

## Q&A: UCSC researcher Chris Wilmers on how a new Highway 17 animal crossing protects Santa Cruz mountain lions



(Via National Park Service)



BY [ISABEL SWAFFORD](#)

Source: Lookout Santa Cruz

### Quick Take

UC Santa Cruz professor of environmental studies Chris Wilmers has spent more than 15 years researching the population of around 50 mountain lions living in the Santa Cruz Mountains. Wilmers helped the Land Trust of Santa Cruz County develop a wildlife crossing underneath Highway 17 at Laurel Curve, which opened

in January. He shares his thoughts on how to protect mountain lions from encroaching development.



**Chris Wilmers  
talks about ...**

---

***Protecting mountain lions  
from encroaching development***

Chris Wilmers says mountain lions are essential to the Santa Cruz Mountains. Sitting at the top of the food chain, they eat and regulate populations of deer. This helps plants and shrubs that would otherwise get overeaten by unchecked populations of small wildlife.

A UC Santa Cruz professor of environmental studies, Wilmer has spent more than 15 years researching mountain lions and was involved in creating a new wildlife crossing on Highway 17 that opened in January. Wilmer studies the impacts of global change, like climate change and changes in land use over time, on the local population of approximately 50 mountain lions in the Santa Cruz Mountains.

He is the lead researcher for the [Santa Cruz Puma Project](#), a partnership between UC Santa Cruz and the California Department of Fish and Wildlife. Since 2008, the research group has tracked mountain lions with specially designed collars that record their movement through their environment. The data from the collars can help the researchers understand mountain lion behavior as well as changes to their habitat.

Wilmer's research has shown that mountain lion populations are being negatively affected by human sprawl into wildlands. As residents move farther into the mountains, building more houses and roads and creating more unwanted interactions with wildlife, [mountain lions are increasingly finding themselves in danger](#).

That development is also causing mountain lions to become isolated from other mountain lion populations, leading to less genetic diversity. Genetic diversity is essential to the long-term survival of animal populations and makes them more resistant to disease and other environmental hazards. A lack of diversity in the mating pool for mountain lions could lead to inbreeding or even extinction.



(Via Sebastian Kennerknecht)

Highway 17 cuts through Wilmers' study area, and he helped the [Land Trust of Santa Cruz County](#) develop a wildlife crossing underneath the highway at Laurel Curve. The project took more than 10 years to complete, with the first five years dedicated to finding the right spot for the crossing.

Wildlife crossings provide vital routes for animals to move across their environment. The Land Trust protects over 700 acres on either side of the highway to ensure that animals have space to roam and cross freely. Approximately half of all wildlife and vehicle collisions occur at Laurel Curve, the Land Trust and the California Highway Patrol report.

Less than an hour after a camera was installed at the crossing, [a bobcat was seen trotting through the underpass](#). A variety of animals will benefit from the safe passageway, including deer, bobcats, squirrels and mountain lions.

In our conversation, Wilmers answered some questions about our feline neighbors.

*This interview has been edited for clarity and length.*

**Lookout: What is a wildlife crossing?**

**Chris Wilmers:** They're tunnels or bridges that facilitate wildlife movement across roads.

**Lookout: If someone is driving along the highway, is this wildlife crossing something that they're likely to notice? Or does it fly under the radar?**

**Wilmers:** You're on top of it, so you can't see it. The one thing people could see is the fencing. In addition to the crossing underneath, they put fencing for a mile in each direction along the road to keep animals from crossing the road and direct them down towards the undercrossing.

**Lookout: How do humans affect mountain lions in the Santa Cruz Mountains?**

**Wilmers:** People are the No. 1 cause of death for mountain lions. In the Santa Cruz Mountains, people kill them directly. In other parts of California, the No. 1 cause is humans killing them with vehicles. In some places, it's poaching or illegal killings.





['The landscape of fear': Big cats pay a price for avoiding areas now inhabited by humans](#)

**Lookout:** Are wildlife crossings a common solution to animal-vehicle crashes in the U.S.?

**Wilmers:** Intentionally built wildlife crossings are fairly uncommon. You need a few things. One is you need to understand the need, which means you need to be studying the wildlife in the area, or at the very least keeping track of where animals are hit on roads. Then you need the political desire and political will to build a tunnel or a bridge. Then you need funding to do so.

**Lookout:** How do roads affect natural landscapes?

**Wilmers:** Roads lead to houses, and the houses clear natural vegetation around them and create what we call fragmentation of the landscape. Fragmentation is where you take continuous wildlife lands and you chop them up into smaller blocks. This puts people in conflict with mountain lions.

**Lookout:** What is the current state of the mountain lions in the Santa Cruz Mountains?

**Wilmer:** The numbers are about normal, but the genetics aren't. We've got fairly low genetic variability in our population because it appears to be isolated from neighboring mountain ranges. Part of building bridges and tunnels across roads is to reconnect populations. We're hoping to do that between the Santa Cruz Mountains and the Gabilan range [on the Monterey County-San Benito County line], and also across the Coyote Valley to the Diablo Range [which stretches from the Bay Area to the Salinas Valley] to restore conductivity among mountain ranges, which would bring new animals in to exchange their genetics and increase the probability that our population will be able to live on well into the future.

**Lookout: What's it like for a scientist who studies these animals every day to share your work with people who don't study them?**

**Wilmer:** It's part of the fun of the job to communicate what's happening with our wildlife and to give people a sense of excitement about learning about them, but also the urgency of the need to protect them.

**Lookout: What do you hope that people will learn from your research?**

**Wilmer:** Stop the sprawl.

The most important message is that the way we've been developing the landscape isn't sustainable for mountain lions and for lots of other wildlife. This sprawling style of development where we build houses all over the landscape and roads to go along with them isn't sustainable. Ultimately, we need to find a way to stop sprawling across the landscape.

Isabel Swafford (she/her) is a master's student in UC Santa Cruz's Science Communication program. Joining Lookout as an intern for the winter quarter, Isabel wants to uncover the scientific stories weaving through Santa Cruz life.