

Hunting wolves near Denali, Yellowstone cuts wolf sightings in half

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A wolf is seen just off the road in Denali National Park and Preserve. Credit: National Park Service

Visitors to national parks are half as likely to see wolves in their natural habitat when wolf hunting is permitted just outside park boundaries.

That's the main finding of a paper co-authored by the University of

Washington appearing April 28, 2016 in the journal *PLOS ONE*. Its authors examined wolf harvest and sightings data from two national parks—Denali National Park and Preserve in Alaska and Yellowstone National Park that straddles Wyoming, Montana and Idaho—and found visitors were twice as likely to see a wolf when hunting wasn't permitted adjacent to the parks.

"This is the first study that demonstrates a potential link between the harvest of wildlife on the borders of a park and the experience that visitors have within the park," said lead author Bridget Borg, a Denali wildlife biologist who completed this research while earning her doctorate from the Institute of Arctic Biology at the University of Alaska Fairbanks.

The researchers looked at the dynamics between hunting and viewing [wolves](#) at these two national parks because they are the only ones where visitors have a good chance of seeing a wolf. Both parks have long-term monitoring programs that have collected years of data on resident wolf populations, including years when wolf harvest was permitted and years when it was prohibited near the borders of both Denali and Yellowstone.

Adjacent to Denali, wolves are primarily trapped during legal harvests, while states adjacent to Yellowstone permit shooting wolves during hunting season. Wolves have always existed in Alaska and are generally regarded as an important part of the state's ecosystem—by trappers and wildlife enthusiasts alike.

The sentiment is quite different around Yellowstone, where wolves were reintroduced by wildlife biologists in 1995. Cattle ranchers, in particular, must contend with predators that hadn't previously roamed those areas during their lifetime as ranchers.

Wildlife viewing is an important economic driver for the states

surrounding the two national parks. Wolf-watching activities in Yellowstone after the 1995 reintroduction have brought in an estimated \$35 million each year to Idaho, Montana and Wyoming. In Alaska, wildlife viewing activities supported more than \$2.7 billion in [economic activity](#) in 2011.

At the same time, these states are required to provide for consumptive uses of wildlife; in 2011, hunting in Alaska supported more than \$1.3 billion in economic activity, and revenue in Montana from buying wolf tags alone brought in over \$400,000.

"We have shown there is a tradeoff between harvesting and viewing wolves, but these findings could extend to other large carnivores that also move in and out of parks," said senior author Laura Prugh, a University of Washington assistant professor of quantitative wildlife sciences in the School of Environmental and Forest Sciences.

"In an ideal world, there wouldn't be a tradeoff. You could have wolf harvests outside of the parks, which also bring in a lot of economic activity, and it wouldn't have an effect on the populations or probability that tourists are going to see [wildlife](#) in the parks."

The researchers analyzed data on wolf sightings, pack sizes, den locations and harvests adjacent to the parks in Denali from 1997 to 2013 and in Yellowstone from 2008 to 2013. In both parks, they found that in years when the wolf populations were up and their dens were close to park roads, visitors were more likely to see wolves.

But their models also suggest more subtle effects of harvests on the ability of visitors to see wolves. Sightings are perhaps driven by key individuals in a pack, such as wolves that den by the road. If those wolves are killed, that loss may not result in an overall decrease in the total wolf population, but it could significantly reduce the sightings for

that year.

Hunting and trapping may also have behavioral effects on wolves, making them more wary of humans and less likely to traverse roads where park visitors travel.

This research has prompted the National Park Service to begin a thorough socioeconomic study of the impact of wolf sightings on visitors' experiences in Denali. The researchers are also looking more closely at how other factors such as vegetation cover and topography affect [wolf](#) sightings in the park.

More information: *PLOS ONE*, [DOI: 10.1371/journal.pone.0153808](https://doi.org/10.1371/journal.pone.0153808)

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