

Why Scientists Want to Bring Back Woolly Mammoths

By Felicity Morse — BBCNewsbeat social media producer



They were six-ton prehistoric beasts with huge tusks and meter-long hair. Now scientists want to bring them back using technology "roughly similar" to that in Jurassic Park. And we know how well that turned out. So why would anyone want to bring back mammoths?

Ben Novak works at the Long Now Foundation, which runs one of three separate projects spending hundreds of millions of pounds to "de-extinct" them.

"Of course it's crazy," he tells Newsbeat. "That's why we want to do it. No one got to the moon by thinking: 'We'll just climb Mount Everest first and get a closer look'.

"For the past 200,000 years human beings have played an active role in causing extinction, changing the planet in an ignorant, blind way. Now we can play an active role in evolution.



Explorer Bernard Buigues, views the tusks of what is believed to be a 23,000-year-old woolly mammoth whose body is preserved in the ice in the Taimyr Peninsula, Siberia.





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Mammoths used to roam in Norfolk, meaning your Big Weekend party might have looked a bit like this 14,000 years ago.

Why? Because it would be cool

Professor Stanley Temple — who's given TEDtalks about de-extinction — says there's just something about mammoths.

"The only reason the mammoth has emerged as the iconic target for de-extinction is that it would be utterly cool."

Professor Beth Shapiro has written a book called *How to Clone a Mammoth*.

She tells Newsbeat, "People like mammoths. We're not able to bring back dinosaurs - the other obvious choice of things to talk about bringing back."

"Mammoths aren't my choice, they're everyone else's. Mammoths are big, they're iconic and we're not scared of them."

"It is not possible to bring anything back so we're talking about this in a speculative way."

But Mr. Novak thinks Professor Shapiro is being too negative.

"Big innovations happen when people are pushing for big goals. These technologies speed up faster every year."



ALAMY/SCIENCE PHOTO LIBRARY

What have mammoths ever done for us?

Ben Novak also reckons bringing back mammoths would help slow climate change.

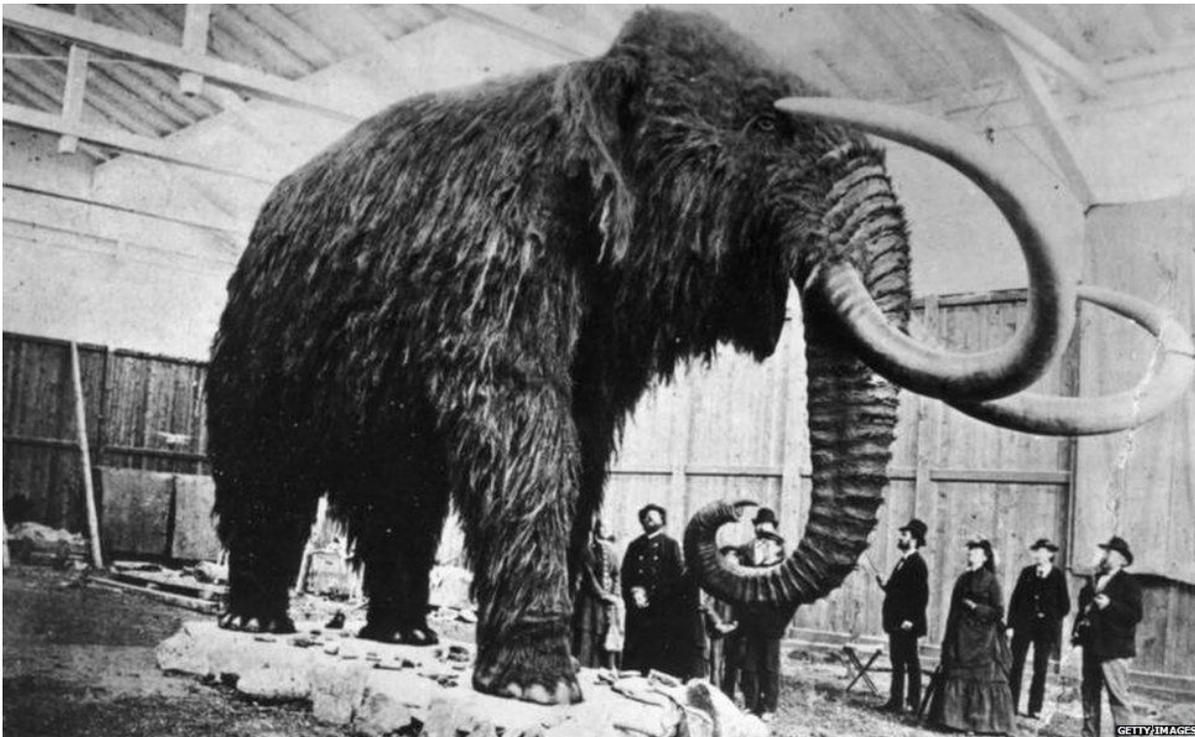
"Mammoths can restore the tundra to grassland. That's big news for shifting how humans affect climate," Novak says.

Since the late 1980s, Russian scientist Sergey Nimov has been reintroducing animals such as reindeer, horses and moose to chilly Siberia - so they can graze on the vegetation.

Professor Shapiro explains the soil is said to be colder where these herbivores have exposed it to Arctic air.

"There is a lot of carbon trapped in the Siberian permafrost and if these animals slow down that melting, we can slow the release of that carbon, potentially slowing the rate of global warming," she says.

Mr. Novak says Siberia is the ideal place to reintroduce herds of mammoths. "There's one thing only that animal can do and it's the same thing that African elephants do on the great plains. They can knock over trees and keep those grasslands clear of invading forests."



A stuffed mammoth excavated from ice in Siberia is exhibited in St Petersburg Museum

How to bring back a mammoth

It's impossible to clone a mammoth. Cloning requires a living cell and mammoths have been dead for thousands of years.

Even when mummified mammoths are found in Siberia (and this is happening more often because the frozen soil up there is melting) this doesn't mean we will get good quality DNA.

DNA is the set of instructions that determine how every cell in your body is produced. Short sets of DNA forms genes. Genes make up a genome. Each species has a unique genome.

In April, scientists got one step closer to bringing back the mammoth. They figured out the order of its DNA. They now have the mammoth blueprint.



A 39,000-year-old baby Mammoth named Yuka on display in central Moscow



A young Asian elephant

Professor Shapiro explains: "Once an animal dies, the DNA within every cell starts to break down straight away."

"When you have a mummy it freezes really slowly and the guts will burst and go around the bloodstream and all the bacteria that are in the guts will start chewing up the DNA."

"We can't clone a mammoth in the traditional sense," says Professor Shapiro. "But we can change the genome of an Asian elephant, the closest relative to the mammoth."

This creates a living cell that would be an elephant cell, but with mammoth inserts. What scientists are actually creating is a completely new animal. A hybrid mammoth-elephant.

"Genetic engineering on steroids" is what Professor Stanley calls it.

"It is very roughly similar to Jurassic Park," he says.



Sometimes bringing species back isn't a good idea (this one from the new Jurassic Park film obviously doesn't exist)

Why bringing back a mammoth might not be a good idea

"Elephants fare incredibly poorly in captivity," argues Professor Shapiro.

"They become physically and emotionally ill, they often fail to reproduce or if they do have babies, they injure and sometimes even kill them," she says.

"Those animals shouldn't be in captivity at all, much less be in captivity for some crazy scientific experiment.

"It's extremely powerful technology. I don't want to talk about my worries because I don't want to put those ideas in bad people's heads.

Professor Temple worries this technology will also make it harder to protect endangered species.

He thinks property developers are already very aggressive when they want to build over a natural habitat.

"De-extinction just provides the ultimate 'out'. If you can always bring the species back later, it undermines the urgency about preventing extinctions."

However Mr. Novak says bringing back mammoths could actually help prevent elephants becoming extinct.

"It's like producing a safe haven back-up herd of elephants. If elephants ever become really endangered, there's that herd of mammoths that we can always turn those mutations back around and get them right back around to their original elephant they started with."