

Recommendations for Puma Necropsy and Processing

by Jay Tischendorf, DVM, Director
American Ecological Research Institute (AERIE)

As the Cougar Network's "Big Picture" map demonstrates, pumas are increasingly showing up in places far removed from what is considered their normal range. Often these incidents are accompanied by a specimen – perhaps a puma hit by a car or train, or perhaps one even slain by an arrow or bullet. Given the rarity and biological importance of such events, particularly in the Great Plains, Midwest, or East, planning and preparing for the eventuality of actually having a puma specimen in hand is time well spent. Some general guidelines for properly handling a dead puma follow.

First, if possible, make sure that the specimen is refrigerated, preferably, or at least kept as cool as possible. Do not, however, freeze any specimen as the process of freezing and thawing damages or, worse, destroys tissue. Next, a formal necropsy is a critical part of the equa-

tion in dealing with any puma specimen. A systematic, careful necropsy will provide necessary and fascinating insights into the life of the animal in question. Necropsy should be conducted as soon as possible (ASAP) post-mortem to minimize the impacts and artifacts of time and tissue autolysis (i.e. breakdown).

With this in mind, it is desirable to have a board-certified veterinary pathologist conduct the necropsy. Such individuals are veterinarians who have undergone intensive, rigorous, and advanced specialized training well beyond that of veterinary medical school and veterinarians in local or other clinical practice. These medical scientists have special credentials from the American College of Veterinary Pathologists (ACVP). While not well known by the general public, board-certified veterinary pathologists can be found at veterinary colleges (almost every

state has a professional veterinary medical school, and there are also approximately four veterinary colleges across Canada) and state or federal animal diagnostic laboratories. These scientists are uniquely qualified to grossly evaluate a specimen, perform a precise and exhaustive necropsy, and collect and evaluate (including critical microscopic histologic evaluations) the appropriate samples from all organ systems to identify the presence or absence of innumerable disease or toxicological processes, as well as determine or confirm the proximal and ultimate cause of death.

Since pumas and their management fall under the jurisdiction of state, provincial, and/or federal natural resource agencies, it is also recommended that an experienced biologist/ecologist assist with the necropsy of any puma specimen from outside typical puma range. Such a professional may be able to provide important insights into puma life history and ecology, and perhaps help interpret external or internal findings (i.e. fight wounds, trap injuries, etc.), aiding the pathologist in his or her assessment of the animal.

Following the necropsy, which should be documented photographically and by a full, formal written report, it is imperative to catalog all remaining portions of the animal – hide, skeleton, and blood/tissue/organ samples, etc. Most pathology laboratories or facilities have systems in

(Continued on Page 15)



© Ed Weiner, Iowa Department of Natural Resources

Recommendations for Puma Necropsy and Processing

(Continued from Page 14)



continue to be intentional and unintentional puma deaths. Having a standard protocol in place to appropriately document these specimens is both critical and rewarding. High-quality, useful, relevant data will definitely contribute to the growing body of knowledge related to these fascinating New World cats. The author and the Cougar Network's Dr. Clay Nielsen are available to answer questions in this regard, receive feedback, or provide additional guidance as needed.

Please don't hesitate to contact us at info@easterncougarnet.org.

place to archive any samples obtained during necropsy. It may be useful for a second set to be retained at another location. As part of the scientific chain of evidence, the hide and skeleton from a puma specimen should be formally cataloged and archived in a museum or other appropriate public collection. A copy of all paperwork related to the specimen and its origin and evaluation should accompany the remains. In this setting, the specimen and its unique story are available for future researchers.

Regarding DNA evaluations, genetic work is still, relatively speaking, in its infancy. With this in mind, this author recommends that paired samples of tissue be sent – at a minimum – to two different laboratories thoroughly experienced with wildlife DNA analyses. Having two or more separate labs conduct independent

evaluations adds to the power of the final result and also serves as a scientific “checks and balances” system in the event there is a discrepancy in the results between the unrelated labs.

As likely as it is that more and more pumas will turn up in seemingly strange places, there will



Photographs © Daniel J. Cox/NaturalExposures.com

