Once widespread throughout Africa and southwestern Asia, the cheetah has disappeared from most of its historical range, making it Africa’s most threatened big cat. Scenario modelling has suggested the survival of the cheetah is highly dependent on protected areas and woodland habitats. However, the natural recolonization of many of these areas by cheetahs is unlikely. This is mostly because of the high density of human habitation and large distances between the sites where cheetahs still occur. Reintroductions into protected areas within the recoverable range therefore have the potential to assist in the conservation of this iconic species.

In 2017, 20 years after the last cheetah was recorded in Malawi, African Parks reintroduced seven cheetahs into Liwonde National Park. This project was carried out in partnership with the
Endangered Wildlife Trust and Malawi’s Department of National Parks and Wildlife. A dedicated team conducted post-release monitoring. Following cheetahs daily provided a unique insight into how translocated individuals explored and adapted to their new surroundings. Although this style of post-release monitoring for reintroduced carnivores is common, the results are often not reported and the means of population establishment are rarely examined. This limits our understanding of what factors influence the success of a reintroduction and hampers our ability to improve future reintroductions. In this study, we examined 2 years post-release monitoring data from Liwonde National Park to assess the early movements, settlement, survival, and reproduction of the first cheetahs to be reintroduced into Malawi.

Left: Lead author, Olivia, collaring and collecting genetic samples from a dispersing male cheetah prior to translocation. Right: Cheetah being released from the temporary holding facility into Liwonde National Park.

We found that cheetahs explored the Park for > 174 days post-release before developing home ranges. As expected, males travelled significantly farther and established home ranges later than females. We were happy to report that all three female cheetahs gave birth to their first litter within 4 months of release. Within 2 years of reintroduction, the newly established population consisted of 14 cheetahs, with breeding and survival rates similar to other wild cheetah populations.

As recommended in our article, monitoring of Liwonde’s cheetah population continues, almost 5 years post-reintroduction. Liwonde’s monitoring team, now led by Lilongwe Wildlife Trust, has seen the population fluctuate from the initial seven individuals up to 21 at its peak. Of the three reintroduced females, two are still successfully rearing cubs and together have raised a total of 21 cubs to independence. Overall, 42 individual cheetahs have been recorded in Liwonde. This includes successful breeding and cub rearing from second-generation individuals. Critical to the success of this reintroduction was the strategic timing of reintroducing cheetahs prior to other large carnivores, especially lions, to reduce competition. African Parks also removed over 27,000 snares and erected 140 km of predator-proof fencing.
The sustained growth of Liwonde’s cheetah population has allowed it to contribute individuals to other protected areas in the region. Cheetahs born in Liwonde were the source for establishing Malawi’s second cheetah population, in Majete Wildlife Reserve, and for reintroduction into the Zambezi Delta of Mozambique. In partnership with African Parks, the Endangered Wildlife Trust has also translocated an additional three unrelated male cheetahs to Liwonde to promote genetic diversity within the population. The continued intensive cheetah monitoring in Liwonde, with support from the Endangered Wildlife Trust’s Cheetah Metapopulation Project, is directly informing these translocations, ensuring they mimic natural dispersal, and support genetic and demographic integrity.

Reintroduction success can be viewed on three scales: an individual’s settlement, the establishment of a population, and overall population persistence. It is important that conservation managers undertaking reintroductions acknowledge that successful establishment is not a guarantee of population persistence. Five years post-reintroduction, Liwonde’s cheetah population continues not only to persist, but to grow and thrive. Importantly, it was also the catalyst for the natural return of other wildlife, such as four vulture species, three of which are Critically Endangered and one is Endangered. We hope our findings will aid in future reintroductions and post-release monitoring within the region and encourage others to analyse and publish their post-release monitoring data.
Malawi’s second and third generation of cheetahs; female Ch3 with two of her three cubs.

All photos: O. Sievert

The article Assessing the success of the first cheetah reintroduction in Malawi is available open access in Oryx—The International Journal of Conservation.
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