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WILDLIFE, FISH AND CONSERVATION BIOLOGY
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Jim Heffelfinger
Tucson Regional Game Specialist
Arizona Game and Fish Department
555 N. Greasewood Road
Tucson, Arizona 85745

Mike Senn
Arizona Game and Fish Department
2221 West Greenway Road
Phoenix Arizona 85023-4399

Dear Messrs. Heffelfinger and Senn:

I have conducted research into mountain lion attacks on humans for the past 20 years, approximately, and have published more peer-reviewed scientific articles on the subject than any other person. My expertise on the subject is regularly sought by agencies and others from both North and South America. In addition, as I obtained my Ph.D. degree from the University of Arizona (1974), I am familiar with the Sabino Canyon area, although I know urbanization has encroached much more than it had when I left Tucson in 1971.

I have reviewed the report "Arizona Game and Fish Department/Coronado National Forest Summary of lion sightings and incidents and chronology of events In and In Close Proximity to Sabino Canyon," updated March 23, 2004. I also viewed the AGFD web site stories concerning Sabino Canyon as of 2:30 P.M PST, today. My opinions concerning the situation are below.

First, the nature of the situation: From the list of events that have occurred, I counted about 30 reports of personal encounters, occurrence in residential areas, or sightings within about 50 yards in which the mountain lions seemed unconcerned about humans who were present. The first such report was in May, 2003, but the next one was 4 months later in September, 2003. Because it is well known that many reports of "sightings" of mountain lions turn out actually to be another kind of animal, I also counted the incidents from the list that presented some reason for believability. There were 11 in this list (between September 2003 and March 2004). Seven of these 11 have

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been during 2004, and 18 of the list of 30 were in 2004. The numbers themselves are informative. 3/7, or 43% of the time since encounters began with some degree of credibility has been in 2004. During the same time period, 62% of the reports occurred (other than plain sightings) in 2004. And the proportion of the more believable reports occurring during 2004 is 64%. Two conclusions come from these numbers. First, the reports that do not contain evidence of credibility follow the same trend as those that have more evidence of credibility, lending support toward believing in all the reports. Second, the incidents of encounters with humans other than plain sightings seems to be increasing. This is a disturbing trend from the standpoint of human safety.

The nature of some of the incidents also is cause for concern. The frequenting of a school yard, disappearance of pets, approaches to and growling at people are all signs that mountain lions are becoming so used to people that an attack may soon occur. Failure to remove them could result in loss of human life or serious and perhaps permanent injury and disability. This alone is sufficient reason for action, but also, from the government's fiscal standpoint, since the state of our knowledge is sufficient for the government to make this determination, the failure to take this action could result in civil actions against the government. In the past, similar actions have been successful in the amount of millions of dollars. My conclusion is that the Arizona Game and Fish Department and Commission are on solid ground in recommending immediate action to remove the mountain lions for both humane and fiscal reasons, either one of which is sufficient in itself.

I understand that several methods other than removing the mountain lions have been suggested for dealing with this issue. These include relocation to the wild, aversive conditioning, and rehabilitation. In my opinion, none of these would be wise choices, as I will explain.

People now occur everywhere on the planet, and within the United States, in some appreciable density even in wilderness areas. Mountain lions travel over very large areas during their normal activities. Males may cover roughly 80 square miles, and females 20, or even more. Relocating a large predator that has shown a tendency to perceive humans as prey would only move the problem to a different location. In addition, research in New Mexico has shown that mountain lions have a strong tendency to return to their home area, even when released more than 200 miles away.

Aversive conditioning has not been tested on mountain lions. When research was conducted on other animals, it was found that it is easier to educate a naive animal than to change its education once a behavior is developed. In general, aversive conditioning should be more effective before mountain lions begin to habituate to humans. Once habituation has occurred, as it seems to have in Sabino Canyon, aversive conditioning would be more difficult, if not impossible. In order to change a behavior, the aversive stimulus should be applied consistently every time an animal demonstrates the behavior. In the case of Sabino Canyon, I think this would be a logistical impossibility for an agency, and a behavioral impossibility (not to mention risk) for the public to accomplish. On the theory that anything that has not been tested might help, I would not go so far as to say aversive conditioning should not be tried, but I do say it should not be trusted to remove the risk that already is evident.

I believe the term "rehabilitation" as used in the AGFD web page is a euphemism for locking the animal in a cage forever. At least for the sake of public safety I hope so, although I do not condone that practice. Real rehabilitation would mean some kind of retraining and release back into the wild. This practice is completely untested on adult mountain lions that have become habituated to humans, and in my mind would be dangerous, both to humans and to the mountain lions.

With respect to the "rehabilitation" envisioned on the web site, tranquilizing and airlifting the animals was mentioned. Aside from being costly, this proposal is a senseless risk to human life on the part of agency personnel. There is recent research into the causes of death among wildlife biologists, and low-level flight is by far the greatest cause. Why should a government tell its employees to risk their lives to save the life of someone else when other, less risky methods are available? Both live traps (different from leg-hold traps) and foot snares are effective ways to catch mountain lions, and both are humane when done properly by professionals. Research has shown that foot snares have a very low rate of injury to the snared animal, and live traps can be constructed of soft materials to prevent injury and tooth damage. In a 10-year study of mountain lions in New Mexico, Kenneth Logan and Linda Sweanor used snares as a primary method to catch their radio-collared animals. Their experience, and that of other researchers, has demonstrated that snares can be safe, effective, and humane tools for capturing mountain lions. Chasing with hounds also can be effective, although hounds do not work well in hot, dry weather, which is nearly upon you.

My professional opinion of the preferable potential solutions, from a scientific and managerial standpoint, is based in the fact that there are apparently plenty of mountain lions in Arizona, which even has a hunting season for them in which some are killed each year. Removing the ones in Sabino Canyon will not harm the statewide population, and imprisoning them in a cage, unless it is a very large enclosure, is in my opinion inhumane for a large wild carnivore. I believe it would be preferable to either shoot them on-site or trap and euthanize them. Moreover, if certain groups insist on other solutions, I suggest it is only fair to the taxpayers of Arizona that the excess costs of the other solution be paid by the groups that insist on it, including paying for life-long care and feeding of the animals in a licensed facility. Also, if there are those among these groups' memberships who are qualified to perform the necessary activities, they should volunteer to risk their lives in the helicopter work, at their own liability with no recourse to the public in the event of an accident.

I appreciate your efforts to seek all the information that is available to resolve the current problem. I wish you the best of luck.

Sincerely,



E. Lee Fitzhugh, Ph. D.
Extension Wildlife Specialist