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COMMENTS ON COUGAR MANAGEMENT IN NEW MEXICO

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Submitted to:

New Mexico State Game Commission & New Mexico Department of Game and Fish

Thank you for the opportunity to provide comments on the Department of Game and Fish proposals to change the rules regarding cougar hunting. Although it has been about four years since the last rule making efforts, apparently the only modification currently proposed is to cut the harvest level in one southern Cougar Management Zone from 34 down to 17.

Because it has been about four years since the last rule-making effort and because cougars play such an important part of the ecosystems within New Mexico, I feel it is important to address the overall cougar hunting and depredation programs and suggest some additional changes. I hope the following discussions will, at a minimum, provide information that will inform the overall management of this important wildlife species.

MANAGEMENT OF THE COUGAR

The difference between cougar hunting and nearly all other forms of hunting in New Mexico is like night and day. As such, the issues associated with cougar hunting are also unique. The relationship of cougar populations to deer populations are closely linked, and problematic. Cougar populations have fluctuated and the ways the Department has structured the hunting rules have changed drastically in the last 50 years. There are more hunters, more outfitters with hounds, and elevated harvest levels. And unlike other forms of hunting, there are many issues related to unwanted animal suffering that are often extreme and all too common.

Credit goes to the New Mexico Department of Game and Fish (Department) for conducting numerous studies on cougars in the last 80 years. These studies are very useful and even the older studies provide good information. It is a bit surprising the current technical discussion provided as part of the rule-making process does not integrate studies over history to thoroughly evaluate the status of the program. Without a carefully constructed and well thought out management plan, the public is left with little to aid in the understanding to the long term goals regarding cougars and how the Department intends to solve problems associated with this species.

HISTORIC PERSPECTIVE OF COUGAR HUNTING IN NEW MEXICO

The generalized opening remarks by Department of Game and Fish Director Michael B. Sloane within the 2023 - 2024 hunting proclamation state:

“Hunting is a time-honored tradition in New Mexico that has brought our friends and families together to enjoy the great outdoors for generations. Thoughts of hunt camp bring memories of great times to our minds. Slow walks in the woods connect us on a deeper level with the diverse landscapes of this place we call home. In the end, we all hope for the chance to put a healthy, delicious meal on the table to share the experience and memories of our hunt with those closest to us.” [1]

The cougar uses the rough terrain - that is, the “diverse landscapes” - as they try to stay alive by escaping from the hounds and the hunters. There are no “slow walks in the woods” in cougar hunting - it involves tirelessly climbing over rough terrain with no trails as the outfitter’s hounds attempt to catch up with a cougar. Often, the outfitter and the hunter are on horseback - undoubtedly the best way to keep from getting physically exhausted during the fast-paced cougar chase. Sometimes the chase with running hounds can last multiple days.

Only because of the rugged terrain and remoteness of our forests has the cougar averted extinction in the western United States. Because finding a cougar is nearly impossible, it has been well known for over 100 years that the only sure way for a hunter to obtain a cougar is to use trained hounds with their keen sense of smell. Certain areas, like the Gila Wilderness and the Aldo Leopold Wilderness provide refuges for wildlife due to the lack of roads and easy access for hunters. These remote areas serve as important reservoirs or strongholds for many species, including the cougar.

The thought of a cougar ending up as “a healthy meal on the table”, however, is rather puzzling. The reason the 2010 - 2011 Hunting Proclamation had the following provision: “State law does not require meat from a cougar to be taken from the field.” [2] This is because cougars are the only big game animal that **nobody** really wants to eat. The quoted statement, allowing the trophy hunter to leave the cougar’s carcass in the woods was buried at the end of the Proof of Sex section in the hunting rules for cougars. Presumably, the Department’s law enforcement officers will still not cite or arrest anyone for leaving a cougar carcass in the field although this language allowing waste does not appear to be in the current rules. There is not a single other game animal that Game Department will allow to go to waste, unless perhaps it is an animal with chronic wasting disease.

Note that the Centers for Disease Control recommends testing for this disease, and if the animal tests positive, the CDC strongly recommends not eating the meat.[10] No mention of chronic wasting disease is mentioned in the current rules for cougar hunting, despite cougars being taken in areas where deer are known to get the disease. The CDC says some studies have shown that non-human primates like monkeys can get chronic wasting disease. There is no cure for this disease which is fatal. There is a lack of discussion of this disease in relation to cougars that consume deer.

Former Game Department Director Homer Pickens, who served from 1953 - 1958, tells how he once ate cougar in 1933. Mrs. Ida Miller, a great cook, once cooked up some cougar for Homer and Forest Ranger Joe Rodriguez [3]. When sitting at the table, “sharing memories”, the cougar entree was finally served by Mrs. Miller. Pickens ate one bite. That was the first and last bite of cougar he ever had, despite having the plenty of opportunities when he killed 160 cougars by the year 1936.

Pickens also recounts a few other people who have historically eaten cougar, including his brother Albert Pickens, Ben Lilly, and Dr. Frank Hibben. Pickens recalled his cougar hunts with former cougar researcher and former Game Commission Chairman Dr. Frank Hibben who served from 1961 to 1971. Pickens stated that he never ate Hibben’s dutch oven-cooked lion steaks.

Today, it is probably hard to find any cougar hunter who eats cougar. The North American Hunting Club’s Wild Game Cookbook does provides ***one recipe for cougar***. [4] In order to prepare this “delicious meal”, the recipe from Randy Cummins of Washington State recommends adding 18 ounces of chile and jalapeños to every 16 ounces of cougar meat. Mr. Cummins now has a hard time making this meal since Washington has an annual limit on the cougar harvest of 294 and the use of dogs for recreational hunting of cougars is prohibited statewide. In contrast to the cougar, the cookbook provides ***152 recipes for venison***.

In New Mexico, cougars are apparently rarely killed for sustenance; they are primarily killed by trophy hunters who merely want to share (i.e. brag about) their experience. Those that are not trophies are killed for economic purposes related to depredation of livestock. Some want to add a medallion to their collection such as the Predators of North America coin album that includes wolves and cougar coins. Some may just want to add to their collection of photos, such as the one from the Spring, 1931 cover of New Mexico Conservationist showing the lady with 7 cougars.



For the most part, the hunter with the weapon, often from out-of-state, shoots the cougar to get a trophy. Despite the trophy aspect, and unwillingness of hunters to eat them, economics plays a key role associated with cougar hunting.

COUGARNOMICS

Cougar hunting is economic in several ways. For over 150 years, cougars have been killed to prevent depredation of livestock, thus providing an economic benefit to the cattle and sheep industries. To a minor extent, they have been killed to reduce depredation on the formerly endangered Big Horn Sheep species. Hunting cougars also creates economic benefits for outfitters and the Department. Currently, the Department allows cougar hunting all year round with a harvest totaling as many as 580 animals. In addition to trophy hunting, many are killed by vehicles. Hardly ever mentioned are the kittens who starve to death after their mothers are killed. A young cougar needs over a year of training before it can become independent according to Logan et al. [6]

Even though cougars do not add directly to the food supply, killing cougars does indirectly add to the food supply. In New Mexico, cougars largely eat mule deer which diminishes the amount of sustenance available to humans. Cougars are in competition with humans - they both want to eat the deer.

Logan et al. describes that in the 1983 to 1984 timeframe, the livestock producers were unhappy with the protected status of the cougar that was implemented in 1971. [6] Concerned about depredation of their livestock, ranchers wanted the cougar returned to varmint status. At the time, the hunting season was 11 months and the bag limit was 2 cougars. An effort in the legislature to reestablish the cougar as a varmint failed. The Department subsequently did a study and concluded cougar numbers had declined and the hunting season for cougars was actually decreased to

3 months, except in the southeast and southwest portions of the state which had 5 month seasons and larger harvest levels.

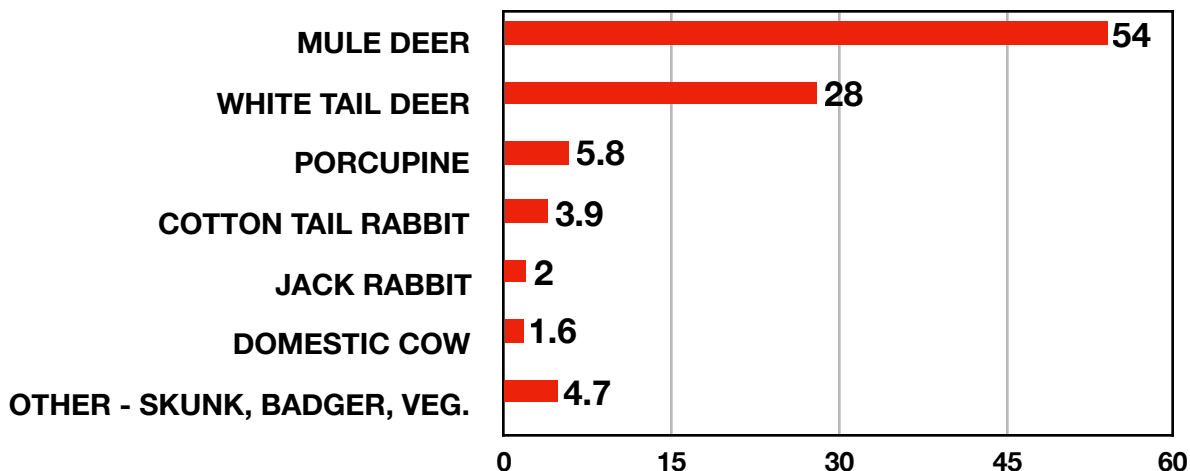
Today, the Department allows the harvest of both sexes with a total of almost 580 animals. The rules require a lower percentage of female cougars than male cougars in the harvest. The cougar season is 12 months. According to the 1996 Logan report, about 27 livestock depredation permits were issued each year from 1978 to 1993.[6] Data concerning long term historic harvest levels is not readily available making it difficult to know how the population is being affected. Modeling, which may not be accurate, is only one way to look at the population.

FOOD FOR THOUGHT

Former Game Commission Chairman Dr. Frank C. Hibben studied cougars early in his career. Hibben conducted field investigations in Arizona and New Mexico from October 1934 through September 1935 and published his results in 1937. [5] Hibben also wrote the book “Hunting American Lions” published in 1948. To conduct his early research, Hibben was assisted by various cougar hunters employed by the Biological Survey and the State Game Department who had packs of hounds trained to locate cougars. Part of the research involved collecting scat specimens and contents of stomachs from cougars to determine which animals the cougar had been eating.

The chart below depicts the results of his research showing the main animals consumed.

PERCENT OF ANIMAL IN SCAT SPECIMENS FOR COUGARS IN NEW MEXICO AND ARIZONA



As no surprise, the results confirmed that the cougar preferred deer over anything else. About 82% of the the average diet was comprised of either mule deer or white tail deer. (However, in Arizona, cougars tended to consume more white tail deer; in New Mexico cougars ate more mule deer.)

Hibben noted several other interesting pieces of information. No evidence was found of elk, horses, or avian species. Entire feet of porcupines were consumed. One cougar showed evidence of having eaten a gray fox. Hibben felt that the cougar would probably feed on small mammals such at rock squirrels, gophers, tree squirrels and chipmunks when convenient.

He found that there were as many as 30 or 40 parasitic bot fly larvae found in some specimens analyzed, indicating that the cougar may have preyed on infected and weak animals. In discussing the large numbers of bot fly larvae in dung specimens, Hibben reasoned “that other deer, weakened by such infestations, had fallen prey to lions for similar reasons”.

Hibben emphasized that all scat and stomach specimens were obtained in areas where domestic cattle were present. Hibben stated that the small proportion of domestic cow in the results, a level of 1.9%, was out of proportion since within the study area “there were approximately as many cattle as there were deer”. It is understood that Hibben did not incorporate an actual census of the population of cattle within each study area.

The cougar’s penchant for eating deer, and an occasional cow or sheep, is the primary reason why human efforts to eradicate or heavily control the cougar have gone on for more than 100 years.

Former Department of Game and Fish Director, Elliot S. Barker, who served from 1931 to 1953, testified before the legislature in 1971 in support of a bill to protect the cougar.[9] The bill passed and became law. Although he did not want to see the cougar or other predators pushed to the brink, he felt the cougar population needed to be kept under control. About cougars, he said:

“Their populations must be kept under control. Besides livestock, the average lion will kill 30 to 40 deer every year. Cougars and other predators must be kept within their legitimate food supply, just as deer and elk must be kept within the carrying capacity of their habitat. If deer becomes scarce, cougars will take more livestock.”

Similar to Barker, Homer Pickens estimated that a cougar will kill one deer per week. With his estimate of 300 cougars statewide, he felt that the 200 adult cougars would kill around 10,000 deer per year.[3] In 1933, his job was to travel the state and get rid of problem cougars.

Clearly, the feelings of Barker and Pickens translated into a conscious strategy to control cougar populations, causing an increase in deer populations, and some reduction in depredation of livestock.

Having more deer translates to the ability to sell more deer hunting licenses. Because the Department relies heavily on license sales, the Department takes in more revenue if there are more deer. At the same time, deer hunter success is improved and the successful hunters get a trophy and a good supply of venison. But if humans over hunt deer and the deer become scarce, the “cougars will take more livestock” as pointed out by Barker.

An additional, but very important factor affecting deer populations is poaching. Whether or not cougar populations are sustainable is a big question.

New Mexico has a history of struggling to keep certain species sustainable. In the 1937/1938 hunting laws, (see image) there were no general open seasons on the animal species listed. The wolf, which could have been hunted as a trophy as it is today in some parts of the world, was gone. Given historic facts such as these, citizen’s concerns about declining populations of cougars (and deer) are quite valid and need to be carefully addressed and presented in an understandable fashion.

- Elk
- Antelope
- Pheasant
- Prairie Chicken
- Mountain Sheep
- Mountain Goat
- Beaver
- Javelina
- Ptarmigan
- Sage Hen
- Sand-hill White-tailed Deer,
- Pintail Grouse
- Cranes
- Swan
- Plover
- Yellow-legs or insectivorous birds

Only 100 special elk permits were available. Some antelope and pheasant hunting would possibly take place, if conditions warranted a hunt for them.

BIG GAME

Bear: 1 per season.....Oct. 1 to Dec. 10
Bear shall not be trapped at any time.
Dogs shall not be used on bear during deer season.
Deer: Mule deer, Virginia and Arizona white tail: 1 buck
per season, horns 6 inches or more.....Nov. 1 to Nov. 15
Turkey: 2 per season.....Nov. 1 to Nov. 15
Squirrel: 5 per season.....Nov. 1 to Nov. 15

Tag your Buck as soon as killed

Elk: 100 special \$10.00 permits for Upper Pecos watershed.
Permittees to be determined by drawing. Applications
receivable up to September 30, 1937. Season, Nov. 1 to
Nov. 15, limit 1 bull elk with three or more points on
each horn.
Antelope: Season to be set later if conditions warrant.

BIRDS

Prairie Chicken: Season closed.
Quail (except Bobwhite): 12 per day or in possession.
Season limit 48.....Nov. 10 to Dec. 10
Doves: 15 per day or in possession.....Sept. 1 to Nov. 15
Dusky or Blue Grouse: 5 per season.....Sept. 20 to Sept. 26
Pheasants: Date of season, bag limit, etc., to be de-
termined later if conditions warrant.
Band-tailed Pigeons: 10 per season.....Oct. 1 to Oct. 15
Ducks, Geese, Brant, Coot, Jacksnipe, Wilson's Snipe,
Rails and Gallinules will conform to Federal regulations.

SPORTSMEN SHOULD GET CONSENT OF OWNER TO HUNT OR FISH ON PRIVATE PROPERTY.

NO OPEN SEASON

There is no open season on Mt. Sheep, Mt. Goat,
Beaver, Ptarmigan, Sage Hens, Sand-hill White-tailed Deer,
Javalina, Whistling Marmot, Pika, Bobwhite Quail, Pin-
tail Grouse, Cranes, Swan, Plover, Yellow-legs or insectivor-
ous birds. No general open season on Elk, Antelope,
Pheasant, or Prairie Chicken. Special seasons provided
when and where warranted.

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EXCERPT FROM 1937 TO 1938 NEW MEXICO DIGEST OF GAME AND FISH LAWS

COUGAR POPULATIONS AND THE ENVIRONMENT

The Department's proposal provides no discussion anywhere regarding the potential effects of drought and wild fires on cougar populations. (Nor for bears.)

During the spring and summer of 2022, the human-caused Black Fire burned more than 325,000 acres of forest land in the eastern portion of the Gila National Forest. This ended up being the **single** largest fire in the history of New Mexico. If all the acreage was located on the National Forest, **this would amount to 58% of the forested land within overall Black Range District.** The fire did burn some private inholdings and other private peripheral lands. Suffice it to say that about half of the entire Black Range District burned.

The habitat has been altered significantly, possibly for as long as 10 to 20 years or more. Some areas burned extremely hot as the following image shows. Oak trees, juniper trees and shrubs that provide important feed for deer (and bears) are gone. These areas will not support the number of animals that existed in 2021.



Photo of Black Fire early in its progression - May, 2022

Again, in the summer of 2023, new fires within the Gila National Forest have burned more than 131,000 acres. Although, many of these fires were not as intense as the Black Fire, substantial habitat was impacted. The cougar rules allow the most cougars in the state to be taken in Cougar Management Zones (CMZs) C, G, J, and K.[1] Harvest numbers are 50, 57, 84, and 45, respectively. The total for these four CMZs is 236 cougars, or about 41% of the total harvest. Unfortunately, CMZs G, J, and K are within the Gila National Forest where almost 457,000 acres (714 square miles) have burned in the last two years.

CMZ C is located within the portion of the Santa Fe National Forest where the Calf Canyon/Hermits Peak Fire burned over 341,000 acres. This fire, which started out as two fires that merged, became the largest wildfire complex in the history of New Mexico. Again, a huge amount of deer and cougar habitat was impacted.

Why were these fires so big? Clearly, the forest conditions were so dry due to drought conditions that both the Black Fire and the Calf Canyon/Hermits Peak fires burned as no other fires in historic times. It was so dry, that numerous springs in the Black Range went dry in early 2022 before the Black Fire ever started. When the Black Fire started the Energy Release Component (ERC) measurement for the trees was at an historic extremely flammable 98% level - the highest level ever recorded in this forest.

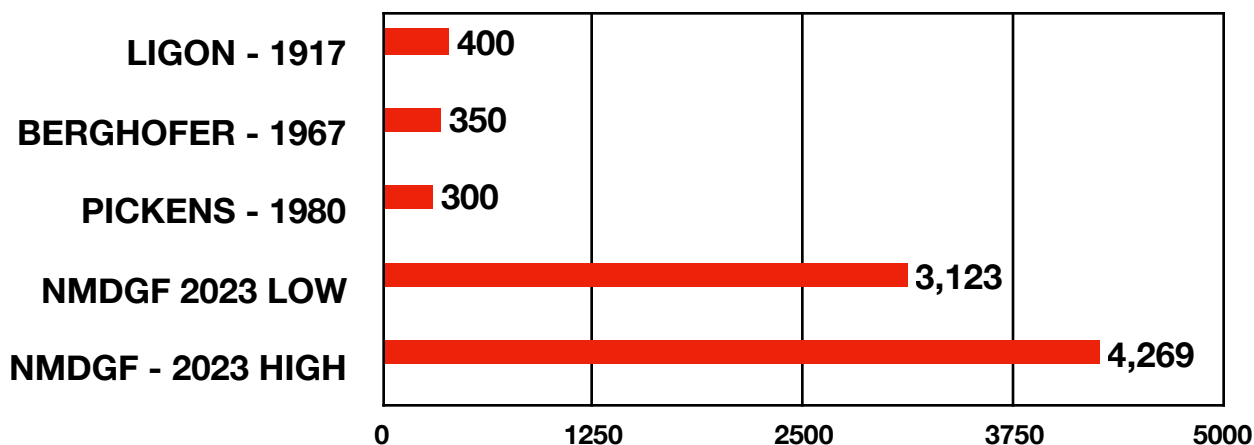
Severe flooding occurred in the Black Range immediately after the Black Fire. While getting moisture was a good thing, the floods scoured out the sediments in the bottoms of many drainages within the Black Range. Those sediments were carried far downstream and are no longer in the higher rugged canyon bottoms to capture and hold water that comes from normal monsoonal rains. It is likely that many springs will continue to go dry anytime there are even mild drought conditions over the next several decades. Wildlife and game animals like deer and javelina will not populate areas that have no water. This will adversely affect both the deer and cougar populations. Cougars do not do well without brushy habitat to conceal themselves.

Many areas of the Black Range have returned to extremely dry conditions once again. The impacts of the mega-fires and the drying out of stream and creek beds will hurt numerous wildlife populations for years to come.

COUGAR POPULATION ESTIMATES THROUGH TIME

Within the research report by Logan et al., information exists regarding several historic estimates on the population of cougars in the State.[6] The numbers provided by Logan et al. along with an estimate by Pickens of 300 animals and current estimates contained in the Game Department's online Cougar Education & Identification Course are provided in the following chart.[3] (Logan et al. noted that there was an estimate of 493 cougars for the southwest region made by Donaldson in 1975 based upon counted tracks, however, this is not a statewide estimate.)

POPULATION ESTIMATES FOR COUGARS IN NEW MEXICO – VARIOUS YEARS



It is amazing that the use of sophisticated modeling techniques show the current state-wide population of cougars to be approximately 10 times higher than estimates made by earlier experts. This is especially puzzling given the increased pressure placed upon cougars within the last 40 years. For instance, the hunting season is now 365 days per year, precision satellite tracking collars are now placed on large packs of hounds making the chase even less fair, massive fires have destroyed deer and cougar habitats, and drought conditions have affected the entire Rio Grande Valley and surrounding mountain chains. Perhaps deer populations have doubled or tripled - it is hard to explain. And the Department has chosen not to explain.

ANIMAL CRUELTY ASSOCIATED WITH COUGAR HUNTING

Because animal cruelty is such a big part of cougar hunting and because it is something most people are not aware of, this topic warrants discussion in some detail. Those involved in cougar hunting appear to rarely discuss this issue. No other form of hunting involves the level of animal cruelty and suffering that comes even close to cougar hunting. In fact, cougar hunting using hounds may likely cause more animal suffering than any other sport.

The hunting hounds are not treated as members of the family - although they might actually eat cougar meat if given a place at the table. The hounds are often chained up or caged for their entire lives (when not hunting). Sometimes, a partly opened 55 gallon drum on its side serves as shelter. A recent Sierra County case existed where the hounds appeared to be mistreated. They did not have clean water, they were undernourished with ribs sticking out, and they lacked required vaccination.

Because these hounds cannot read, they often enter private property in pursuit of a cougar. Having a dog that is not vaccinated is illegal. On August 10, 2023 at about 9:15 AM, a hound showed up on my property and made howling noises. When the noise continued, I had to stop working on these comments to go find out what was happening. The dog was apparently not hunting, he had simply gotten away from his owner in the Gila National Forest nearby.

The hound was wearing a wire muzzle, so there was no chance he could bite me. I returned home to get something to write with so I would have the phone numbers of the owner that were on the collar. The dog followed me. His ribs were showing, he was covered in flies and he was bleeding on his front leg. I saw no evidence of a vaccination tag on the collar. We gave him water and some food which he voraciously consumed through the muzzle.

I called the owners who promptly came and got the hound. I tried to use a leash to take him down to the gate, but the dog refused to be led with a leash. Photos of the dog are shown below.



LOST HOUND - HUNGRY, THIRSTY, MUZZLED, AND BLEEDING

When hunting, hounds may receive little food, especially when running for many miles in a day. They also frequently get lost. A former Game Commissioner related to me the memories he had where a lion hound from Silver City showed up at his camp near Emory Pass. Because the hounds apparently must have the owner's phone number on the collar making it available to strangers, he called the owner to come get the lost hound. Feeling sorry for the poor hungry hound, he gave it food that the hound "inhaled" in a few moments. Another person told me of how a hound showed up at

his house near Poverty Creek in the middle of nowhere - again lost and very hungry. He had no phone service, so he had to drop what he was doing to deal with trying to return the dog. In neither instance was appreciation expressed by the owner of the hounds for the effort taken to return the lost and hungry animals, and certainly there are no financial rewards for returning lost hounds. When I returned the hound the other day, the owners did thank me.

When the hounds corner a cougar, it will often be hours before the outfitter and client show up. During this waiting period, and during the chase, the cougar will frequently attack the hounds who are chasing the cougar, often creating serious injuries and/or death to one or more hounds.

Because there are often a dozen or more hounds in the chase, sometimes the cougar is killed by the attacking hounds, ruining the opportunity for the client to shoot and kill the cougar from an *extremely challenging point-blank distance* of 30 or 40 feet or less. What happens then? Do they just leave the dead cougar and start looking for another one so the client can get the trophy rather than the hounds? Perhaps the use of a muzzle like the one on the hound I saw the other day prevents the hound from killing the cougar prematurely.

I often think of what one person online said: "Why does anyone want to hunt a cougar? The hounds do all the work."

Credit is given to the Department for killing fewer female cougars than males. However, the literature describes stories where a female cougar is killed leaving her kittens orphaned. In Tracks Across New Mexico, Game Department director Homer Pickens, describes how former Game Commission Chairman Dr. Frank C. Hibben took two orphaned kittens to his motel room in Arizona where the young cougars ripped apart the motel room, turned a faucet on, and flooded the room, leaving Hibben with a huge bill.[3] It was a 'very funny story'. Not sure the stressed out orphans felt the same about it. No information is provided regarding what happened to the young cougars in that incident.

Ironically, a second story told by lion hunter Orvel Fletcher describes another incident involving Frank Hibben.[11] In this cougar hunt in the San Mateo Mountains, another young female cougar was killed, leaving at least one orphaned cougar kitten. In this instance, Fletcher had left Hibben with the cougar located in a dead juniper tree where she was treed by the hounds. Fletcher left to help another hunter who was having trouble getting down a steep hillside with his horse. By the time Fletcher returned, a hound had managed to climb up toward the young female cougar, dragged her out of the tree, and had killed her. Fletcher, who rarely ever liked to kill a female cougar, says they looked for the now orphaned kittens for 3 days, finally finding one in a rabbit hole.

Fletcher eventually ended up with the kitten that he raised as a pet near Albuquerque. Fletcher cared for and kept the cougar as a pet until the feline got too old and had to

be put to sleep. In nearly all cases, it is extremely unlikely for any abandoned cougar kittens to live to adulthood, although some young cougars nearing independent status might survive.

Current cougar rules, which will change slightly, allow for the killing of 181 female cougars. That will change to only 174 under the current proposal. According to the Departments online Cougar Education and Identification Course, 75% of female cougars can have dependent kittens. If the mother is killed, 95% of the kittens are likely to die. Therefore, as many as 250 dependent kittens, or more, are likely to die of starvation every year due to cougar hunting. How many pregnant females with fetuses is not known, but cougars have babies every month except February.[6]

While the cougar rules attempt to lower the number of female cougars killed from a 50:50 level of chance, determining the sex of a cougar that is 50 feet in the air on the limb of a tree can be nearly impossible. The cougar often lays on the limb making sex morphology difficult to see. The guidelines suggest moving around the tree to get the cougar to change position. I am personally aware of at least one outfitter who has no hesitation nor qualms about throwing rocks at the animals to get them to move. The rocks can injure a female that is not killed.

Training hounds to chase a cougar can involve animal cruelty. I was told of an instance where a cougar hunter used house cats to train the hounds to chase them. He would douse the house cat with cougar urine, and then let the house cat run from his hounds in the forest. When the cougar hunter was asked what he did with a house cat at the end of the training session, he said he would either leave the house cat there or "if he felt sorry for it" he would kill it.

One cougar researcher, described how "Everyone says that if a dog will tree house cats, it will tree lions." [14] It is easy to believe that cougar hunters do, in fact, use house cats to train their hounds. It seems probable that a hound will often catch the house cat, injure it, or kill it. And there is little to prevent a lost hound that wanders onto private property from killing a pet house cat.

ANIMAL CRUELTY IN COUGAR RESEARCH

It seems that every game department in the Rocky Mountains has in recent years decided to spend great effort and money to study cougars through some form of capture, collar and release method - usually using hounds or leg snares. A good example an ongoing recent research project is one in Wyoming where so far 26 cougars have been collared. They are trying to see if cougars tend to eat weakened deer, something Hibben found extremely likely in 1937. [5] Chronic Wasting Disease is now infecting deer in nearly every part of Wyoming.[15]. (Note the Wyoming reference was added on August 20 and was not in the original comments.)

I have never heard a researcher explain how to get a cougar out of a tall tree after it has been tranquilized by darting. Although the Department's Cougar Education and Identification Course acknowledges that numerous research studies have been conducted, and more are underway, the possibility that these studies cause injury to cougars is not discussed. **I fail to see an easy way to get a half-drugged cougar out of a tall tree safely and without the cougar simply falling to the ground.** Are young student researchers going to catch the cougar in a net when it might still attack? The liability of doing this makes using a net very doubtful. Injuries to the cougar must be very common, but no one will talk about it, much less admit it.

The American Society of Mammalogy has published guidelines on how to conduct research on mammals in an ethical manner.[12]. Only two paragraphs with very little practical guidance are included to inform the researcher. One statement says dogs should be considered part of the research team and "should be accorded care as such". Researchers who contract with outfitters to capture cougars rarely will comply with this concept. I firmly believe that humans on the research team would quit if they were treated like cougar hounds are treated. The closing statement reflects the absence of thought and experience associated with using hounds in cougar research: "As the use of dogs in field studies becomes more commonplace, more specific guidelines are sure to follow." Unfortunately, hounds are used frequently in research all across the western United States and adequate guidelines on ethical treatment appear to be essentially nonexistent.

Based upon my experience, most hounds used by outfitters are considered a tool and not much else. I have yet to see a hound that will come to the outfitter when called. Understandably, it must be hard to a "best friend" to 12 or 14 hounds.

Logan et al. admitted that there were injuries to cougars during their research.[6] In their study, cougars were injured using leg snare traps. At least these researchers admit to this downside of cougar research and their honesty is highly commendable. The fact that other researchers are totally silent on this subject leads me to believe that injury to cougars and other non-target animals is very common, and that most researchers do not want to admit this shortcoming.

Darting of cougars with tranquilizer drugs is commonplace in capture studies - essentially during every single capture. The drug xylazine hypochlorite, and another tranquilizer, was used in the study by Logan et al.[6]. This drug can have long-lasting adverse health effects. The drug xylazine is being mixed with fentanyl and together and the concoction called Tranq is wreaking havoc among human users. This is what the U.S. Drug Enforcement Agency has to say about it's effects:

"Users who inject xylazine or drug mixtures with xylazine often develop soft tissue injuries that can lead to necrotic tissue and may result in amputation at rates higher than those who inject other drugs without xylazine. Additionally, users may develop a physical dependence to xylazine itself, with some users

reporting the withdrawal symptoms from xylazine as, or more, severe than from heroin or methadone; symptoms include sharp chest pains and seizures.”

Simply waiting for a cougar that has been darted to “come around”, does not ensure the animal is going to be uninjured by tranquilizer drugs. As noted above, there are often soft tissue injuries that can cause necrosis of tissue which would not be visible once the researchers back off from the woozy cougar. Loss of the ability to use a limb for a cougar would undoubtedly lead to a slow stressful death. In addition, if cougars fall out of trees after being tranquilized, it is virtually impossible for a researcher to know if there are hidden internal injuries.

Further investigation might show problems with other tranquilizer drugs. In fact, fentanyl itself is a tranquilizer drug and people using it illegally are overdosing and dying by the thousands.

Use of darting guns is not a method of administering tranquilizer drugs with perfect precision. Also, cougar researchers are not anesthesiologists. The dart must be aimed, often using a CO2 powered gun, and they do not always hit the perfect spot in the muscle tissue. Sometimes animals need to be darted multiple times. Several years ago, a cougar was darted by a game department officer in El Paso, Texas. The drug did not take effect as quickly as planned. Eventually, the cougar was shot and killed causing controversy among the citizenry. The darting methodology to tranquilize animals apparently leaves much to be desired.

IT COULD GET WORSE

Federal law requires the reestablishment of the gray wolf in New Mexico. As the wolf population grows, the conflicts with the livestock raisers will increase, as it already has. Without change, there will be fewer deer. The costs to everyone involved will increase. The wolf is yet another predator with a desire to eat deer. Which predator will be willing to give up their share of venison? Will it be the cougar or human hunters?

The costs for reimbursing ranchers for wolf kills will probably keep going up. Wolves will continue to be killed illegally for many years to come. One cougar researcher, Harley Shaw has indicated that where he worked in Arizona, there was evidence that the unreported kill by ranchers equals at least 25 to 35 percent of the reported legal harvest of lions.[14]

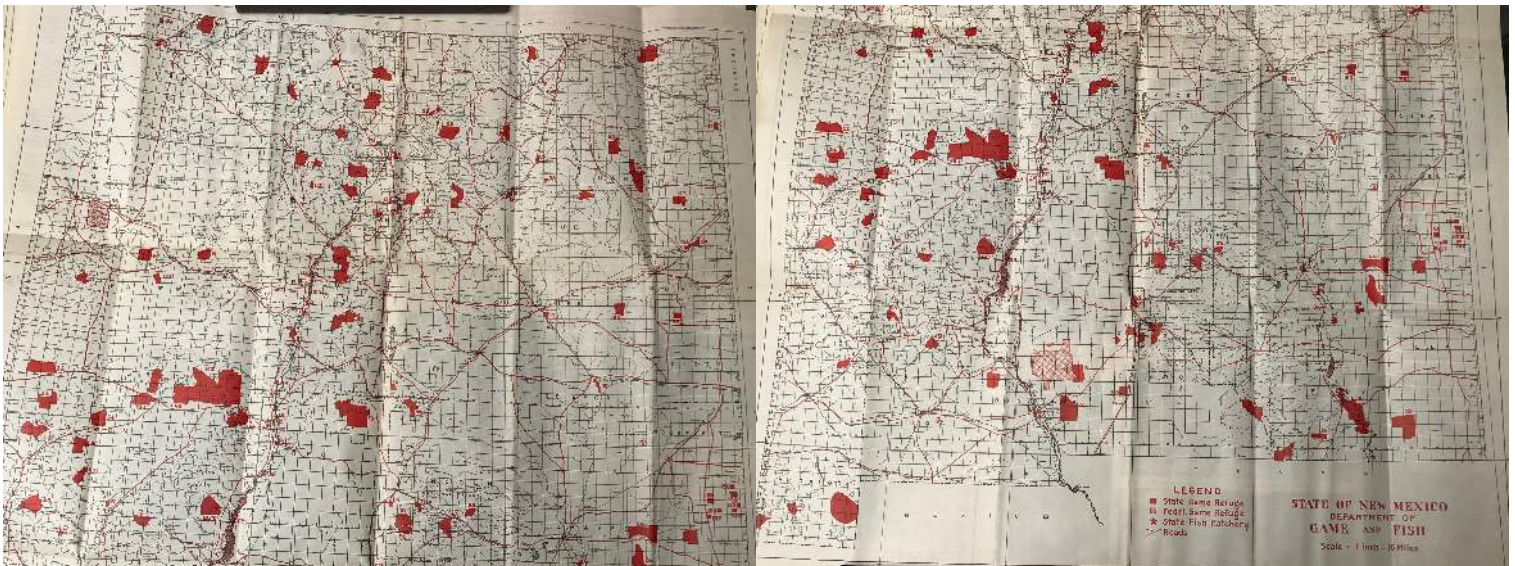
UNINTENDED CONSEQUENCES

Intense deer hunting has resulted in situations where deer seek refuge in human communities. It is common now to find deer in the middle of Winston and Chloride all year, even wandering around in the middle of deer hunting season. Three years ago a cougar killed a deer in nearby Chloride. Don Edmond, who owns the museum in Chloride, also told me the story of a cougar that set up shop under his carport one year. The cougar killed a nearby deer and drug it under the carport. A local outfitter took care of this human-cougar conflict by using hounds to tree it in Edmond's yard where it was shot.

It appears that deer are seeking refuge in dense human-occupied locations. Unfortunately, the cougars are following their favorite menu item and are showing up in neighborhoods.

Deer hunting which may take place on almost every available piece of public and State land seems to be causing deer to seek refuge among human communities. This is likely to bring cougars into more and more conflicts in such communities. At one time there were 160 game and wildlife refuges in New Mexico, several of them in southwestern New Mexico. Many of the State Game Refuges were originally established as what I would call "deer hatcheries". They were places where hunting was not allowed and where deer were allowed to propagate and restock the nearby hunted areas. They were remote from towns and communities. This 1933 map shows those refuges. As far as I can tell the vast majority of these have vanished.

These were places where deer had a refuge away from humans.



1933 NEW MEXICO DEPARTMENT OF GAME AND FISH REFUGE MAP

FINAL THOUGHTS & RECOMMENDATIONS

Sustainability is a nice concept. However, there are many levels of sustainability. In the case of cougars, humans define what level of a population will be considered sustainable - not mother nature. The level can be high or low. Verifying any population level is nearly impossible.

There is not a comprehensive management plan that I am aware of regarding how cougars will be managed. Yes, there are basic Cougar Management Zones, but there appears to only be an assigned number. There are also basic rules and limits on female cougar harvests. That's it.

I recommend that the Department **develop a comprehensive written management plan** that is periodically reviewed, updated and refined with opportunities for public input. If needed, changes should be made when problems arise. Actual past harvest levels need to be presented over past decades, not just the last couple of months or the most recent year or two.

The plan should include a discussion of *all* pertinent cougar research presented in a manner that the average person can easily comprehend. All research should be peer reviewed. A guide should be developed for ethical treatment of animals in research that is part of the overall management plan. As appropriate, the ethics principles within the guide should be clearly discussed within each research report. Representative video recordings of actual capture methods should be included. Animal cruelty needs to be addressed by the Department.

Serious consideration needs to be given to a system similar to Washington State. I recommend not using hounds for recreational hunting, although I am sure this will never happen in New Mexico. Why harvest females in trophy hunting at all? Starving several hundred baby cougars every year seems barbaric.

In my opinion, based on older historic population estimates, current cougar harvest levels are way too high. I recommend that they be reduced by 30% or more.

Conflicts between different sectors of the human societal population (hunters, ranchers, and the rest) are not going to get better with the current management scenario. Managing the populations of deer, cougars and wolves and the conflicts with livestock are only going to get worse as the deer supply continues to dwindle.

The State of New Mexico should seriously consider returning some of the wildlife refuges that existed 90 years ago. Portions of the Gila National Forest could serve as refuges to replenish the deer, just as Aldo Leopold and J. Stokely Ligon promoted over 90 years ago. Such non-hunting refuges should be accessible to tourists and others who simply want to go view and photograph large game animals. Existing wilderness

areas are great, but they are not easily accessible to the general traveling tourist, the elderly, or most average New Mexico citizens and families.

There is no place available in New Mexico where tourists and wildlife viewers can have a high probability of watching and photographing a wild herd of deer or elk. Cougars would be drawn away from urban areas and bears would benefit as well. These refuges will provide much needed year-round economic benefits to the small towns in the area. These areas are the hardest areas to achieve prosperity. The State of New Mexico has largely ignored providing economic assistance through developing facilities in remote areas.

One only has to look at Bosque del Apache to see the benefits of this type of land use. Or look at Yellowstone Park in Wyoming which produces an economic benefit of \$560 million per year according to a recent National Park Service study.

The State legislature (with help from the federal government) should fund these refuges, not the Department. If the State can provide hundreds of millions of dollars in subsidies to Spaceport America, and millions of dollars to a new solar panel manufacturing facility near Albuquerque (to fill the gap left by Schott Solar who got millions in subsidies and then left in 4 years), it can surely find enough money to establish a few nice miniature Yellowstone Parks. Ranchers should be fairly and well-compensated for any losses they may incur due to lost leasing of land for cattle. Adverse impacts to local communities and surrounding properties need to be carefully mitigated as well.

These refuges should be structured to take the pressure of depredation off of nearby ranches due to wolves and cougar impacts. They should be structured to limit poaching. Ranchers should be financially assisted in developing well-protected calving pastures to reduce depredations. Appropriate technologies could help reduce depredations and prevent poaching.

If successful, such refuges could be implemented in other areas of the state.

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