



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

January 23, 2007

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SUBJECT: Whose behavior is changing?

Dear Brooks

The following letter is in response to your request that I summarize my professional opinion regarding the common misperception that cougars are losing their fear of us. As such, Predator Defense is authorized to use this information (which is based on my considerable experience with cougars over the last 30 years) for purposes of educating the public. Considerable interest has arisen in the lay literature in the last few years pondering whether or not cougars have changed their behaviors relating to humans. Some amateur biologists (and even wildlife managers) have postulated that the increase in cougar-human interactions (largely defined as people seeing cougars or report seeing cougars more frequently) can largely be explained by a shift in cougar behavior whereby cougars have grown less weary of humans and increasingly view us as potential prey, thereby increasing the risk of attacks. The vast majority of scientists that have studied cougars reject this simplistic notion, as considerable empirical data exist that are inconsistent with this simple hypothesis.

In a more succinct manner, many of these lay writers (or wildlife managers) suggest the above thoughts by postulating that cougars have lost (or are losing) their fear of us. This simple statement on the face of it seems reasonable as attacks have increased and people see cougars more often today than 20 or 30 years ago, but when examined more closely, we see how in fact it is tautological (i.e., circular reasoning) in nature and assumes that cougars once had a fear of us. What evidence do we have that cougars once had a fear of us? This is where the tautology comes in and goes something like this:

Because we persecuted cougars in the early to mid- 1900's we instilled a fear in them and therefore we saw them less often proving they feared us; and when we moved to a more enlightened management scheme (suggesting we hunt them less) they became less fearful of us.

Notice that the logic of the above word model is not at all based on a metric (or measure) of change in behavior, but instead on a presumption that because we persecuted them they must fear

us mentality – in other words we have internalized this discussion and it is more how we would feel and not at all based on any true measures of a change in behavior.

It is certainly a fair question to ask how cougar behaviors toward humans have changed over the last century. The difficulty is that no scientific measures exist that allow a reasonable analysis of change in behavior – but let's look at some early writing. Teddy Roosevelt, our 26th president, noted over a 100 years ago that cougars regularly follow hunters and fisherman – he even had it happen to himself. Yet, in a recent example in a National Forest in Colorado, when a cougar was noted as following a hiker the land managers identified the cougar as a risk and killed the animal. A number of other such examples exist around the west – so the real question we need to ask is whose behavior has changed, the cougar's or the human's. One hundred years ago, Teddy Roosevelt and others would have simply noted the cougar was acting normal, today we see it as a “change in behavior” and a great risk to us.

Interestingly, while we certainly persecuted cougars a 100 years ago, we actually kill 4 to 6 times more cougars today than we did back then. One might suggest we have several times more cougars now, but the most reasonable explanation is that we have a lot more people interested in killing cougars for sport in the “enlightened management” period than in the persecution era.

Virtually all of the evidence of the “fear hypothesis” is based on anecdote and is either inconsistent with the available empirical data on cougars or is inconsistent with basic ecological principles.

For example, many suggest that as deer become habituated to human dominated landscapes cougars will be drawn closer and closer to human habitation. While this may seem reasonable, there is no empirical evidence supporting this prediction. In fact, those studies that have radio-tagged cougars near the urban/rural interface find that cougars actually occur less often (statistically) in human dominated landscapes, not more often. In other words they use these zones less than you would expect – statistically they avoid them.

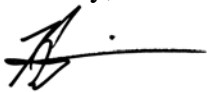
In general, while deer tend to have peak activity times, they tend to be active throughout the day. As an herbivore, they eat foods that take considerable processing and therefore require constant eating. David Baron author of “Beast in the Garden” takes this paradigm to its absurd limits citing casual observations of deer around Boulder Colorado as evidence that cougars shifted their activity times to accommodate shifts in deer activity periods in the urban fringes. The sad fact is that the one study he relies on was simply observational with no control group (and urban group of deer) and in fact, it was largely based on incidental sightings of deer. In other words, they did not base their observations on a random sample of deer in the urban/rural matrix to measure energy budgets and activity times. These observations were rather casual in nature and they failed to establish a control group that forage entirely in natural environments to determine if conclusions had any statistical validity (they do not). Now, does this mean that urban deer do not act differently than their rural counter-part? No, this simply means that this word model is not presently supported with empirical data and thus must simply be considered an untested hypothesis. One that Baron relies on quite heavily.

We must not presume that because people see cougars during the day more than at night that this is in any way a metric of changing behavior of the cougar. The most parsimonious explanation (and accepted by cougar researchers – again why Baron’s book is considered a fantasy by scientist) is that this phenomenon best describes people’s activity times not the cougar. Cougars are active all day long, but show activity peaks early in the morning and in the evening. If one goes back and reads the accounts of outdoorsman over the last 100 years, you will find that most of their observations of cougars are during the day – I call this a “duh” statistic – it is when they were out in the woods. As with deer, if you wish to establish a metric for energy budgets and activity times you need empirical data on the cats in the urban areas as measured with more rural conspecifics. This requires radio-tagging a reasonable number of cats that are largely urban (and trust me – no cat is completely urban as they need to eat 2-4kg of meat a day) vs. mostly rural and measuring activity periods to ascertain if there is a statistical difference. Almost all of the cougar attacks (not all but the vast majority over the last hundred years) have occurred in daylight hours. Outside of the presumed peak activity periods for cougars – what are we to make of this? A lay-person such as Baron sees that and concludes “ah-ha” and writes a poorly researched book claiming this is damning evidence that cougars are shifting their behaviors due to progressive attitudes that did not force cougars at arm’s length. Most scientists familiar with the species look at that kind of information and marvel how rare attacks have been and continue to remain. In fact, empirical evidence from scientists who have radio-tagged cougars near human habitation notes how cougars consistently avoid human dominated landscapes (in a statistical sense). So if Baron was correct, we would see a shift in these studies where cougars show a statistical propensity or preference for human dominated landscapes – this simply has not happened.

So, while popular writers and lay-persons (and sadly some wildlife managers) continue to perpetuate the myth that there is an urban vs. natural cougar, the several empirical studies that can best address these issues are not supportive (in fact the evidence disproves their predictions) of this pet-hypothesis. Cougars are remarkably bright and adaptable creatures that learn to move around areas adjacent to high quality core habitat areas. They find paths between houses or through backyards, they cross under or over freeways, and they do this in a fashion that exposes them to humans less often than you would think, by moving more often (but not always) at night, by avoiding some environments over others, etc. Therefore, studies in California (Orange, San Diego, and Sierra Foothills), Washington, and Provo-Salt Lake City area, to name a few, clearly support the conclusion that cougars to a large extent continue to avoid humans where possible. So until these lay-folk can offer empirical evidence instead of relying on antidote or inferring a behavioral change based on vague correlations (e.g., increase in sighting data), their arguments remain weak, unsupported and frankly silly.

Hope this gets you thinking.

Sincerely,



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Principal and Senior Conservation Biologist