

Decline in big predators wreaking havoc on ecosystems, OSU researchers say

By [Scott Learn, The Oregonian](#)
October 01, 2009, 7:00PM

Scott Sandsberry/YakimaA wolf at Wolf Haven International near Tenino, Wash. The decline of top predators such as North American wolves and African lions is driving increases in smaller predators such as coyotes and baboons, disrupting ecosystems and economies worldwide, a study concludes.

The report, whose authors included two Oregon State University professors, found that the range of all the largest terrestrial predators in North America - including wolves, cougars and bears -- has declined in the past 200 years.

Meantime, the range of nearly two-thirds of smaller North American "mesopredators" has expanded, including territory for coyotes, several foxes, skunks and raccoons.

The public and researchers are used to the notion that driving down large predators increases populations of elk and deer, said [William Ripple](#), an OSU professor of forest ecosystems and society.

Less obvious: The drop in the biggest predators also appears to increase the populations of predators the next step down the chain.

In the past two centuries, the range of the gray wolf in North America has fallen 42 percent, the researchers said, while the range of coyotes has expanded by 40 percent. The cougar's range has dropped 37 percent.

When the researchers ran the numbers, "it was somewhat surprising how dramatic the rise of the mesopredators was as the range of the large carnivores contracted," Ripple said.

The big predators are often targeted by ranchers and others trying to protect livestock or villages, Ripple and OSU assistant professor [Clinton Epps](#) said. But the problems created in eliminating top predators can exceed the original problem.

Two examples cited in the study, published Thursday in the journal "[Bioscience](#):"

* In parts of sub-Saharan Africa, lion and leopard populations have been decimated. That's allowed a surge in the next predator down the line, baboons, the researchers said. In some cases, children are now being kept home from school to guard family gardens from packs of crop-raiding baboons.

* The reduction in wolves has led to a surge in the number of coyotes that attack pronghorn antelope and sheep, the researchers said. Attempts to control coyotes have cost hundreds of millions of dollars.

The smaller predators are more populous and harder to control. They also adapt more readily to human development -- munching on garbage and pet food, for example.

The study has particular significance for Oregon, where the wolf is gradually returning and state officials and wildlife advocates are battling over plans to control cougar populations.



It's not clear which mid-level predators benefit from declines in cougar populations, Ripple said. But it's clear that coyotes thrive as wolves decline.

The study authors, who also included researchers from U.C. Berkeley and New Mexico State University, suggest that increasing wolf populations could actually benefit sheep growers by reducing coyotes.

"Wolves will not tolerate coyotes," Ripple said. "They'll kill them."

Coyote populations have dropped since wolves returned to Yellowstone National Park, he said.

In 2004, coyotes killed 5,700 sheep and lambs in Oregon, the U.S. Department of Agriculture estimates. Cougars killed about 1,200. In Idaho, where wolves are more prevalent, coyote kills outnumbered wolf kills by more than 7 to 1.

The notion that wolves could improve prospects for livestock met with skepticism from Bill Moore, president of the [Oregon Cattlemen's Association](#), and Margaret Magruder, past president of the [Oregon Sheep Growers Association](#).

Moore, a rancher 50 miles east of John Day, said coyotes are far less likely to attack mature cattle than wolves. Magruder, who pastures sheep in Clatskanie, said coyotes are a constant problem. But wolves can kill in big numbers and take on guard dogs and rams, she said, while coyotes tend to target young lambs.

Brian Bean, a sheep grower and co-owner of [Lava Lake Land & Livestock](#) in Idaho, has been dealing with both wolves and coyotes for nearly a decade. It's clear wolves drive down coyote numbers, Bean said. But it's not clear whether the overall toll on livestock drops.

-- [Scott Learn](#)