

What are the impacts of the bushmeat trade on biodiversity, and what entry points can the EU most effectively use to reduce these.



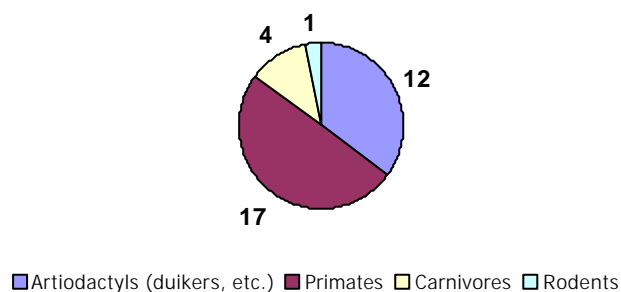
By Evan Bowen-Jones, Bushmeat Programme Manager, Fauna & Flora International, UK

To assess the impacts of bushmeat hunting on biodiversity we need to know what is being hunted, how much of it is being taken, and whether this is significant for conservation.

What is taken as wild meat?

Anything over 1kg is usually regarded as worth hunting - depending on the method employed. Snaring has low entry costs and is unselective, therefore the full range of potential game is taken and it is in broad use across the tropics. Shooting has higher costs in terms of capital investment, and ammunition, therefore larger game is preferred. The most commonly taken animals are mammals, and in Africa duikers (forest antelopes) are the most numerous mammals involved. However, small mammals, including bats, as well as birds, reptiles, and amphibians are all taken as game in different parts of the tropics. Off-take includes globally threatened species and is a major factor in driving many towards extinction (see Fig. 1).

Fig 1: Threatened species/subspecies with hunting as the known major threat in Central & West Africa



Current levels of hunting

Off-take from the Congo basin total is estimated to total 5 million tones per year. A minimum estimate from Amazonia gives a total of 3.5 million animals per year. The level of bushmeat hunting in Asia is unknown at present but indicators are that it is on a similar scale. Over-hunting is occurring in the most biodiverse ecosystems, many of which are already vulnerable due to other resource pressures. This is taking place in some of the world's most important biodiversity 'hot-spots' e.g. the Guinean Forests of West Africa and Southeast Asia.

What is the current impact of the bushmeat trade on the species involved?

In most areas where the trade has been studied hunting of game populations is locally unsustainable, even when it is done on a subsistence basis because tropical forests do not support high numbers of wild animals. Commercialization of bushmeat hunting is taking place throughout the tropics and this makes

hunting even less sustainable.

Different types of animals are more susceptible to hunting than others.

Primates are particularly vulnerable, including the great apes - however, the latter are numerically a small part of the problem (see Fig. 2).

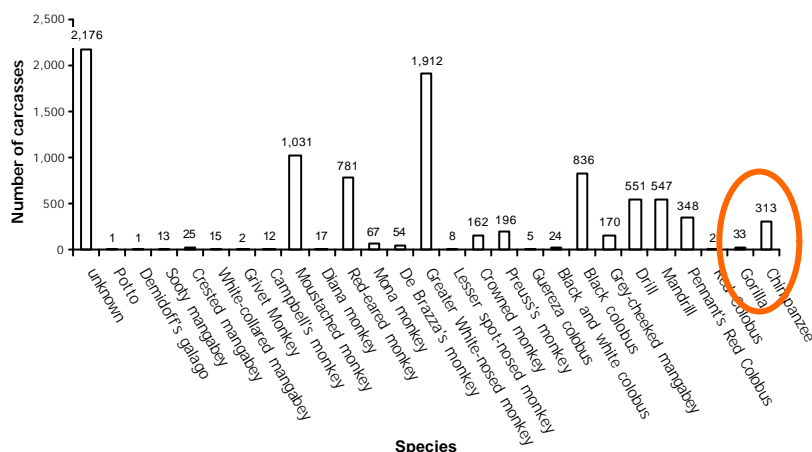


Fig. 2: Make-up of primate kills from carcass data in five Central and West African countries $n = 9,298$ (from Bowen-Jones & Pendry, 1999).

What does this mean at local level? A hypothetical scenario of species loss...

In any given area of Central Africa the following is a likely chain of current events:

1. Elephants may be amongst the first animals to be made locally extinct by hunting due to their size, behaviour, and added value (ivory).
2. Gorillas and chimpanzees suffer from the same problems.
3. Leopards and other carnivores can follow quickly due to the indiscriminate nature of snaring, their susceptibility to trapping, and low population numbers.
4. If hunting pressure is maintained other larger bodied species are gradually depleted, i.e. commoner primate species such as moustached monkey, and larger forest antelopes.
5. If the pressure is sufficient faster-breeding small forest antelopes follow with larger game birds, and dwarf crocodiles.
6. Finally, if this happens over a broad enough area the trade becomes reliant on small-bodied mammals such as cane rat and porcupine.
7. Opportunistic hunting removes the last individuals of rare species. This is the scenario that we now see in West Africa where stocks of larger animals have already been lost.

What are the broader impacts- why does multi-species loss matter?

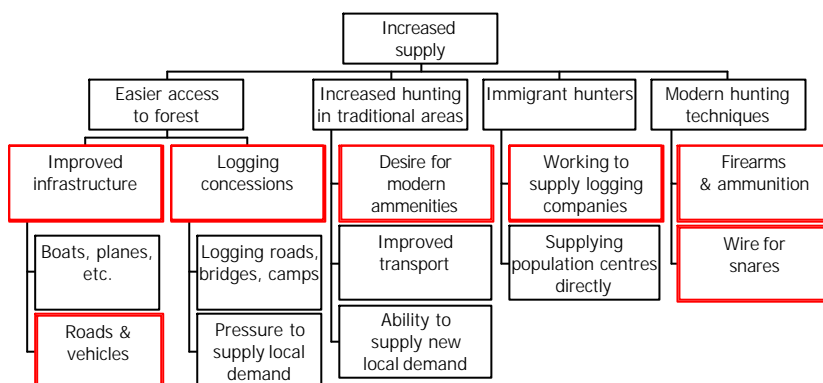
With the potential loss of larger bodied animals tropical forests can reach the stage where the trees are standing but the fauna is not present - 'empty forest syndrome'. This is symptomatic of broad-scale over-hunting and is being reported from all over the tropics. Even before this stage there is potential for ecosystem disruption e.g. fruit dispersal, pollination, and nutrient cycles all broken. This could negatively impact future sustainable timber harvesting, and reduce the potential for gene banks of commercial species. It will alter vegetation and could cause secondary plant extinctions. This could cause food loss for local human communities. In the short-term potential for nature-based tourism will

be lost. Without adequate law enforcement the retention of animal communities in Protected Areas (PAs) is not guaranteed. Thus, wider conservation through rational, sustainable use outside strict PAs is required as well as better management of existing PAs. Most of the countries involved are signatories to the Convention on Biological Diversity, and need to address this issue to meet existing international obligations.

What can we do?

The following problem analyses show the causes for increasing supply and demand in the bushmeat trade. It also illustrates how the EU can most effectively attempt to mitigate the problem. Logging companies and tropical timber, development policy, and urban consumption (both within range-states and the EU) are good potential entry points.

Causes of the increasing supply of wild meat showing potential entry points for EU action



Causes for the increasing demand for wild meat showing potential entry points for EU action

