Orphaned elephants forced to forge new bonds decades after ivory ban

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An African elephant never forgets - especially when it comes to the loss of its kin, according to researchers at the University of Washington. Their findings, published online in the journal, Molecular Ecology, reveal that the negative effects of poaching persist for decades after the killing has ended.

“Our study shows that it takes a long time - upwards of 20 years - for a family who has lost its kin to rebuild,” said lead researcher Kathleen Gobush, Ph.D., a research ecologist for the National Oceanic and Atmospheric Agency and a former doctoral student at the University of Washington Center for Conservation Biology.

African elephants rely heavily on matriarchs to lead groups and keep families together. Before the 1989 ban on ivory trade, nearly 75 percent of all elephants in Tanzania’s Mikumi National Park were killed. Poachers targeted those with the largest tusks - particularly older matriarchs. “A lot of these females lost their sisters and mothers, and were left living a solitary existence,” said Sam Wasser, Ph.D., director of the Center for Conservation Biology at the University of Washington. “So the question became, what are the long-term impacts on the genetic relatedness of groups?”

In search of an answer, the scientists tracked more than 100 groups of elephants living in Mikumi National Park. They assessed the lasting effects of poaching on group size, relatedness, and social bonding by comparing information about each group with previous reports of

protected populations.

The researchers found that elephants in Mikumi formed unusually small groups, with nearly a third of the females living alone. Interestingly, some of the elephants chose to forge new bonds with unrelated groups after their own kin had perished.

“When we saw the solitary females, we initially thought that some lucky elephants still had their families, while other elephants had lost it all,” Gobush said. “But we actually saw a flexibility in their behavior. Some elephants were able to find their way and create new bonds with unrelated female elephants, while others did not.”

The researchers say it is unclear how long the effects will persist, especially in light of the recent increase in illegal ivory trade. But one thing is certain: Poaching continues to introduce major disruptions in the African elephant’s family tree at a substantial cost.

“Elephants are very long-lived animals. They are extremely social, and there’s a tremendous amount of group integrity and competitive ability,” Wasser said. “It’s been nearly 20 years since the ivory ban and there are still incredibly persistent impacts of illegal culling on these populations.”

Article: “Genetic relatedness and disrupted social structure in a poached population of African elephants” (by Kathleen Gobush, Ben Kerr and Samuel Wasser, Department of Biology, University of Washington, Washington, USA) is published online this week in *Molecular Ecology*, and will be included in the full Issue 18:4
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