



Research Investigates Impact Of Border Barrier On Mt. Lions

By Colleen Schreiber on Wednesday, September 18, 2024

By Colleen Schreiber

PLEASANTON — In Texas mountain lions are classified as a non-game species. That means there is no defined hunting season.

However, in June, the Texas Parks and Wildlife Commission unanimously passed a proposal to prohibit canned hunting of mountain lions. The regulations, designed to support ethical hunting and trapping practices while providing flexibility for landowners to manage mountain lions, also included a 36-hour trap check.

Despite these measures, there is growing concern about how mountain lions are being impacted by border security activities. Dr. Lisanne Petracca, with the Caesar Kleberg Wildlife Research Institute, discussed the South Texas Lion Project funded by the U.S. Customs and Border Protection through the U.S. Fish and Wildlife Service at the recent South Texas Wildlife Conference.

Petracca said the mountain lion ecology project in the South Texas borderlands is part of a larger transboundary carnivore project split between CKWRI and the Borderlands Research Institute in Alpine. The contract focuses explicitly on the impacts of the border barrier system on mountain lions and black bears. Specifically, the goal is to identify potential impacts to movements, population fragmentation, density, foraging ecology, genetics and connectivity. Additionally, researchers are looking to identify potential locations of mitigation work to offset any adverse impacts of the 30-foot, steel border barrier still actively being constructed, and to promote recovery through these mitigation efforts.

Specific to the lion project, the study site encompasses about 932 miles of the border between South Texas and Mexico, of which about half has a border barrier system though not contiguously. Additionally, researchers have access to about 375,000 acres of private land.

The southernmost part of the study area, encompassing Zapata, Starr, Hidalgo and Cameron Counties, is specifically for the broadscale distribution piece of the study using game cameras. There has been fewer mountain lion sightings reported in this southern tip of Texas. Therefore, camera traps are spaced about five miles apart.

Another part of the study area, designated as a multi-county trapping site encompassing Webb, Dimmit, Zavala, Maverick, Kinney and Val Verde Counties, is for estimating lion density using clustered camera arrays and different camera spacings.

“Our goal is to get as many unique individuals as we can, as well as multiple photos of each of those unique individuals to get at capture, recapture and ultimately actual densities,” said Petracca.

To date, 150 cameras for monitoring purposes have been deployed and two lions, both males, have been collared. Also, 10 tissue samples have been collected from lions in South Texas, both road kills and harvested.

The two male lions already collared, weighing in at about 115 pounds, were aged and biological samples were collected for genetic testing. She noted that these two males are ranging across large areas, one at 135 square miles and the other at 193 square miles.

“It’s very tough to estimate densities when home ranges are so big,” she told the group.

With respect to movement ecology in context with the border barrier system, she noted that collars are programmed to collect one fix every hour. However, when a collared lion gets within half a mile or so of the border, the fixes increase to one every 10 minutes. This adjustment will enable researchers to get fine-scale movement information in proximity to the border barrier system to determine if the barrier is in fact preventing movement back and forth across the border.

“Our goal here is to determine what kind of behavior lions are exhibiting when confronted with the border barrier system,” said Petracca. “Are they essentially following the border barrier until they can cross or are they approaching the wall and bouncing off?”

Already researchers have documentation via GPS fixes of one collared lion moving along the border barrier system until it found a break in the barrier and ultimately crossed the river.

Researchers are also interested in learning more about the diets of mountain lions. Building on work done in 2000 using hair analysis, researchers intend to perform DNA analysis of scats and visitation of kill sites.

“It is too soon to tell exactly the diet composition,” Petracca said. “However, they are taking lots of deer, unsurprisingly, as well as hogs.”

The research project has also documented nonconsumptive kills of four coyotes by mountain lions guarding their kill sites.

As for connectivity, researchers are also looking at whether lions are utilizing the 8.5 X 11-inch openings incorporated into parts of the border wall. They’re also broadly interested in what other parts of the Texas-Mexico borderlands the cats are utilizing and what kind of mitigation efforts could be employed to further support movement across the river given the formidable barrier wall.

As for genetics, researchers already know that there are two distinct populations of mountain lions in Texas. There is a West Texas population and a South Texas population.

“Our goal is to determine how reliant mountain lions are on gene flow coming from Mexico, and to what extent is that border barrier system serving as kind of an obstruction to that gene flow,” said Petracca.

Consequently, researchers will be collecting genetic samples from not only the two Texas populations but also from Mexican lions. Landowner participation in the collection of such samples is welcomed. CKWRI has sample kits available for distribution among the landowner/land management communities. Samples may be an ear punch, a piece of tongue, hair samples or even a whisker, she said. Locations do not have to be identifiable to a certain property. Instead, it can be a broader county level location ID.

Petracca said work to trap and collar additional lions will start in October after temperatures cool. Researchers already have their eyes on one female, but in all, they hope to get 20 cats collared in total.

They are using cable restraint footholds. Currently, no attractants are being used to bait the cats at camera sites though they are considering lures along with predator calls to draw them in. Petracca said the issue with the calls is that there are no long call sensory mechanisms so they would be drawing in lions that are already there. She further explained that is part of the reason for the five-mile spacing camera grids on the one study site as they’d like to have any lions passing through captured on camera as well.

Mexico collaborators have agreed to assist in trapping and sample collections, and Petracca said they’d love to get five to 10 cats collared on the Mexico side. As for genetic samples, “the sky is the limit.”

Finally, she told the group that while their primary focus is on river properties and the border barrier, they are looking to expand their work, especially in the Nueces River corridor.



San Angelo, TX 76903 73 °F 97 °F



Coming Up – Sales/Events

