

Cry wolf? Large carnivore decline puts humans at risk , study says

John Roach NBC News

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Doug McLaughlin

A gray wolf stands in Yellowstone National Park. A new study shows that the world's largest carnivores, including wolves, are in decline around the world.

A few years after wolves were reintroduced to the Northern Rockies in 1995, fifth-generation Montana rancher Rick Jarrett gave up on the parcel of federal land near Yellowstone National Park that he grazed for 20 years. The carnivores harassed his cattle so much that they stopped gaining weight. Skinny cattle don't sell.

"It wasn't worth being there anymore," he told NBC News. To turn a profit, he now confines his livestock to several thousand acres on and around his [ranch in Big Timber](#), where his cattle and sheep are free to pack on the pounds — for now. The wolves, he said, will eventually get there, too.

While Jarrett is bitter about having to live with wolves, such coexistence is increasingly necessary if the world hopes to reverse a downward spiral of its largest carnivores such as wolves as well as lions, tigers, and bears, according to a review study published Thursday in the journal [Science](#).

As the carnivores decline, ecosystems and food chains that humans depend on for survival are unraveling and, in many cases, adding to the economic woes of everyone from farmers to ecotourism companies.

"We should be thinking of ourselves in the end because if enough important species go extinct and we lose enough ecosystem services and economic services, then humanity will suffer," [William Ripple](#), an ecologist at Oregon State University in Corvallis and the study's lead author, told NBC News.

What to do?

Ripple and 13 colleagues from around the world found that more than three quarters of Earth's largest carnivores are in population declines. Most occupy only a fraction of their historic ranges and more than half are threatened with extinction.



Denis Glennon / Kirstin Abley

African lion occupy 17 percent of their historical range and have experienced dramatic population declines due to killing in defense of humans and livestock, according to the study in Science.

The paper's main finding is familiar to wildlife conservationists — large carnivores are in trouble — but pays scant attention to the most important problem: "What are we going to do about it?" [Craig Packer](#), an ecologist at the University of Minnesota who was not involved with the study, told NBC News.

"I think that is a huge challenge."

Finding solutions is complicated, Ripple noted. The study, he said, is meant to illustrate the plight of carnivores and what humans stand to lose if the creatures go extinct — information that could steer policy via, for example, a global committee focused on carnivore conservation.

In the paper, the researchers argue that humans are ethically obligated to conserve large carnivores — the animals have an intrinsic right to exist on planet Earth. They then back the argument with examples of the way the role carnivores play in the ecosystem help humans.

In Africa, for example, loss of leopards and lions has translated to an increase in baboon populations, which in turn are raiding farmers' livestock and crops for food. "In extreme cases, the farm family needs to keep their children home to guard the crops instead of go to school," Ripple said.

Other benefits of carnivores noted in the study include control of deer, elk, and moose populations, which in turn keep forest plants healthy for other critters, limit erosion, and enhance water quality. Parks full of wolves and bears also attract tourists, whose dollars boost local economies.

Wolf-specific tourism in Yellowstone National Park, the paper notes, brings in \$22 to \$48 million per year.

What's more, the scientists add, regions where carnivores keep other animal populations in check are full of plants that soak up carbon from the atmosphere, helping to slow global climate change. Jarrett, the Montana rancher, doubted such arguments would foster better feelings toward wolves.



Norman Smith

Sea otters prey on sea urchins, which in turn allow kelp to thrive and soak up carbon, helping mitigate climate change, according to the study.

"Granted carbon sequestration is important," he said, "but the benefit we are going to get from wolves ... is so insignificant it isn't even funny."

Legitimate fears

The reality, noted Packer, who is an expert on human-carnivore interactions and deeply involved in African lion conservation, is that humans naturally fear these animals, often for good reason.

"You cannot expect somebody living in rural Africa or rural Asia to risk being eaten by a lion or a tiger so that your moral sense is gratified back in California or Texas or New York," he said. "Conservationists need to recognize that there are legitimate reasons why people want to get rid of these animals."

To reduce human predation on lions, Packer advocates the controversial use of [patrolled and maintained fences](#) that serve as a physical barrier between people and wildlife.

Ultimately, he said, the conflict among humans about our relationship with carnivores comes down to emotion versus intellect. While arguments such as carnivores' ability to buffer ecosystems against climate change are "interesting," in the end, he said, emotion usually wins.

"You have to find ways that people feel safe and that people benefit economically."