

# Illegal ivory mostly from recent elephant killings

Carbon-dating study suggests governments are not fuelling trade by selling off old tusks.

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07 November 2016



Jorge Silva/REUTERS

These ivory tusks were smuggled from Nigeria and bound for illegal markets in South East Asia, according to police in Bangkok.

The illegal ivory trade is fuelled almost entirely by elephants that have been recently killed, say researchers who carbon-dated hundreds of ivory tusks seized by law-enforcement officials.

"That puts to rest a speculation which has been at the back of everyone's mind," says George Wittemyer, a conservation ecologist and elephant specialist at Colorado State University in Fort Collins. Some had wondered whether corrupt governments were contributing to the ivory trade by selling off old ivory, bit by bit, from stockpiles built up over years. Now, conservationists can concentrate their resources on protecting elephants from poachers, he says, rather than worrying so much about fighting government corruption.

Thure Cerling at the University of Utah in Salt Lake City and his colleagues measured the decay of carbon-14 isotopes in 231 ivory tusks, confiscated between 2002 and 2014, to determine when the elephants they were taken from had died. According to their analysis, published on 8 November in the *Proceedings of the National Academy of Sciences*<sup>1</sup>, only four specimens were more than five years old at the time they were seized.

By combining their measurements with earlier analysis of the tusks' DNA<sup>2</sup>, the researchers were able to tell where the poached elephants had lived. In East Africa, the seized ivory mostly derived from elephants that were killed less than one year ago. Ivory from Central Africa, however, was on average more than two years old.

"That makes sense," says Tom Milliken at the wildlife-monitoring network TRAFFIC, based in Cambridge, UK. The road network in East Africa is much better than in Central or West Africa, so poachers can get the tusks to the coast faster to ship them to Asia, he says. The study confirms what many researchers already assumed, but the study is welcome, Milliken adds. "It helps us to understand fundamental dynamics in ivory trafficking."

As prices for ivory have soared over the past decade — particularly in east Asian auction markets — Africa's elephant population has dropped: falling from 526,000 to 415,000 between 2006 and 2015, according to the International Union for Conservation of Nature's

latest African Elephant Status Report. Tanzania alone has lost 60% of its elephants in the past three years because of poaching, Milliken says.

In Africa, countries are strengthening protections: Tanzania, for example, has increased penalties for poaching and ivory trafficking and has prosecuted large-scale ivory traffickers with long prison sentences. Elsewhere, China introduced [restrictions on ivory trade](#) last year, and delegates at a meeting of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) last month voted for a non-binding agreement to [close remaining legal domestic ivory markets](#).

But it is not yet clear whether these measures are cutting down poaching. "I am sure we are not out of the woods yet," Milliken says.

*Nature* | doi:10.1038/nature.2016.20953

## References

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2. Wasser, S. K. *et al. Science* **349**, 84–87 (2015).