Operators may both take and trap nuisance wild animals, subject to certain limitations with respect to the type and size of the trapping equipment (Ohio Admin. Code Ann. 1501:31-15-03)			<b>Additional Laws and Regulations</b> Ohio Rev. Code Ann. § 935.01 (Dangers Wild Animals, Definitions)

<b>OK Status:</b> Protected Game (Okla. Stat. Ann. tit. 29, § 5-411)			
<b>Sport Hunting Allowed?</b> No. The Oklahoma Wildlife Conservation Commission has not declared an open season for hunting mountain lion (see Okla. Stat. Ann. tit. 29, § 5-411(A) (1) prohibiting hunting, chasing, capturing, shooting, wounding, taking or attempting to take, and killing or attempting to kill, mountain lions except during open season); Only the taking of depredating mountain lions is permitted (Okla. Admin. Code § 800:25-7-60(2))	<b>Hounding Allowed?</b> No	<b>Baiting Allowed?</b> No	<b>Trapping Allowed?</b> Depredating mountain lions may be trapped pursuant to a “Nuisance Wildlife Control Operator’s Permit” (Okla. Admin. Code § 800:25-37-5); The following traps may be used: (i) box or live traps; (ii) “smooth-jawed single spring or double spring offset steel leg-hold traps with a jaw spread of no more than eight inches;” (iii) “body gripping style traps less than size 330;” (iv) “enclosed trigger traps;” and (v) snares with “a locking device that prevents the loop from closing to a circumference less than ten inches if the snare is set on or just above ground level,” with no loop restriction if the snare is set in an “attic or similar situation” (Okla. Admin. Code § 800:25-37-5(9)); Traps must be placed in a manner that will, among other things, minimize the risk to non-target animals, to the public, and to pets (Okla. Admin. Code § 800:25-37-5(10))
<b>Laws Relating to Depredation</b> “Taking of mountain lion is allowed when the mountain lion is committing or about to commit depredation on any domesticated animal, or when acting in a manner as to constitute an immediate safety hazard” (Okla. Admin. Code § 800:25-7-60(2)); In addition, the Department of Wildlife Conservation may issue a “Nuisance Wildlife Control Operator’s Permit” to certain individuals (Okla. Admin. Code § 800:25-37-2); “Problems and complaints” concerning mountain lions “will only be handled when specifically authorized in writing by the Director of Oklahoma Department of Wildlife Conservation” (Okla. Admin. Code § 800:25--37-5(2)); Legal methods for taking mountain lions pursuant to a Permit include certain types of traps and snares and firearms (Okla. Admin. Code § 800:25-37-5(9))		<b>Additional Laws and Regulations</b> None	
<b>OR Status:</b> Game Mammal (Or. Rev. Stat. Ann. § 496.004(9); Or. Admin. R. 635-045-0002(35))			
<b>Sport Hunting Allowed?</b> Yes. Both residents and non-residents may hunt cougars (Or. Rev. Stat. Ann. § 497.112 (1)(l)(m))	<b>Hounding Allowed?</b> No. The use of dogs to hunt or pursue cougars is prohibited, except to take cougars that are causing damage pursuant to Or. Rev. Stat. Ann. § 498.012 (Or. Rev. Stat. Ann. § 498.164(1), (4); Or. Admin. R. 635-067-0004(5))	<b>Baiting Allowed?</b> No. The baiting of cougars is prohibited, except to take cougars that are causing damage pursuant to Or. Rev. Stat. Ann. § 498.012 (Or. Rev. Stat. Ann. § 496.731(2); Or. Rev. Stat. Ann. § 498.164(1), (4))	<b>Trapping Allowed?</b> No. The taking of “any game mammals” with “trap or snare” is prohibited (Or. Admin. R. 635-065-0745(7))
<b>Laws Relating to Depredation</b> “Any person” may take “any wildlife” “on land that the person owns or lawfully occupies” that is: (i) causing “damage,” meaning “loss of or harm inflicted on land, livestock, or agricultural or forest crops;” (ii) is a “public nuisance,” meaning “loss of or harm inflicted on gardens, ornamental plants, ornamental trees, pets, vehicles, boats, structures or other personal property;” or (iii) poses a “public health risk” (Or. Rev. Stat. Ann. § 498.012(1), (7)); A permit is not required to take cougars pursuant to this section (Or. Rev. Stat. Ann. § 498.012(2)(a))		<b>Additional Laws and Regulations</b> Or. Rev. Stat. Ann. § 498.166 (Taking Bears or Cougars That Pose Threat to Human Safety); Or. Admin. R. 635-065-0700 (Rifles); Or. Admin. R. 635-065-0703 (Shotguns); Or. Admin. R. 635-065-0705 (Muzzleloading Rifles); Or. Admin. R. 635-065-0710 (Handguns); Or. Admin. R. 635-065-0720 (Bows and Arrows); Or. Admin. R. 635-067-0004 (Cougar Hunting Regulations); Oregon Department of Fish and Wildlife, “Hunting Cougar in Oregon:” <a href="http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/index.asp">http://www.dfw.state.or.us/Resources/hunting/big_game/cougar/index.asp</a>	

<b>PA Status:</b> Pennsylvania’s laws and regulations do not address cougars. The “Eastern Cougar ( <i>Puma (Felis) concolor cougar</i> )” and “Florida Panther ( <i>Puma (Felis) concolor coryi</i> )” would be classified as an “endangered species,” and the “Mountain Lion ( <i>Puma (Felis) concolor</i> (all subspecies except <i>coryi</i> ))” would be classified as a “threatened species” pursuant to the Endangered Species Act (34 Pa. Stat. and Cons. Stat. Ann. § 102; 58 Pa. Code § 133.4; see 50 C.F.R. § 17.11)			
<b>Sport Hunting Allowed?</b> No. The capturing or killing of cougars is prohibited (34 Pa. Stat. and Cons. Stat. Ann. § 2167(b); 34 Pa. Stat. and Cons. Stat. Ann. § 2924(a), (d))	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> No.
<b>Laws Relating to Depredation</b> Depredation permits “will not be issued for the taking of any endangered or threatened species,” including cougars (see 50 C.F.R. § 17.11. 58 Pa. Code § 147.745(b); see also 58 Pa. Code § 141.3); However, a person may kill “wildlife,” including “endangered” and “threatened” species, “as a means of protection” if it is “clearly evident from all the facts that that a human is endangered to a degree that the immediate destruction of the wildlife is necessary” (34 Pa. Stat. and Cons. Stat. Ann. § 2141(a))		<b>Additional Laws and Regulations</b> 34 Pa. Stat. and Cons. Stat. Ann. § 2961 (Definitions relating to “Exotic Wildlife”)’ 58 Pa. Code § 147.81(a) (Permits to possess “endangered species”)	

<b>RI Status:</b> Rhode Island’s laws and regulations do not address cougars. The “Eastern Cougar (Puma (Felis concolor cougar)” and “Florida Panther (Puma (Felis concolor coryi)” would be classified as an “endangered species” pursuant to the Endangered Species Act (R.I. Gen. Laws Ann. § 20-37-2(3); R.I. Admin. Code § 25-8-18:5.6; see 50 C.F.R. § 17.11)			
<b>Sport Hunting Allowed?</b> No. There is no open season for cougars (R.I. Admin. Code § 25-8-33:7)	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> No.
<b>Laws Relating to Depredation</b> The “capture, handling, or harassment of any federally listed endangered species” by an individual holding a “Wildlife Control Specialist” permit is prohibited (R.I. Admin. Code § 25-8-18:6.25)		<b>Additional Laws and Regulations</b> R.I. Gen. Laws Ann. § 20-37-3 (Special Permit)	

<b>SC Status:</b> “Eastern Cougar (Felis concolor cougar)” is classified as an “Endangered Wildlife Species of South Carolina” (S.C. Code Ann. Reg. 123-150(1))			
<b>Sport Hunting Allowed?</b> No. The taking of Eastern Cougar (Felis concolor cougar) is prohibited (S.C. Code Ann. Reg. 123-150(2))	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> No.
<b>Laws Relating to Depredation</b> Although the Department of Natural Resources may issue depredation permits (S.C. Code Ann. § 50-11-1050), the taking of Eastern Cougar (Felis concolor cougar) as an “endangered species” is prohibited (S.C. Code Ann. Reg. 123-150(2))		<b>Additional Laws and Regulations</b> None	

<b>SD Status:</b> Big Game (S.D. Codified Laws § 41-1-1(4))			
<b>Sport Hunting Allowed?</b> Yes. Only residents may obtain a license to hunt mountain lions (S.D. Admin. R. 41:06:61:06(1))	<b>Hounding Allowed?</b> Yes. Dogs may be used to hunt mountain lions in certain areas during open seasons, as well as year-round on private land (S.D. Admin. R. 41:06:61:06(5)); Licensed hunters must accompany the dog handler when dogs are released and must continuously participate in the hunt until it is completed (S.D. Admin. R. 41:06:61:06(7)); Dogs may not be released on tracks indicating multiple mountain lions traveling together (S.D. Admin. R. 41:06:61:06(6))	<b>Baiting Allowed?</b> No. Hunting mountain lions for sport with the aid of bait is prohibited (S.D. Admin. R. 41:06:61:06(4)); The use of bait may be permitted to take depredating mountain lions. See S.D. Codified Laws § 41-6-29 (depredation permit may authorize the taking of mountain lions “by any methods that may otherwise be prohibited”).	<b>Trapping Allowed?</b> No. Hunting mountain lions for sport with the aid of traps is prohibited (S.D. Admin. R. 41:06:61:06(4)) The use of traps may be permitted to capture depredating mountain lions. See S.D. Codified Laws § 41-6-29 (depredation permit may authorize the taking of mountain lions “by any methods that may otherwise be prohibited”).

<b>Laws Relating to Depredation</b> Any person, whether licensed or unlicensed, who “owns or cares for livestock or pets” may kill any mountain lion “posing an imminent threat to such person’s livestock or pets” S.D. Codified Laws § 41-6-29.2); If any mountain lions “are a threat to the public’s health, safety, and welfare, or are doing damage to property, the secretary of game, fish and parks may by a written permit authorize a conservation officer, a municipality or county and their designees, a designee of the department, or the person whose property is being damaged to take or kill any such animals . . . by any methods that may otherwise be prohibited or under any restrictions as the secretary may prescribe in the permit” (S.D. Codified Laws § 41-6-29); In addition, the Commission may authorize a special depredation hunt to kill and take “game animals identified by the department as causing property damage” (S.D. Codified Laws § 41-6-29.1); In connection with special depredation hunts, the Department of Fish, Game and Parks may issue up to 200 permits to resident “landowners/operators” who are “experiencing documented game animal depredating and who [are] actually operating agricultural or grazing land within the specific geographic area in which a depredation hunt has been authorized” (S.D. Admin. R. 41:06:46:06); The Department may issue no more than four landowner/operator depredation permits per household or ranch (S.D. Admin. R. 41:06:46:06)		<b>Additional Laws and Regulations</b> S.D. Codified Laws § 41-8-10 (Minimum Caliber of Muzzle Loading Big Game Ammunition); S.D. Codified Laws § 41-8-11 (Maximum Number of Cartridges in Self-Loading Firearm Used to Hunt Big Game); S.D. Codified Laws § 41-8-12 (Automatic Weapon Prohibited in Hunting Big Game); S.D. Codified Laws § 41-8-13 (Buckshot Prohibited in Hunting Big Game); S.D. Codified Laws § 41-8-31.1 (Use of Crossbow for Hunting Big Game during Firearm Season); S.D. Admin. R. 41:06:61:01 (Mountain Lion Hunting Season Established); S.D. Admin. R. 41:06:61:06 (Application Requirements; License and Season Restrictions; Special Conditions)	
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<b>TN Status:</b> Tennessee’s laws and regulations do not address cougars. The cougar would be classified as a “nongame mammal” (Tenn. Code Ann. § 70-1-101(a)(22))			
<b>Sport Hunting Allowed?</b> No. There is no open season for hunting cougars unless announced in a proclamation by the Tennessee Fish and Wildlife Commission (Tenn. Code Ann. § 70-4-102(a), (c)(2))	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> Traps may be used to take depredating cougars pursuant to an “Animal Damage Control Permit” (Tenn. Comp. R. & Regs. 1660-01-21-.01(2)(a)); The laws and regulations do not specify any limitations as to the traps that may be used pursuant to an Animal Damage Control Permit. With respect to “furbearers,” and perhaps also “nuisance wildlife,” only the following traps are permitted: (i) steel traps, subject to size specifications; (ii) live or cage traps; (iii) steel cable snares except prohibited Collarum snares, subject to size specifications; (iv) dog-proof traps; and (v) cushion-hold traps, subject to size specifications. Tennessee Fish and Wildlife Commission, Proclamation 16-36, “Manner and Means of Hunting, Taking, and Trapping,” available at <a href="http://share.tn.gov/sos/pub/proclamations/05-12-16.pdf">http://share.tn.gov/sos/pub/proclamations/05-12-16.pdf</a>
<b>Laws Relating to Depredation</b> Landowners may destroy “any wild animals” when they are “destroying property” (Tenn. Code Ann. § 70-4-115(a)); In addition, individuals or businesses may apply for an “Animal Damage Control Permit” to “destroy or otherwise control nuisance wildlife” (Tenn. Comp. R. & Regs. 1660-01-21-.01(1)(a)); Permit holders are authorized to use chemicals, traps, firearms, and other methods as approved by federal and state agencies (Tenn. Comp. R. & Regs. 1660-01-21-.01(2)(a))			<b>Additional Laws and Regulations</b> Tenn. Code Ann. § 70-4-403 (Exotic Animals, Classifications)

<b>TX Status:</b> Nongame Species (Tex. Parks & Wildlife Code § 67.001). The Department of Parks & Wildlife notes that “[m]ountain lions are not protected and can be harvested at any time.” <a href="http://tpwd.texas.gov/regulations/outdoor-annual/hunting/nongame-and-other-species">http://tpwd.texas.gov/regulations/outdoor-annual/hunting/nongame-and-other-species</a> . In addition, “cougars” are explicitly excluded from provisions pertaining to endangered species (Tex. Parks & Wildlife Code § 68.020); For purposes of Texas’s Health & Safety provisions, “mountain lions” appear to be classified as “predatory animal” (Tex. Health & Safety Code § 825.001)			
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<b>Sport Hunting Allowed?</b> Yes. Resident and non-resident hunting licenses are required to hunt any animals in Texas, including mountain lion (Tex. Parks & Wildlife Code § 42.002; Tex. Parks & Wildlife Code § 42.005); Texas’s laws and regulations are silent as to any limits or permits relating to the taking of mountain lions (see Tex. Parks & Wildlife Code § 67.004)	<b>Hounding Allowed?</b> The laws and regulations are silent as to the hounding of “nongame species” or mountain lions.	<b>Baiting Allowed?</b> The laws and regulations are silent as to the baiting of “nongame species” or mountain lions. The Department of Parks and Wildlife indicates that baiting of “nongame animals,” including mountain lions, see Tex. Parks & Wildlife Code § 67.001, is lawful on private property <a href="http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/means-and-methods">http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/means-and-methods</a> .	<b>Trapping Allowed?</b> The laws and regulations are silent as to the trapping of “nongame species.” The Department of Parks and Wildlife indicates that trapping of “nongame animals,” including mountain lions, is lawful on private property <a href="http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/means-and-methods">http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/means-and-methods</a> .
<b>Laws Relating to Depredation</b> Texas only requires depredation permits in cases of depredation by “protected wildlife,” which does not apply to mountain lions (see 31 Tex. Admin. Code § 65.220(6); 31 Tex. Admin. Code § 65.221); However, “[t]he state shall cooperate through The Texas A&M University System with the appropriate federal officers and agencies in controlling . . . mountain lions . . . and other predatory animals to protect livestock, food and feed supplies, crops, and ranges” (Tex. Health & Safety Code § 825.001); In addition, the Director of the Agricultural Extension Service must execute a cooperation agreement with the appropriate federal officers or agencies to perform cooperative work in predatory animal control (Tex. Health & Safety Code § 825.002)		<b>Additional Laws and Regulations</b> 31 Tex. Admin. Code § 65.11 (Lawful Means)- Texas Department of Parks & Wildlife, “Nongame, Exotic, Endangered, Threatened & Protected Species:” <a href="http://tpwd.texas.gov/regulations/outdoor-annual/hunting/nongame-and-other-species">http://tpwd.texas.gov/regulations/outdoor-annual/hunting/nongame-and-other-species</a> ; Texas Department of Parks & Wildlife, “Hunting Means and Methods:” <a href="http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/means-and-methods">http://tpwd.texas.gov/regulations/outdoor-annual/hunting/general-regulations/means-and-methods</a>	

<b>UT Status:</b> Game Species; Protected Wildlife (Utah Code Ann. § 23-13-2(35), (49)(c))			
<b>Sport Hunting Allowed?</b> Yes. Both residents and non-residents may hunt cougars (Utah Code Ann. § 23-19-26(1), (2))	<b>Hounding Allowed?</b> Yes. Dogs may be used to take or pursue cougars (Utah Admin. Code R. 657-10-12); When dogs are used to pursue cougars, the licensed hunter intending to take the cougar must be present when the dogs are released and must continuously participate in the hunt until the hunt is completed (Utah Admin. Code R. 657-10-12(3)); In addition, a person acting under a cougar pursuit permit may not “repeatedly pursue, chase, tree, corner or hold at bay, the same cougar during the same day” (Utah Admin. Code R. 657-10-25(6)(b))	<b>Baiting Allowed?</b> No. A person may not “possess or use bait or other attractant to take protected wildlife,” including cougars (Utah Code Ann. § 23-20-3(1)(r))	<b>Trapping Allowed?</b> No. Cougars may not be taken with a “trap, snare or any other trapping device,” except as authorized by the Division of Wildlife (Utah Admin. Code R. 657-10-7); The Director of the Division may authorize the use of snares to take depredating mountain lions “in the case of a chronic depredation situation where numerous livestock have been killed by a depredating cougar” (Utah Admin. Code R. 657-10-21(3)(b))
<b>Laws Relating to Depredation</b> A livestock owner, an immediate family member or an employee of the owner on a regular payroll, and not hired specifically to take the cougar, may kill a cougar that is “harassing, chasing, disturbing, harming, attacking or killing livestock, or has committed such an act within the past 72 hours” (Utah Admin. Code R. 657-10-21(1)(a)); A depredating cougar may be taken in such circumstances with: (i) “any weapon authorized for taking cougar;” or (ii) “with the use of snares only with written authorization from the director of the division” (Utah Admin. Code R. 657-10-21(3)); The director may only authorize the use of snares “in the case of a chronic depredation situation where numerous livestock have been killed by a depredating cougar,” which “must be verified by Wildlife Services or division personnel” (Utah Admin. Code R. 657-10-21(3)(b)(i)) The livestock owner also may notify the Division of Wildlife or a USDA, Wildlife Services specialist of the depredation, who then may take the depredating cougar. Utah Admin. Code R. 657-10-21(1)(b), (c). In addition, the Division may issue depredation permits to livestock owners or their designees (providing the designee does not compensate the owner in return for the depredation permit) to take cougar on “specified private lands and public land grazing allotments with a chronic depredation situation where numerous livestock have been killed by cougar.” Utah Admin. Code R. 657-10-21(4).		<b>Additional Laws and Regulations</b> Utah Admin. Code R. 657-3 (Collection, Importation, Transportation, and Possession of Animals); Utah Admin. Code R. 657-10 (Taking Cougar); Utah Admin. Code R. 657-63 (Self Defense Against Wild Animals); Utah Division of Wildlife Resources, “2015 – 2016 Cougar Guidebook” <a href="http://wildlife.utah.gov/guidebooks/2015_pdfs/2015-16_cougar.pdf">http://wildlife.utah.gov/guidebooks/2015_pdfs/2015-16_cougar.pdf</a>	

<b>VT Status:</b> The “Eastern mountain lion (Puma concolor cougar)” is classified as a “Vermont endangered species” (Vt. Admin. Code 16-4-100:5.0)			
<b>Sport Hunting Allowed?</b> No. The taking of Eastern mountain lions is prohibited, except as authorized by the Secretary for specified purposes including scientific, conservation, or educational purposes (Vt. Stat. Ann. tit. 10, § 5403; Vt. Stat. Ann. tit. 10, § 5408; Vt. Admin. Code 16-4-100:4.1-.2)	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> No.
<b>Laws Relating to Depredation</b> None		<b>Additional Laws and Regulations</b> None	

<b>VA Status:</b> Virginia’s laws and regulations do not address cougars. The “Eastern Cougar (Puma (Felis) concolor cougar)” and “Florida Panther (Puma (Felis) concolor coryi)” would be classified as an “endangered species,” and the “Mountain Lion (Puma (Felis) concolor (all subspecies except coryi))” would be classified as a “threatened species” pursuant to the Endangered Species Act (Va. Admin. Code § 15-20-130(A); see 50 C.F.R. § 17.11)			
<b>Sport Hunting Allowed?</b> No. The taking of cougars is prohibited, except for scientific or conservation purposes, as approved by the Board of Game and Inland Fisheries, or as allowed under federal law (Va. Code Ann. § 29.1-564; Va. Code Ann. § 29.1-568; Va. Admin. Code § 15-20-130(C))	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> No.
<b>Laws Relating to Depredation</b> None		<b>Additional Laws and Regulations</b> None	

<b>WA Status:</b> Big Game (Wash. Rev. Code. Ann. § 77.08.030)			
<b>Sport Hunting Allowed?</b> Yes. Both residents and non-residents are permitted to hunt cougars (Wash. Rev. Code. Ann. § 77.32.450(a), (f))	<b>Hounding Allowed?</b> No. The use of dogs to hunt or pursue cougars is prohibited (Wash. Rev. Code. Ann. § 77.15.245(2), (3)(a)); However, an owner or tenant of real property may use dogs in accordance with a depredation permit issued under Wash. Admin. Code § 232-36-330 (Wash. Rev. Code. Ann. § 77.15.245(2), (3)(a))	<b>Baiting Allowed?</b> No. Intentionally feeding or attempting to feed “large wild carnivores,” or intentionally attracting “large wild carnivores” to land or buildings, is prohibited (Wash. Rev. Code. Ann. § 77.15.792(1))	<b>Trapping Allowed?</b> No. The use of any “steel-jawed leghold trap, neck snare, or other body-gripping trap to capture any mammal for recreation or commerce in fur” is prohibited, as is the use of “any steel-jawed leghold trap or any other body-gripping trap to capture any animal” (Wash. Rev. Code Ann. § 77.15.194(1), (3)); A person may request a special trapping permit from the director of the Department of Fish and Wildlife to use a Conibear trap in water, a padded leghold trap, or a nonstrangling type foot snare trap (Wash. Rev. Code Ann. § 77.15.194(4)) in order to, among other things, “abate damages caused to property, domestic animals, livestock or timber, which cannot be reasonably abated by nonlethal control tools” (Wash. Admin. Code § 232-36-054)
<b>Laws Relating to Depredation</b> In general, an owner, the owner’s immediate family member, the owner’s documented employee, or a tenant of real property may “trap, consistent with Wash. Rev. Code Ann. § 77.15.194, or kill wildlife that is threatening human safety or causing property damage on that property,” without required licenses (Wash. Rev. Code Ann. § 77.36.030(1)); An owner may kill one cougar per year “during the physical act of attacking livestock or domestic animals with or without an agreement or permit” (Wash. Admin. Code § 232-36-051(2)(d)); In addition, a landowner or landowner’s designee may submit a request to the Department of Fish and Wildlife for the removal of a cougar due to domestic animal or livestock loss. The Department must verify the reported damage. If the removal action is approved, the Department will issue a depredation permit to the landowner or landowner’s designee, as well as to select hunters authorized by the Department to participate in a cougar removal effort (Wash. Admin. Code § 232-36-330)			<b>Additional Laws and Regulations</b> Wash. Admin. Code § 232-12-047 (Unlawful methods for hunting -- Firearms); Wash. Admin. Code § 232-12-051 (Muzzleloading firearms); Wash. Admin. Code § 232-12-052 (Crossbow requirements); Wash. Admin. Code § 232-12-054 (Archery requirements); Wash. Admin. Code § 232-12-243 (Public safety cougar removals); Wash. Admin. Code § 232-28-297 (Cougar hunting seasons and regulations)

<b>WV Status:</b> West Virginia’s laws and regulations do not address cougars. Cougars would be classified as “protected mammals,” which include those mammals covered by the Endangered Species Act (W. Va. Code R. § 58-46-2.12.a; see 50 C.F.R. § 17.11)			
<b>Sport Hunting Allowed?</b> No. There is no open season for “protected mammals,” and the hunting of protected wildlife is prohibited (W. Va. Code R. § 58-46-2.12)	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No.	<b>Trapping Allowed?</b> No.
<b>Laws Relating to Depredation</b> The owner or lessee of lands on which “wildlife,” including cougars, is causing damage to “cultivated crops, fruit trees, commercial nurseries, homeowners’ trees, shrubbery or vegetable gardens,” may apply for a permit to kill the wildlife. The Director will investigate the reported damage, and if found to be “substantial,” “shall issue a permit” (W. Va. Code Ann. § 20-2-1(a)); Permittees may only kill animals in the “immediate vicinity” of the damaged crops (W. Va. Code Ann. § 58-15-4.1); In addition, while the West Virginia Division of Natural Resources may issue licenses to “wildlife damage control agents” to take nuisance wildlife, W. Va. Code Ann. § 20-2-50a, damage control agents are prohibited from taking wildlife listed as endangered under the Endangered Species Act, including cougars (W. Va. Code R. § 58-41-7.1.i)			<b>Additional Laws and Regulations</b> W. Va. Code R. § 61-30-3 (Dangerous Wild Animal List)



<b>WI Status:</b> Protected and Fur-bearing Animal (Wis. Stat. Ann. § 29.001(30); Wis. Admin. Code Dep't of Natural Res. § 10.02(1)(a))			
<b>Sport Hunting Allowed?</b> No. The taking of cougars is prohibited, except with the express authorization of the Department of Natural Resources (Wis. Admin. Code Dep't of Natural Res. § 10.02(1)) The Department has not authorized the taking of cougars, except in the case of depredation (Wis. Admin. Code Dep't of Natural Res. § 10.02(1)(b))	<b>Hounding Allowed?</b> No.	<b>Baiting Allowed?</b> No. The use of bait may be permitted in trapping depredating cougars (Wis. Admin. Code Dep't of Natural Res. § 10.13(1); Wis. Admin. Code Dep't of Natural Res. § 12.15(3))	<b>Trapping Allowed?</b> The Department may authorize the trapping of depredating cougars (Wis. Stat. Ann. § 29.885(1)(e); Wis. Stat. Ann. § 29.889(1)(g), (4)); Only the following traps may be used with respect to "fur-bearing animals," including cougars: (i) steel-jawed traps, without teeth and subject to size restrictions; (ii) enclosed trigger traps; (iii) cage or box traps, constructed so that no additional animals may enter the trap after an animal has been captured; (iv) body gripping traps, subject to size restrictions; and (v) snare or cable restraints, subject to certain specifications regarding form (Wis. Admin. Code Dep't of Natural Res. § 10.13(1); Wis. Admin. Code Dep't of Natural Res. § 12.15(3))
<b>Laws Relating to Depredation</b> "On private land, the landowner, lessee or occupant of the land, or any other person with permission of the landowner, lessee or occupant may shoot and kill" cougars that are "in the act of killing, wounding or biting a domestic animal" (Wis. Admin. Code Dep't of Natural Res. § 10.02(1)(b)); In addition, the Department may remove or authorize the removal of any "wild animal," including a cougar, that is "causing damage [to property including livestock] or that is causing a nuisance" (Wis. Stat. Ann. § 29.885(1)(f), (2)); "Remove" may include capturing, shooting, setting a trap for, relocating, or otherwise destroying or disposing of the wild animal (Wis. Stat. Ann. § 29.885(1)(e)); Moreover, an owner or lessee of land, a person who controls land, or an owner of an apiary or livestock who experiences, among other things, damage to apiaries or livestock, may file an application with the Department for "wildlife damage abatement assistance," including with respect to damage caused by cougars (Wis. Stat. Ann. § 29.889(1)(g), (4); Wis. Admin. Code Dep't of Natural Res. § 12.10)		<b>Additional Laws and Regulations</b> Wis. Stat. Ann. § 169.11 (Harmful Wild Animals); Wis. Admin. Code Dep't of Natural Res. § 16.11 (Harmful Wild Animals)	

<b>WY Status:</b> Trophy Game Animal (Wyo. Stat. Ann. § 23-1-101(a)(xii))			
<b>Sport Hunting Allowed?</b> Yes. Both residents and non-residents may hunt mountain lions (Wyo. Stat. Ann. § 23-2-101(j) (iii), (iv))	<b>Hounding Allowed?</b> Yes. Dogs may be used to take mountain lions during the open season (Wyo. Stat. Ann. § 23-3-109(a); Wyo. R. & Regs. ch. 42, § 4(c))	<b>Baiting Allowed?</b> The laws and regulations are silent as to the baiting of "trophy game animals" or mountain lions (see Wyo. Stat. Ann. § 23-3-304(d), prohibiting the baiting of "big game animals" but remaining silent as to the baiting of "trophy game animals")	<b>Trapping Allowed?</b> No. No person shall take or wound any game animal by use of any pit, pitfall, net, trap, deadfall, poison or other similar device except as otherwise provided (Wyo. Stat. Ann. § 23-3-304(a))
<b>Laws Relating to Depredation</b> Any mountain lion "doing damage to private property may be immediately taken and killed by the owner of the property, employee of the owner or lessee of the property" (Wyo. Stat. Ann. § 23-3-115(a))		<b>Additional Laws and Regulations</b> Wyo. Stat. Ann. § 23-3-106 (Transportation of Big or Trophy Game Animal); Wyo. Stat. Ann. § 23-3-112 (Firearms; Automatic Weapons Prohibited; Use of Silencer or Suppressor to Take Big or Trophy Game Restricted; Penalties); Wyo. R. & Regs. ch. 2, § 5 (Open Hours for Taking Trophy Game); Wyo. R. & Regs. ch. 32, § 4 (Firearms, Muzzle-Loaders and Cartridges That Are Legal for the Taking of Big or Trophy Game Animals); Wyo. R. & Regs. ch. 32, § 6 (Archery Equipment That is Legal for the Taking of Big or Trophy Game Animals); Wyo. R. & Regs. ch. 42, § 4 (Hunting Regulations); Wyo. R. & Regs. ch. 42, § 5 (Archery Regulations)	

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