

## Female pumas kill more, eat less when humans are near, study finds

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A mother puma and two growing cubs take in the nighttime view on a hillside above San Jose. The image was captured by a motion-detecting camera. Credit: Chris Wilmers, UC Santa Cruz

Female pumas kill more prey but consume less when their territories bump into human development, UC Santa Cruz researchers report in a new study based on monitoring more than two dozen pumas in the Santa

## Cruz Mountains.

The presence of humans - homes, roads, and other development - means pumas are fearful and stay on the move rather than returning to a kill site to fully consume prey, the study finds.

"We investigated how higher housing densities influenced [puma](#) behavior at kills and how often they killed," said Justine A. Smith, a Ph.D. candidate in the UC Santa Cruz Environmental Studies Department. "We found that female pumas spent less time feeding at kill sites as housing increases."

The effects can impact deer populations as well as puma breeding success, Smith and her coauthors write in the March 7, 2015 issue of the journal *Proceedings of the Royal Society B* ([also online](#)). "Females killed 36 percent more deer per year in developed habitats than in areas with little housing," Smith said. "Increased kill rates may lead carnivores to waste energy and also influence prey survival rates in human-modified landscapes."

"We conclude that food loss and high energy costs due to human avoidance at kill sites is compensated for by increasing kill rates," she said.

Smith, and co-authors Yiwei Wang, a recent UC Santa Cruz Ph.D graduate, and Chris Wilmers, associate professor of environmental studies, are part of the Santa Cruz Puma Project that has studied puma behavior since 2008.

For this study they looked at the actions of 30 animals that had been captured and later released with GPS monitoring collars. The collars record and transmit not only location and travels but also hunting behavior such as bursts of speed or pounces.



The remnants of a deer killed by a puma are visible within view of a semi-rural home. UC Santa Cruz researchers have found that pumas are more likely to abandon a kill when it's near human habitation. Credit: Justine A. Smith, UC Santa Cruz

The team found that the greatest impact on pumas was when their hunting territories were within 150 meters of [human development](#). They also found that females have a smaller range than males but higher kill rates. Females killed an average 67 deer per year compared with nearly 44 for males whose ranges are approximately three times as large.

Provided by University of California - Santa Cruz

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