

Raising minimum age of trophy hunted lions could increase hunting sustainability

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Raising the minimum age threshold for trophy hunted male lions to eight years to account for errors in aging estimates by professional hunters could increase hunting sustainability, suggests a modeling study

published in *Scientific Reports*.

Trophy hunting is widely practiced in Africa as a conservation strategy, but its use can be contentious. Although the minimum age threshold for hunted male lions is typically six years, previous research has suggested that lions aged between four and seven years old are often estimated to be older than they actually are. In addition, lions are also at risk from poaching and conflict with livestock owners.

Andrew Loveridge and colleagues modeled the impacts of poaching, conflict with humans, and [trophy hunting](#) using a range of age thresholds on a simulated population of 500 lions in 40 prides, which was developed using data from a 20-year study of lions in Hwange National Park, Zimbabwe. The authors found that trophy hunting younger males and higher levels of poaching or conflict led to severe population declines, but that restricting hunting to older males was more sustainable.

Under conditions with low levels of conflict (with 0.4% monthly mortality) and high levels of hunting (a quota of 18 lions per year), minimum age thresholds of at least seven or eight years were required to maintain stable populations, with a threshold of eight years being the most sustainable.

These results were replicated when hunter aging estimate errors were incorporated into the simulations. Simulations involving conflict and a hunting age threshold of six years or older led to population declines of more than 30% over 45 years. Moderate levels of poaching or conflict (with 0.8% monthly mortality) and minimum hunting age thresholds of five years or older resulted in population declines to extinction.

The authors conclude that [trophy](#) hunting should be limited to older male lions and that a precautionary approach should be taken when setting [hunting](#) quotas for large carnivore populations affected by poaching and

[conflict](#) with livestock owners.

More information: Andrew Loveridge, Anthropogenic edge effects and aging errors by hunters can affect the sustainability of lion trophy hunting, *Scientific Reports* (2023). [DOI: 10.1038/s41598-022-25020-9](https://doi.org/10.1038/s41598-022-25020-9). www.nature.com/articles/s41598-022-25020-9

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