Hunting is killing off 301 mammal species, including the black rhino.

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People are hunting primates, bats, and other mammals to extinction

By Elizabeth PennisiOct. 18, 2016 , 7:15 PM

The passenger pigeon was hunted to extinction in North America in the 19th century—**and hundreds of mammals are now headed for the same fate**. That's the conclusion of ecologists who are taking the first look at the effects of hunting on land mammals around the world. Some 301 species—including 126 primates, 26 bats, and 65 ungulates such as deer and wild pigs—could be on their way out, the scientists report today.

The work "highlights in detail the significant toll that hunting is taking," says Drew Cronin, a conservation biologist at Drexel University in Philadelphia, Pennsylvania, who was not involved with the work. And without strong new protections, “there [are] a substantial number of mammals that are likely to disappear,” adds John Fa, a conservation scientist at Manchester Metropolitan University in the United Kingdom who also works with Indonesia’s Center for International Forestry Research but was not involved with the study.

William Ripple, the lead author, became aware of the issue a few years ago while studying Africa’s starving lions, who couldn’t find enough prey to feed themselves. It turned out that the large carnivores were competing with humans for bushmeat like gazelles, says Ripple, an ecologist at Oregon State University in Corvallis. So he and his colleagues decided to see how much of a problem human hunters are in other parts of the world. The researchers combed through the most recent Red List of Threatened Species, the definitive catalog of the world's most threatened and endangered plants and animals. Ripple’s team focused on just the 1169 land mammals listed as

“threatened,” noting which were most at risk from hunting, whether for meat, medicine, or the pet trade.

“A lot of people think the loss or degradation of habitat is the big threat to wild animals, but here it shows there is a major threat from direct exploitation by humans,” Ripple says.

As they report today in *Royal Society Open Science*, more than a quarter of those 1169 land mammals face extinction from hunting, which also disproportionately threatens large mammals. The 301 species in the most danger from hunting include more than 60% of all land mammal species weighing more than 1000 kilograms, such as rhinos and hippos. Those animals are especially vulnerable because they tend to have smaller population sizes and longer times between generations, Ripple says. Anteaters, hedgehoglike animals called tenrecs, and rabbitlike hyraxes are doing fine, but gaurs, sloth bears, Bactrian camels, and bearded pigs are not. More than a quarter of all monkeys and other primates are targets.

Past evaluations of hunting pressures have covered animals like elephants and tigers, ignoring rodents and less colorful species. “This paper, by addressing the issue for all mammals, reminds us that we also need to think about the less charismatic species, and the less high-profile ones,” says E. J. Milner-Gulland, a conservation scientist at the University of Oxford in the United Kingdom who was not involved with the work.

Although 301 doesn't sound like a lot of species, their loss would be a substantial blow to ecosystems, Fa says. The list includes large carnivores that help control populations of plant eaters like antelope who would otherwise overconsume the savanna’s grasses. Many of the listed mammals are also key seed dispersers and still others help shape the landscape with their burrows and foraging.

But that number might not even come close to how many species are actually threatened, Cronin says. Sometimes he and others who write the Red List entries don't have enough information to know whether hunting is a problem. For example, he knows of seven monkey species in Equatorial Guinea that are being hunted, but none of them were listed as extensively hunted on the Red List. And Ripple’s list doesn't include elephants, which are mostly hunted for ivory and not for food and medicine.

Ripple and his colleagues also calculated what percent of these mammals’ habitats are supposedly protected. For the most heavily hunted mammals, only about 10.5% of their ranges are in protected areas, they report. Moreover, hunting often goes on illegally, even on reserves. So he and others advocate the hiring of more forest guards and stiffer penalties for illegal hunting.

Even so, reducing the toll of hunting won't be easy. It's hard to forbid people in developing countries to hunt when they rely on bushmeat to survive, just as their communities have for millennia. Rather than prohibit hunting altogether, some conservation scientists advocate the development of sustainable hunting practices that focus on smaller species less at risk of disappearing.

But subsistence hunters are not the biggest part of the problem, Fa says. Rather, it is the commercial hunters with high-powered rifles and motorized vehicles who have built up a bustling—and highly profitable—international bushmeat trade. In 2010, based on a tally of bushmeat seized in traveler's luggage at Paris's Charles de Gaulle Airport, **researchers concluded that 5 tons arrive in France each week**.