

Bolivia	50%
Ecuador	30%
Ecuatorial Guinea	31%
Central African Rep.	100%
Kenya	43%
Sulawesi	70%

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WHY IS EATING BUSHMEAT A BIODIVERSITY CRISIS?

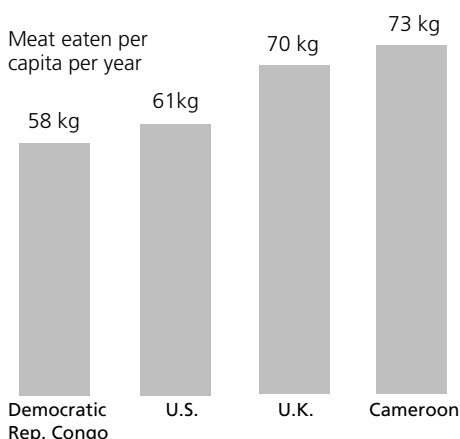
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Deforestation still threatens habitat in tropical forests. But when the equivalent of 4 million cattle in wildlife—many of which are endangered species—are hunted and eaten each year in Central Africa alone, tropical forests throughout the world face a more immediate threat, known as the “empty forest syndrome.” It turns out we can “defauna” a forest quicker than we can “deforest” it.

Tropical forests, in contrast to tropical savannas, are particularly susceptible to over-hunting because they support less wildlife—by at least an order of magnitude. Hunting intensity is increasing as demand for meat increases with human population, as new, more lethal hunting technologies such as wire snares and firearms are widely adopted, and as logging roads and vehicles open once isolated forests and significantly reduce hunters’ and traders’ transportation costs. The commercial trade in bushmeat has become a multimillion dollar business.

Hunters consider all wildlife fair game; and they prefer large animals such as apes, elephants and large antelope because they generate the highest returns on investment. When large animals become scarce, hunting pressure on the system may not relinquish if smaller animals are sufficiently abundant to keep hunting economically viable. And whenever they can, hunters will still take the more profitable large animals, regardless of their scarcity.

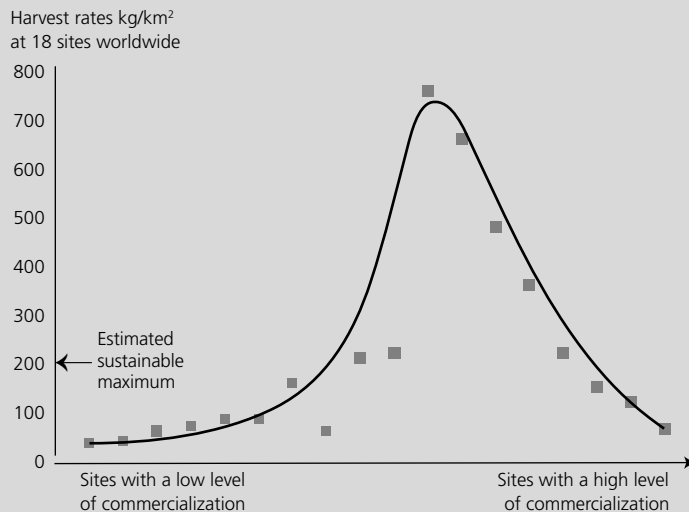
► **Eating meat.** People eat as much meat in Central Africa as in the U.S. or U.K. In Central Africa, most of this meat comes from wildlife. (2, 3, 4)



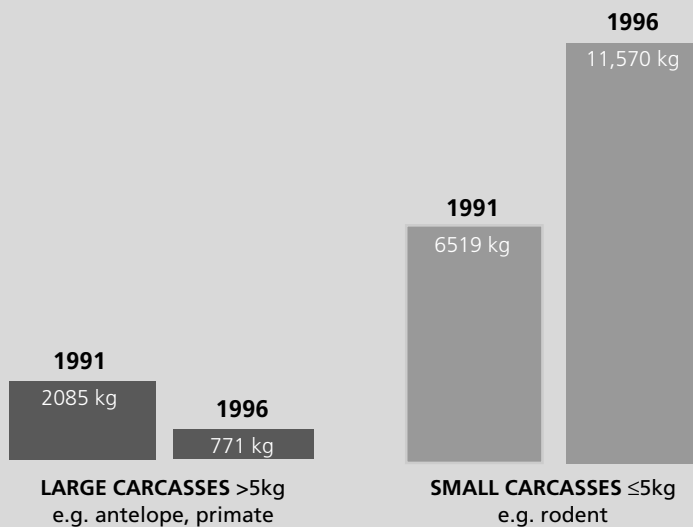
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This is unsustainable. As hunting pressure increases in a given area, hunters will hunt smaller and smaller animals as large animals become depleted and in many cases extirpated. In marine systems, conservationists have warned that we are fishing down the food chain. In tropical forests, we face an analogous threat—hunting down the body size. Conservation initiatives range from working with logging companies to close unused roads and to restrict access, to working with national governments and international agencies to make commercial hunting illegal while allowing less vulnerable species to be hunted for local consumption.

For more information
visit the Bushmeat Crisis Task Force
web site at www.bushmeat.org



◀ **Commercialization of hunting.** Increased hunting pressure to supply nonlocal markets may drive harvest rates well above sustainable levels. In a review of 18 hunting sites, high commercialization was associated with high harvest rates. However, at the most commercial sites harvest rates were low, reflecting the likely depletion or extirpation of species. (1)



◀ **Running out of large animals.** From 1991 to 1996 the amount of meat in the Malabo marketplace (Ecuatorial New Guinea) from large carcasses (>5 kg), such as antelope and primates, dropped by half and the amount from small carcasses (≤5 kg), such as rodents, doubled. (5)

	Remote community (Toukoulaka)	Logging camp (Ndoki)	Close to logging road (Ngazicolo & Ngatongo)
No. animals hunted/capita/yr	5	9	23
Biomass hunted/capita/yr	43 kg	141 kg	173 kg
% of hunted biomass traded	5%	37%	69%
Bushmeat eaten/capita/yr	23 kg	55 kg	33 kg
% of meals containing bushmeat	39%	76%	49%
Community rankings for bushmeat as an income source	3	2	1

◀ **The logging industry intensifies the crisis.** Vehicles and an extensive road network created by the logging industry make what once was a 3-4 day hunting trip on foot, an 8-hour excursion; and logging employees can afford to buy bushmeat. (6, 7)

Sources: 1. Robinson, J.G., & E.L. Bennett. 2000. *Hunting for sustainability in tropical forests*. Columbia University Press, New York. 2. Koppert, G.J.A., et al. 1996. Consommation alimentaire dans trois populations forestières de la région côtière du Cameroun: Yassa, Mvae et Bakola. In Hladik, C.M., et al., eds. *L'alimentation en forêt tropicale. Interactions bioculturelles et perspectives de développement*. Orstom, Paris. <http://www.ers.usda.gov/publications/wrs011/wrs011.pdf> 3. Wilkie, D.S., et al. 1998. Modeling the sustainability of subsistence farming and hunting in the Ituri Forest of Zaire. *Conservation Biology* 12:137-147. 4. Regmi, A., ed. 2001. *Changing Structure of Global Food Consumption and Trade*. ERS, USDA, Agriculture and Trade Report WRS-01-1. 5. Fa, J.E., et al. 2000. Bushmeat markets on Bioko island as a measure of hunting pressure. *Conservation Biology* 14:1602-1613. 6. Auzel, P., & D.S. Wilkie. 2000. Wildlife use in northern Congo: Hunting in a commercial logging concession. In Robinson, J.G., and E.L. Bennett, eds. *Hunting for sustainability in tropical forests*. Columbia University Press, New York. 7. Bennett, E.L., & J.G. Robinson. 2000. *Hunting of wildlife in tropical forests: Implications for biodiversity and forest peoples*. The World Bank, Washington D.C.