

Mayacamas mountain lion population subject of first-of-its-kind study

Research project aims to fill in the blanks of local mountain lion behavior

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Audubon Canyon Ranch's cameras captured a female mountain lion mid-meal at Glen Oaks Ranch in Glen Ellen earlier this month. Courtesy of Audubon Canyon Ranch.

Cougar, painter, catamount, purple panther; the mountain lion is known by many names. Its mystique is deeply connected to our innate fear of dark shadows and things that rustle unseen in the brush. Although widespread across North America, mountain lions are timid by nature and generally avoid confrontation with humans. According to the Department of Fish and Game, there have only been 14 confirmed mountain lion attacks in California in the last 20 years, three of them fatal. You are much more likely to get struck and killed by lightning than attacked by a mountain lion. Although our awe of this apex predator sends our imaginations wild, we more frequently cross paths and live in closer quarters with these big cats than we realize.

While eye-witness accounts and wildlife cameras confirm that mountain lions live in Sonoma Valley, very few specifics are known about them. A new project based out of Audubon Canyon Ranch's Bouverie Preserve in Glen Ellen is poised to conduct the area's first-ever study of the local mountain lion population in hopes of increasing scientific and public understanding of these animals to help identify

priority habitat areas for conservation. Led by Dr. Quinton Martins, a wildlife ecologist with an international resume of studying big cats and their ecosystems, the Audubon Canyon Ranch (ACR) Mountain Lion Project will provide unprecedented insights into the behavior, population size, feeding habits, and home ranges of mountain lions in the Mayacamas Mountains between Sonoma and Napa counties.



Quinton Martins, Ph.D., wildlife ecologist at Bouverie Preserve in Glen Ellen, is leading research on ARC's Mountain Lion Project. Martins is former founder and CEO of the Cape Leopard Trust, a successful predator conservation NGO based in South Africa. Photo courtesy of Audubon Canyon Ranch

“We know the cats are out there,” said Martins. Wildlife cameras set up in a wildlife corridor for a study by the Sonoma Land Trust captured several instances of mountain lions using road underpasses near Glen Ellen. Many local residents also have reported sightings or evidence of mountain lions in the area. “We don’t know how many there are, whether the population is healthy, or how they are moving through the landscape.”

Using GPS (global positioning satellite) collars to tag and track the mountain lions, data collected over the multi-year study will shed light on how these cats are moving through the local landscape, and coexisting alongside humans and development. There is also hope the study might inspire some of us to be better neighbors rather than adversaries of an animal that plays such a major role in a healthy ecosystem.

“The role of an apex predator in an ecosystem has shown it to be really important,” said Martins, who has worked with leopards in Africa, Saudi Arabia and the Caucasus. Mountain lions help keep populations of prey, like deer, in check, which in turn help keep the food sources of those animals, like vegetation, in balance.

“Cameras help and they are valuable tools, but they can’t tell how a landscape is really being used [by an animal],” said Martins. Unlike a leopard and its spots,

mountain lions often lack discernable unique markings by which to identify individuals, so gauging population estimates or an animal's range is difficult using cameras alone. GPS collars, which show researchers where a particular mountain lion is at a particular time, can reveal where cats stop to kill, rest or den, providing a deeper understanding of a mountain lion's preferences, behavior, and even their diets.

As resources are squeezed under ever-growing pressure from human development, understanding mountain lion behavior is important to prioritizing habitat areas for conservation.

Mountain lions need a habitat with integrity, said Martins. The expected home range of an adult male mountain lion is about 200 square miles and 50 square miles for a female. They need connectivity in landscape and suitable corridors to move through. Bouverie Preserve sits within the Sonoma Valley Wildlife Corridor, a belt of open space that connects Sonoma Mountain and the Mayacamas Mountains through the Sonoma Valley floor, and adjacent to its narrowest section, a critical "pinch point" only three quarters of a mile wide, which Sonoma Land Trust has been fighting hard to preserve in the last few years. Mountain lions have been documented moving through this pinch point.

"I've dedicated my life to big cats, but much more than my love for the cats is my love for wilderness," said Martins. "We can use this data to protect those areas."

A similar project conducted in the South Bay, called The Bay Area Puma Project (BAPP), found that encroaching human activity already could be changing the behavior of some of the cats, said Martins. A male mountain lion is expected to eat one deer-sized animal a week, a female usually a little more, since she often has cubs to care for. Researchers with BAPP, however, found that females in the study were killing as many as eight deer-sized animals a month. They were spending a lot less time eating from kills near more densely populated areas and therefore having to kill a lot more. Human proximity was evidently making the females more nervous and less likely to eat their fill at one time.

In addition to data collection, the Mountain Lion Project will be paired with ARC's extensive education and outreach programs, teaching children and adults about these animals in a greater conservation context while dispelling myths that contribute to a culture of fear around predators. "There has been a lot of research done in North America on mountain lions, but an inverse amount of outreach has been done," said Martins. "We need to change the landscape of fear from lack of knowledge." Ideally, a better understanding of mountain lion behavior might help reduce the number of conflicts between mountain lions and humans. According to state law, if a puma attacks a pet or livestock, the owner can acquire a depredation permit to have the puma killed. Between 1972 and 2013, 161 depredation permits were issued in Sonoma County. Eighty-five cats were killed.

Something as simple as keeping pets in at night, or using proper fencing or guard dogs for livestock, can reduce or eliminate such incidents and protects both human-owned and wild animals, according to BAPP.

“The effects of removal go way beyond deer and vegetation. Removing a mountain lion creates a vacuum,” said Martins. When you remove a territorial adult from an area, space is opened up for juveniles looking for their own territory. “You can actually raise the population of mountain lions in an area by getting rid of one territorial adult.”

Martins said his team of researchers is in the process of identifying key trapping sites by talking with local landowners and regional and state park officials. Permits for the capture and collaring of mountain lions have been submitted to California Department of Fish and Wildlife and are currently being processed. Using road-kill deer as bait, the researchers hope to start capturing, tranquilizing and collaring cats in the next couple months. In the interim, ACR will continue with its longstanding and extensive education and outreach program in which information on mountain lions will form part of the curriculum.

The Bennett Valley Community Association will host Martins for a talk on mountain lions on March 17 at the Bennett Valley Grange Hall, 4145 Grange Road, Santa Rosa. The talk begins at 7 p.m. and is open to the public.

Help the research; take a survey

As part of Audubon Canyon Ranch’s new Mountain Lion Project, led by big cat expert Dr. Quinton Martins, it’s important for researchers to gain an understanding of existing knowledge of mountain lions and attitudes towards them in local communities. To help build a local knowledgebase the research team asks local residents to take about 10 minutes to answer this anonymous questionnaire. Visit www.surveymonkey.com/r/MTLIONACR.