A New Report Says We're Hunting the World's Mammals to Death. What Can Be Done?

Solutions are multifaceted and region-specific, but conservation researchers have some ideas


A black and white ruffed lemur in Madagascar's Vakona Forest Reserve. Worldwide, primates are particularly prone to overhunting, according to the first global assessment of bush meat hunting trends. (Fredrik Stenström / Alamy)

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Take a walk on the wrong side of the rainforest in Laos, Vietnam or eastern Cambodia, and the traps are unavoidable. Hunters lay these snares by burying a wire under a layer of dirt and leaves, then attaching it to a tree bent towards the ground. When a thin bamboo strip gets bumped, it releases the tree and pulls the animal's leg into the air, suspending it until bush meat hunters return for the slaughter.

But there isn't just a single trap. "Blanket snaring is when the habitat is saturated with snares," says Jan Kamler, the Southeast Asia leopard program coordinator for Panthera, a global wild cat conservation organization. Traps can be packed as densely as one per square yard in a roughly 100-square yard patch of rainforest—so thick that even some of the people Kamler works with have been snagged.

"Basically if any animal walks through that area, they have to walk through a snare at some point," he says.

Last month, the first comprehensive study on global bush meat consumption found that 113 species in Southeast Asia have dwindled to precarious numbers, primarily due to bush meat hunting and trapping. But while this region may be one of the worst affected, the study, published in *Royal Society Open Science*, reports that bush meat hunting is driving many of the world's mammals to the brink of extinction. "The large mammals are much more threatened than the small ones," says William Ripple, a professor of ecology at Oregon State University and lead author of the study. "This is likely because there is more meat on large mammals."

Ripple was studying the global decline of large carnivores when he realized that one of the problems was that predators compete for prey with humans. He and his coauthors went through the descriptions of 1,169 mammals listed as threatened with extinction on the International Union for Conservation of Nature's database, and found 301 animals which listed as primarily at threat from hunting. These included species as varied as tree kangaroos, the armored pangolin—recently dubbed the world's most hunted animal—and rhinos, which are hunted for their meat or for body parts which supposedly provide medicinal value.

“Our analysis is conservative,” Ripple adds. “These 301 species are the worst cases of declining mammal populations for which hunting and trapping are clearly identified as a major threat. If data for a species were missing or inconclusive, we didn't include it.”

The report is an important first step in synthesizing the literature from so many different places, says Christopher Golden, a research scientist at Harvard University who studies the impact of hunting on human health in the island country of Madagascar. Ripple found that primates are the most threatened group of animals, with some 126 species including lowland gorillas, chimpanzees, bonobos and lemurs making the list. The latter face many threats in Madagascar, an isolated nation known for its unique endemic flora and fauna, according to Golden.

Ripple’s study shows that Madagascar has 46 endemic species threatened by bush meat hunting and trapping, more than any other country. Golden says the problem is driven by poverty: Madagascar is one of the poorest countries in the world, with 59 percent of people classified as “extremely poor” according to the World Bank. Some hunting and trapping is merely for subsistence, but other forms are less sustainable, he says,—such as selling animals to the bush meat market. The most difficult problem to tackle may be taste preference: Believe it or not, people actually enjoy the taste of critically endangered black and white ruffed lemur.

Most hunters in Cambodia using blanket snaring are looking to sell to the bush meat market as well, primarily hunting pigs or deer, says Kamler. However, tigers and the rapidly disappearing Indochinese leopard also fetch a high price tag on the traditional medicine market, making them a welcome bycatch. “These large felids move over such a large area that if there’s blanket snaring going on within several pockets of your home range, they’re eventually going to step in a snare,” he says. “You’re going to wipe them all out that way.”

Bush meat hunting can be driven by nutritional needs, as well as the medicinal and meat markets. Endangered animals for sale in Phonsavan, Laos. (travelib prime / Alamy)

Hunting and habitat destruction can create the devastating one-two punch that pushes animals towards extinction, says Ripple. Penetration roads cut through jungles for the purpose of logging can give hunters access to otherwise secluded areas. And modern technology like better guns and vehicles is giving poachers an extra advantage—although Kamler says that guns are the least of some of these animals' problems. "Hunting with a gun is the most specific," he says. "You have to see the animal, you have to see it well—you know exactly what you're shooting at. With a snare, you set thousands and you catch whatever."

Donald Waller, a professor of botany and environmental studies at the University of Wisconsin, says that Ripple's report helps give a comprehensive picture of the global problem of bush meat hunting. "The empty forest syndrome is one of the hardest challenges we face in conservation," he says. "It's not enough to have a forest we can see from satellite and space."

One region that is conspicuously absent from the statistics is North America and Europe. Instead, nearly all of the 301 species threatened with extinction from hunting for consumption are from developing countries. "In the developed world there's commonly a lack of large carnivores because the humans have eradicated them," Ripple explains. The results of his study suggests that if we don't act fast, the rest of the world will follow suit.

But some parts of North America have there own problems, says Waller. Since most of the large predators have already been wiped out in many parts of the continent, there is unchecked population growth of the few large mammals that are left. “Deer are the only large mammal most people are likely to see. And yet overabundant deer are now causing great reductions in tree regeneration, big changes in plant community structure, probably increases in the incidences of diseases—tick-borne diseases in particular,” he says. To address the overabundant deer issue in North America, he believes it’s worth considering a study advocating for the return in some areas of allowing the commercial harvest of wild deer meat.

Unfortunately, these kinds of issues may be more challenging to solve in developing countries like Madagascar, says Golden. The island was only colonized around 3,000 years ago, and many of the species were naïve to humans before they arrived. “Mass extinctions followed after human arrival, and now many species are deeply threatened by human hunting,” he says. The problem is especially hard to solve when hunting bush meat is part of local palettes and traditions. “When that’s the case, it’s more difficult to tackle in terms of interventions or getting people away from eating bush meat, because it's not simple development or technical interventions that’s going to solve that,” Golden says.

Even if the goal is to allow humans to keep hunting the animals that help those in poverty sustain nutritious diets, places like Madagascar need stricter regulation and better enforcement, says Golden. Otherwise, the nutritional resource provided by the meat will dwindle rapidly. “There could be an increase of about 30 percent in the rate of anemia locally because they lose access to this really important type of animal food,” he says, adding that unsustainable hunting "is self-depleting their own nutritional resource.”

Part of the solution in Madagascar, at least, involves helping people to take better care of domesticated animals like chickens. Golden and other researchers are developing a vaccine for the Newcastle disease, which kills 60-90 percent of poultry seasonally in the island country. "This intervention provides animal source foods to local people that do not have a hefty environmental footprint," he says. "If we can increase productivity and reduce price, we could naturally wean locals away from bush meat as a food source."

Ripple and his coauthors say that part of the problem could be helped by giving local communities incentives to switch to protein-rich plant crops. International policy must be changed to put pressure on countries to curb the demand for bush meat and medicinal products from animals, and local communities must be empowered to "capture the benefits from wildlife conservation with legal user rights over wildlife," according to the study.

Kamler, who was not involved in Ripple's study, says it should be a wake-up call about the problems caused by snaring, particularly in Southeast Asia. He says that the individual hunting of wild pigs, for example, is sustainable because the mammals reproduce rapidly. The problem is with the indiscriminant techniques, like blanket snaring and electrified fences. "Until governments formally acknowledge this imminent threat to their wildlife, it will be business as usual and little will be done to address the extinction crisis caused by the ever-expanding bush meat trade," Kamler says.