

Recovering population of Zimbabwean African lions show low genetic diversity

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Lion (*Panthera leo*). Credit: Regina Hart, Flickr

The lion population of Zimbabwe's Savé Valley Conservancy shows low

genetic diversity despite improved numbers, according to a study published February 7, 2018 in the open-access journal *PLOS ONE* by Laura Tensen from the University of Johannesburg, South Africa, and colleagues based in the Savé Valley Conservancy.

The African [lion](#) (*Panthera leo*) [population](#) in the Savé Valley Conservancy of the Lowveld region of Zimbabwe fell to less than ten known individuals, until the 2005 introduction of ten new lions helped it recover to around 200 in 2016. But since this population originated from just a few individuals, there are concerns about potential low genetic diversity due to inbreeding. The authors of the present study genotyped a sample of 42 Savé Valley lions, using mitochondrial and nuclear markers to compare the genetic diversity of this population to that of other African [lion populations](#).

The researchers found that the Savé Valley lion population appears to be the least genetically diverse of those in Zimbabwe's Lowveld region, with evidence of inbreeding. The population also appeared genetically distinct from others, likely because factors such as human development may have prevented the populations mixing.

Lion populations with low genetic diversity are known to be at risk for reduced fertility and increased death rates compared to more diverse populations. Given their findings, the authors suggest the introduction of new unrelated lions into the Savé Valley population may become necessary to enhance its genetic diversity and ensure its long-term future.

More information: Tensen L, Groom RJ, Khuzwayo J, Jansen van Vuuren B (2018) The genetic tale of a recovering lion population (*Panthera leo*) in the Savé Valley region (Zimbabwe): A better understanding of the history and managing the future. *PLoS ONE* 13(2): e0190369. doi.org/10.1371/journal.pone.0190369

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