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Drought and poachers take Botswana's natural wonder to brink of catastrophe

Aerial survey reveals some wildlife populations have shrunk by 90% in 15 years

David Smith in Johannesburg
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A bull giraffe flanked by a female strides through the Kwedi area of the Okavango delta. Photograph: Gernot Hensel/Corbis

The Okavango delta in [Botswana](#) has suffered "catastrophic" species loss over the past 15 years, researchers have announced, in the latest sign of a growing crisis for [wildlife in Africa](#).

Some wild animal populations in the delta, one of the wonders of the natural world, have shrunk by up to 90% and are facing local extinction, according to the most comprehensive aerial survey yet undertaken there.

The findings come after a study this month showed dramatic declines in animal numbers in the Masai Mara wildlife reserve, south-west Kenya, raising anxiety about the effectiveness of [conservation](#) across the continent.

The delta, in north Botswana, has about 50,000 islands among a series of channels, lagoons and swamps, whose waters reach the Kalahari desert. Travellers pay premium rates to stay in upmarket safari lodges, many accessible only by air, and for the chance to explore the pristine 16,000 sq km oasis.

Botswana has been careful to restrict visitor numbers and preserve the fecundity of this watery wilderness. But that strategy has suffered a blow from research which shows that some of the delta's most precious assets will be jeopardised unless urgent action is taken.

"The results were unexpected," said Mike Chase, founder of Elephants without Borders, which did the aerial survey of the region. "There has been a cosy pretence that wildlife is thriving and doing well in the Okavango delta. Our survey provides the first scientific evidence that wildlife is declining, and pretty sharply too. That cosy pretence has been blown out of the water."

He added: "It is still one of Africa's great wildlife destinations, but doing nothing will jeopardise that reputation."

Chase's study found that 11 species have declined by 61% since a 1996 survey in Ngamiland district, the location of the delta. Ostrich numbers were worst hit; there was a 95% drop, from 11,893 animals to 497 last year. Some 90% of wildebeest were also wiped out, along with 84% of the population of the antelope tsessebe, 81% of warthogs and kudus, and nearly two-thirds of giraffes.

"The decline of wildebeest has been catastrophic. The numbers have fallen below the minimum of 500 breeding pairs to be sustainable. They are on the verge of local extinction. These are grim statistics. You would have expected to see serious decline since the 70s in somewhere like Kenya, but our trend analysis only goes back to the 90s. To have seen decline on our watch is totally unacceptable," Chase said.

Chase suggested a drought in the 1980s and 1990s, plus bushfire, habitat encroachment and poaching, as the main reasons for the nosedive. "The causes are multiple and complex, but drought is the over-arching one."

This was not necessarily attributable to climate change, however, as the record dry spell has been followed by torrential rain and flooding this year. "We tend to move in 20- to 30-year cycles, and we are now moving into a wet cycle. There are rivers that now have water for the first time in years. We need to monitor how the animals respond." Poaching also had had a big impact. Chase said: "A poacher assumes that 100,000 is a lot of lechwe, but in 10 years they've been cut by half. Compared to other African countries we still have a great wildlife resource, but our anti-poaching unit is stretched. They can't respond to everything. They are trying."

Not all species experienced a downward trend; hippos increased at 6% a year, and the world's biggest elephant population appeared stable, with about 130,000 animals.

The researchers flew 100 metres above the delta in a Cessna aircraft with digital cameras mounted on each side, , conducting what Chase claims is was the most precise count yet of the animal populations.

"We've caught them at the right time," he added. "Wildlife is dynamic and, with a little help from fantastic conditions, anti-poaching measures and some government assistance, it will rebound. This is the goose that lays the golden egg for tourism."

The study was funded by Botswana's government and Chase was due to present his findings to ministers and scientists on Friday.

Some warned against panic. Richard Fynn, of the Okavango Research Institute at Botswana University, said: "A lot of the scientists I've spoken to here have urged caution about taking too much from these findings. People are saying this is a good start but we need to be careful about saying 'whoa, we have a big problem here'. We cannot be sure what the population levels were in the past and we need to do more detailed research. Yes, there are declines in certain species such as tsessebe, but I think we'll see a big increase in species such as zebra. To make it out as a catastrophe would be unhelpful."

Botswana, the world's biggest diamond producer, is beset by labour disputes and knows its diamond reserves will one day be exhausted. Tourism is the second biggest sector of the economy and crucial to diversification.

One politically sensitive topic is the fencing to separate wildlife from farmers' livestock. Joseph Okori, a local wildlife expert, said: "We did see a great impact from fences on

species like springbok, kudu and zebra. When drought comes these fences blocked them from normal migration patterns and access to water."

The Okavango delta is not the only tourist destination in Africa to face a loss of natural bounty. Researchers found that in the Masai Mara, numbers of impala, warthog, giraffe, topi and Coke's hartebeest had declined by more than 70% over three decades.

Scientists at Hohenheim University in Germany, and the International Livestock Research Institute in Nairobi, said wildebeest had again been badly hit: their celebrated migration now involved 64% fewer animals than it did in the early 1980s. Zebra numbers inside the reserve had fallen by three-quarters.

Joseph Ogutu, a senior statistician in the bioinformatics unit at Hohenheim University, said: "There is a crisis. And what we're seeing in the Mara is not specific to that region." The conflict between wildlife and farming livestock was seen as significant here too. Ogutu told of a 1,100% increase in cattle grazing in the reserve, along with poaching and changing land-use patterns – the primary causes of the Mara's downward trend in wildlife populations.

Conservationists believe there are lessons to be learned from both trouble spots. "One of the big problems in both the Mara and the Okavango delta is that we are not looking at how the land around them is managed," said

Drew McVey, species programme officer at WWF-UK. "It's very important that we have a more holistic approach to conservation and development and don't see these as isolated islands. We need to think of them as full ecosystems."

But McVey denied that African wildlife was in crisis. "I tend to be an optimist. I do think we're in a very challenging period, balancing the demands for development with making sure they take into account the ecosystem. The issues we face as conservationists are changing."

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