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Nevada Site Office Environmental Management

EM NEWS FLASH

Mountain Lions at Nevada Test Site are Subject of New Study

A two-year study is underway to help wildlife biologists better understand the behavior of mountain lions living on and around the Nevada Test Site, located 65 miles northwest of Las Vegas, Nevada. Researchers hope to determine where these elusive predators live, what they eat, and how best to manage potential risks to workers at the site.

With funding and field support provided by the U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office, a research team was recently assembled to trap eight mountain lions at the Nevada Test Site over the next two years, fitting each animal with a GPS satellite collar to track the cats' movements over continuous 24-hour periods. Using the tracking devices, researchers will document each animal's location six times per day and physically visit one or two clusters of locations per week to gather information on recent kills.

"We want to determine where lions are most likely to be predatory," said wildlife biologist David Mattson, who is heading up the study. Dr. Mattson of the [U.S. Geological Survey](#), along with a field team from National Security Technologies—NSTec (the Management and Operating contractor for the Nevada Test Site), aims to record the hunting behaviors of the eight collared cats, whose diets are known to include mule deer, young horses, and rabbits. "It is important to know what is being hunted and under what circumstances in order to better understand the risk to potential prey," Mattson added.

While mountain lion attacks on humans are extremely rare (only one attack has ever been documented at the Nevada Test Site), the last five years has seen an

Juvenile vs. Adult Mountain Lions

One of the goals of mountain lion research is to understand the often disparate behaviors between young and older animals. While the innately cautious mountain lion rarely risks contact with humans, young lions are more likely to attack a human than their older counterparts. (The physical condition of the lions may also play a role, as young lions in poor health tend to be more aggressive). In addition, juveniles typically roam further than the more seasoned lions. Young lions in the southwest have been known to stake out ranges that extend as far as 400 square miles, whereas adult lions typically roam within a 300 square-mile radius.

increase in the number of lion sightings at the site, particularly at the lower elevations. Remote, motion-activated cameras installed to monitor the movement of mountain lions have captured photographs of the animals near active work facilities. “Even though the risk of an employee being attacked by a mountain lion is extremely low,” explained Federal Project Director Peter Sanders, “we want to assess where the risk is the highest since some new projects are being conducted in mountain lion habitat.”

Managing risk to workers is the primary goal of the study; but researchers also hope to explore broader questions about how predator/prey relationships play out in habitats that are restricted from public access. “This is an incredible opportunity to look at the predator/prey dynamic without the effect of human interference,” said Dr. Mattson. The government-controlled land in and around the Nevada Test Site offers an unprecedented stage for observing wildlife unaffected by construction/development and outdoor recreation, like camping and hunting, he explained. “Being able to look at an unexploited population of lions is an extraordinary situation that simply doesn’t exist anywhere else in North America at this time.”

Researchers agree that studying mountain lions in this or any kind of setting is a challenge. These nocturnal, solitary hunters are notoriously difficult to track because of their keen ability



The North American mountain lion (photographed here at the Nevada Test Site) is also known as a puma or cougar. These large, tawny colored cats are highly adaptable and can live in forests, swamps, grasslands, and desert environments like those found in Southern and Central Nevada. Mountain Lions are part of an ongoing [Species and Habitat Monitoring Program](#) at the Nevada Test Site.

to stay out of sight and on the move. Mountain lion experts believe the species has been able to maintain its numbers, rebounding from near extinction in 1900, as a result of its elusive nature and ability to cover large territories. Trapping a lion at the Nevada Test Site, explained NSTec biologist Derek Hall, is particularly difficult at this time due to an abundance of winter rain that has increased temporary water sources at the site, dispersing prey and the hunters they attract. “As these temporary water sources dry out, prey will be restricted to just a few permanent water sources, which should increase the chances of trapping a mountain lion around these watering holes.”

Dr. Mattson hopes the research at the Nevada Test Site will someday contribute to a long-term study that looks at mountain lions on a regional scale. Since 2003, researchers from the U.S. Geological Survey have been able to track more than 60 mountain lions from northwestern Arizona to southwestern Utah, observing the cats’ hunting territories and behaviors, especially when new prey is introduced (e.g. big horn sheep). Mattson admits parlaying the objectives of existing studies into one comprehensive regional effort would require more funding and a solid commitment. “In an ideal world,” stated Mattson, “it takes at least ten years to adequately study lion and deer populations.”

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