

**Host: Robert Frederick**

Around 50,000 elephants are being poached each year. That's about ten percent of the total population of elephants, which is declining, rapidly.

**Speaker: Samuel Wasser**

Poaching is going on all over Africa, and what we are focusing on, though, is the large, organized crime syndicates — the ones that are making millions and millions of dollars off of this trade, and where the lions' share of the killing is occurring.

**Host: Robert Frederick**

On this episode of *The Conjectural* — science news versus science that's "news to me" and telling science stories again and again, including about poaching elephants. I'm Robert Frederick.

If you've heard this show before, then you know The Conjectural is an ongoing experiment to figure out a better way to decide what science news is and how we should talk about science. Indeed, one of the reasons I started this show is because a problem with the way current science reporting is done is that it's seen as in competition with other news — it's not given its own space. And so science only gets in the news nowadays when the results are big and surprising. But most of the science that's done in the world isn't all that surprising. I mean, could you imagine hearing this headline?

*For the 457,376th time, researchers doing an experiment unrelated to evolution have found even more evidence to confirm Charles Darwin's theory of evolution by natural selection.*

No, the only place you'd hear such a headline — besides this show, I guess — is in a farcical news source like *The Onion*. So it came as no surprise when one of my science journalism colleagues — who was in the same room as I was hearing about the problem of elephant poaching — said this:

**Unidentified Speaker**

"I feel like I could have gone to this press conference last year, and the year before that, and the year before that, and I'm sure that you're frustrated, too."

**Host: Robert Frederick**

And then, eventually, his question:

**Unidentified Speaker**

What more needs to happen so that we're not back here year after year after year having this same conversation?

**Host: Robert Frederick**

The thing is, political leaders have solved this problem of elephant poaching before with a total ban on international ivory trade. And maybe this is where it's important to repeat that past solutions worked. That's because today's solutions—involved scientists who are providing evidence and developing tools to help law enforcement agencies crack down on the illegal ivory trade—those solutions are not working.

**Allan Thorton**

We've been investigating illegal ivory trade for 28 years. We've investigated such trade all over the world. We've done more investigations into illegal ivory trade than any other organization in the world.

**Host: Robert Frederick**

Allan Thornton is the president of the Environmental Investigation Agency.

**Allan Thorton**

And all the evidence that we've seen shows that you cannot manage ivory trade. It cannot be controlled. It is too powerful. It's too valuable. All the evidence shows that every effort to try to regulate the trade has been a spectacular failure.

**Host: Robert Frederick**

And back in 1989, the Convention of International Trade in Endangered Species of Wild Fauna and Flora realized the same problem: regulating the ivory trade wasn't working then, either. Indeed, during the 1980s, half of the world's elephants had been poached. Their population was down to 600,000. So, the Convention effectively banned the international trade of ivory. Poaching plummeted. Again, Allan Thornton.

**Allan Thorton**

Because what happens when there's no ivory trade, it empowers everyone in the front line—all the people, you know, guards that we met in Tanzania, Kenya, making 15-20 dollars a month to risk their lives to protect their elephants—they were suddenly empowered. So when an MP in Tanzania was found with 65 tusks in his Land Rover claiming he was going to get a permit, he was busted. When the ambassador from Indonesia was caught smuggling a huge amount of ivory in a container with his personal effects, the president of Tanzania supported the director of wildlife to go in and bust and seize that ivory. The enforcement locks in and it empowers people on the front line and it erodes the corruption that follows the ivory trade everywhere it exists in Africa or Asia or anywhere.

**Host: Robert Frederick**

But then poaching came back. Why? It appears to have come back because the ivory market came back, too, legally. Here's what happened: that same Convention of International Trade in Endangered Species of Wild Fauna and Flora decided to approve a couple of one-off sales of ivory in 1999 and again in 2008. These were large quantities of ivory, but, of course, they weren't unlimited. The legal sales spurred demand of ivory, however. And so, the thinking goes, that demand led to a massive increase in poaching and illegal ivory sales. So this is where the science of this story comes in, with scientists trying to help law enforcement agencies crack down on the illegal ivory sales. Samuel Wasser is a conservation biologist at the University of Washington in Seattle.

**Speaker: Samuel Wasser**

What we have done is we've tried to focus our attention using genetics to determine the source of the actual poaching, and to figure out how many major source populations are there, because in doing that you can potentially focus law enforcement on those areas, prevent the contraband from getting into this transit where these sophisticated networks make it so difficult to attack, and it also allows us to — when we focus law enforcement at the same time — it allows us to make these

countries held accountable so that they are not denying the magnitude of the problem in their own country.



**Host: Robert Frederick**

The DNA comes from the tusks seized by law enforcement authorities. And what the results of the DNA tests have shown so far include that there have been a few hotspots of the massive poaching efforts and that those hotspots move slowly. The poachers basically stay in an area until they have trouble finding elephants. Then, they move on. Also, once poachers do have large quantities of ivory, Wasser says, they don't hold on to it for very long.

**Speaker: Samuel Wasser**

Since elephants have two tusks, we could genetically match the tusks to see if one tusk ended up in one seizure and the other tusk ended up in another seizure, implying that the same dealer packed both seizures. To our surprise, between 2011 and 2013, we found fourteen matches, fourteen cases where one tusk was in one seizure, and the other was in another seizure. And that was out of a total of ten large seizures that we looked at. And the time difference between those two seizures where there was a match was in every case less than 10 months. So that means that these guys are not holding on to their ivory. They're getting it into transit very fast after it's poached, and that's been a big question about our work is: is the ivory just sitting around there, or is it moving out quickly? This shows definitively that it is moving out very quickly.

**Host: Robert Frederick**

And to bolster that claim with even further evidence, Wasser and his colleagues also looked at the age of the ivory using radiometric dating, or Carbon-14 dating.

**Speaker: Samuel Wasser**

We've actually taken 200 samples from all the seizures that we've looked at and aged them using Carbon-14, and we showed again the same pattern: this is very young ivory; this ivory is not hanging around.

**Host: Robert Frederick**

But the science, the DNA testing, the matching of tusks as evidence, the Carbon-14 dating, only have value as tools to cut down on illegal ivory trading and poaching if there's the political will to use them, says William Clark. Clark is formerly affiliated with INTERPOL and is now an honorary warden and U.S. liaison with the Kenya Wildlife Service.

**Speaker: William Clark**

To a large degree in Asia, political will and money is blocking the way. There are several major importers of ivory in Asia. Sam's technology and University of Washington could solve many problems if they simply used it. Investigators could go to shops in Thailand, in China, in Japan, in Philippines, and elsewhere, take samples, and say, "This ivory — because the only ivory in legal trade in the past quarter century came from four southern African countries," and if these samples, say this ivory was poached from D-R-Congo or Chad or Kenya, Tanzania a year and a half ago, "there's some explaining to do: this is contraband what you're trying to sell here." So they have a very useful and available tool — they can — to start looking at their own markets, but they don't have the political will to use it. It's there and available.

**Host: Robert Frederick**

So the latest [headline](#) from University of Washington's Samuel Wasser's work: *Scientists testing a recent seizure of illegal ivory find DNA evidence suggesting the deaths of a thousand elephants, including babies.*



It's not exactly news because it happens all the time. But perhaps it bears repeating anyway.

That's because when the Convention effectively enacted a total ban on all international ivory trade back in 1989, there were an estimated 600,000 elephants, down from 1.3 million elephants only a decade before. The latest estimates for the current population of elephants are already below 450,000. And 50,000 a year are being poached. Something's not working.

Recently, though, there's been some political will to do something about the illegal ivory trade, with the United States and Hong Kong enacting new bans on ivory. But last time, curbing poaching, which allowed the elephant populations to recover, took all countries at the same time.

Now, there's a lot of news in the world — and a Tweet, a newspaper story, a television broadcast, a radio story, and this podcast — they're not enough for important science stories. So maybe instead of thinking of science news as competing with all other news, we need to think about science news as needing its own space — needing some amount of repetition — so that it prompts expressions of "that's news to me" even if the research itself wasn't just published, the discovery wasn't just made.

Indeed, if it helps to prompt anyone hearing this story to repeat it, Interpol says illegal international wildlife trade is the fourth-largest type of crime in the world, after weapons, narcotics, and human trafficking. And funds from illegal ivory sales may be making their way to funding terrorist organizations, too. No doubt: this is organized crime, and it's given a market to trade in because some politicians look the other way or are actively engaged in it themselves. So it may be that all we need our political leaders to do is just shut down the market, internationally. They've done it before.

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