

SCIENCE

# Study Casts Doubt on Theory That Legal Hunting Reduces Poaching

By ERICA GOODE MAY 10, 2016

Government wildlife authorities and some conservation groups have for years argued that allowing some legal hunting can help reduce the illegal killing of threatened carnivores like wolves and grizzly bears.

Their theory — though there has been little scientific research to support it — has been that legalizing hunting helps reduce resentment among landowners, increase support for conservation and decrease poaching.

But the authors of a new study of wolves, published Wednesday, say their findings offer the first quantitative evidence that government authorization of any legal killing of wolves appears to increase illegal killing.

The study looked at wolves in Wisconsin and Michigan, states where the animals have at different times been placed under federal protection, removed from the endangered species list or relisted after court challenges.

The federal flip-flopping, the researchers said, provided a natural experiment, allowing them to study the effects of policies that at points gave states the authority to kill, or “cull,” wolves suspected to have damaged property or threatened pets or humans.

During those periods, the researchers said, they found that poaching increased, suggesting that “liberalizing wolf culling may have sent a negative message about the value of wolves or that poaching prohibitions would not be enforced.”

The study, by Adrian Treves of the University of Wisconsin and Guillaume Chapron of the Swedish University of Agricultural Science, appears in the British journal *Proceedings of the Royal Society B*.

The findings, wildlife experts said, are bound to generate controversy and are likely to be cited by conservationists in pushing for continuing protection of wolves in the Midwest and elsewhere.

Landowners have argued that wolves are now numerous enough in some states to pose a threat to livestock and are increasingly encroaching on populated areas.

A federal proposal to remove the Yellowstone grizzly bear from protection under the Endangered Species Act has also stirred debate. In anticipation of the government's action, wildlife officials in Montana have released draft regulations to allow the hunting of grizzlies, prompting protests from some conservationists.

Although the study looked at the culling of troublesome animals rather than sport hunting, the findings suggest hunting could have the same effect.

"I think we've undermined several pillars" of the argument that hunting helps conservation, Dr. Treves said.

The study looked at an indirect measure — the rate of growth in the wolf population — to determine the extent of poaching and used a mathematical model to estimate the probability that the growth rate had changed as a function of the state's culling policies. The researchers found that the growth rate declined to 12 percent from 16 percent in years when culling was allowed.

Other explanations for the slowing of the growth rate were ruled out, the authors said, including the idea that the rate had naturally declined or that adult wolves had migrated to other states after culling was authorized.

Jason T. Fisher, a government wildlife research ecologist in Alberta who was a reviewer of the study, said he found it "very convincing."

"The fact is that humans are in many cases one of the primary causes of animals getting knocked off," he said. But trying to find out how many are illegal killings is difficult, he added: "It's always that bugaboo that we're chasing."

But other scientists questioned whether Dr. Treves and Dr. Chapron had made their case.

“Over all, I think this paper draws a bold conclusion from questionable evidence,” said Daniel MacNulty, a wolf expert and assistant professor of wildlife ecology at Utah State University.

He said the authors’ estimates of the wolf population growth rate had so much uncertainty “that one can reasonably conclude that there is actually no meaningful difference between years with and without legal culling.”

Tim Van Deelen, a wildlife ecologist at the University of Wisconsin, said that even if human-caused wolf deaths had increased, linking them to changes in policy was “too much of a stretch.”

He offered other possible reasons for the slowdown in population growth that he said the authors did not adequately address, including reduced survival of wolf pups, decreased litter size, disease and increased territorial battles among wolves resulting in more deaths of juveniles or adults.

And he and Dr. MacNulty said the authors had ignored some research that suggested that the growth in the wolf population in Wisconsin had slowed because of factors that accompanied the increase in their numbers.

In a court case challenging the federal decision to take wolves off the endangered species list, officials of the Fish and Wildlife Service argued that “in the absence of adequate measures to control known depredating wolves,” people would resort to illegal killing.

Similarly, in the service’s 2007 proposal to remove Yellowstone grizzlies from federal protection, it noted that “a future hunting season also may increase tolerance and local acceptance of grizzly bears and reduce poaching.”

Wayne Pacelle, the president and chief executive of the Humane Society of the United States, said that in light of the study, his organization “thinks it’s more sensible for wildlife agencies to rely far more heavily” on nonlethal methods like electric fencing or devices that scare off animals to prevent attacks on livestock.

“Trophy hunting and predator control trigger a cascade of bad consequences for predators,” he said, adding that such activities disrupted animals’ family groupings and caused “social chaos.”

Dr. Fisher, of the Alberta government, said he was not sure whether the findings would apply to other species. But the study showed, he said, that “there are always going to be unintended consequences of management decisions, and we

do not know most of the time what those unintended consequences are.”

A version of this article appears in print on May 11, 2016, on page A14 of the New York edition with the headline: Hunting Increases Poaching, Study Says.

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