Oryx

# Tracking Cape vultures

By Ben Jobson, 4th September 2020

The Cape vulture *Gyps coprotheres* is a  species ranging widely in southern Africa. Like that of most Old World vultures, its population is declining as a result of a myriad of threats. These include electrocution and collision with energy infrastructure, and poisoning, such as the mass poisoning that affected hooded vultures in Guinea Bissau earlier this year. The belief among some local communities that consuming vulture body parts can provide health benefits or bring good fortune is an additional threat. Since first encountering vultures, these unique scavengers have fascinated me as much, if not more, than the charismatic mammals of Africa. Cape vultures are categorized as Endangered on the IUCN Red List and urgent action is needed to address the threats they face and prevent further population declines.

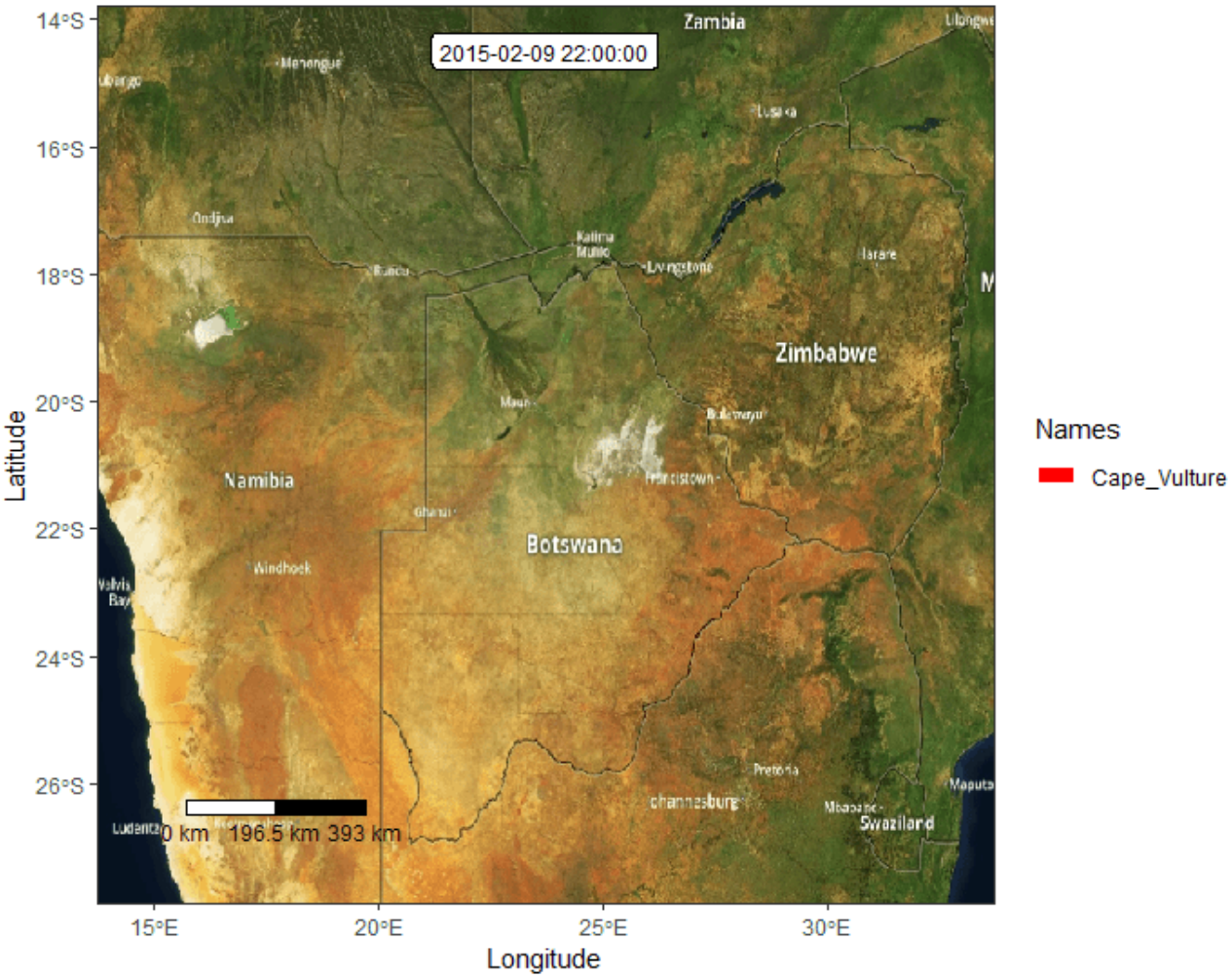
Close up of Cape vulture in flight.

In the summer of 2018, I flew out to South Africa to work with VulPro as part of my Master's in Conservation Science at Imperial College London. VulPro is an NGO working for vulture

conservation across South Africa and beyond. They recognized the urgent need to take action to avert the precipitous declines of vulture species through conservation efforts including, most significantly, a captive breeding and rehabilitation programme. As Cape vultures are long lived, only reaching sexual maturity at 7 years, rehabilitating individuals and enhancing the population with additionally bred birds is vital. The VulPro team use an active adaptive management approach, which involves monitoring the birds post-release to hone their approach for future releases. As such, the team had collected GPS tracking data for a large number of Cape vultures over the previous few years. Whist at VulPro I was able to assist with the extensive fieldwork that the organization conducts. This included helping with the captive breeding process, caring for resident birds, monitoring wild breeding colonies, GPS-tagging wild vultures, providing supplementary food at so-called vulture restaurants, releasing rehabilitated vultures, conducting power line mortality surveys, discussing priority power lines for mitigation, and more.

Left: One of the breeding birds at VulPro stretching its wings. Right: Cape vulture chick.

As part of my research, I conducted spatial analyses on the tracking data VulPro had collected and compared the post-release movements of captive-bred and rehabilitated Cape vultures. My analysis demonstrated the longest known journey by any Cape vulture! This bird, remarkably, travelled across an area of 2 million $km^2$ and visited most of the countries in southern Africa (see gif). This was even more impressive as this individual was a rehabilitated bird, rescued after being found emaciated and unable to fly.




I mapped birds released by VulPro across eight countries: South Africa, Lesotho, Eswatini, Botswana, Namibia, Angola, Zimbabwe and Zambia. (Not all tracked birds were included in our published article, because the home ranges of some were still expanding and we wanted to compare total home range sizes.) These countries (and Mozambique) constitute the entire range of the Cape vulture. This demonstrates that the birds released by VulPro are able to mix with Cape vultures from across the species' geographical distribution and potentially contribute to the genetic heterozygosity of the population when they reach breeding age. The wide-ranging movements of these vultures also remind us of the importance of collaboration and cross-border conservation efforts to protect the species throughout its range.

Vulture 126 released by VulPro with wing tags for distance identification.

Our results showed there were no statistically significant differences between the spatial ecology of captive-bred and formerly-wild rehabilitated birds in terms of their foraging movements and home range. This indicates that captive-bred birds have retained their innate abilities to forage nomadically throughout the landscape and fulfill their ecosystem service of scavenging carrion, and that rehabilitating injured birds is a worthwhile exercise, as they can be released as fully-functioning members of the population. This is a crucial finding for an Endangered species that, alongside other *Gyps* vultures, has experienced precipitous declines and needs urgent conservation intervention.

https://www.oryxthejournal.org/wp-content/uploads/Vulture_release_video_Ben_Jobson.mp4

Our study also showed that the home ranges of captive-bred birds were located closer to the release site than those of rehabilitated birds and that captive-bred birds spent more time within the national protected area network, probably because the release site was within a protected area. Nevertheless, vultures foraging close to the release site and benefiting from supplementary feeding will be less likely to succumb to threats. Our study has helped to inform VulPro's adaptive management process and ensure the best chances of survival for released vultures.

Cape vulture in flight.

All photos: Ben Jobson

The article ‘Home range and habitat selection of captive-bred and rehabilitated cape vultures *Gyps coprotheres* in southern Africa’ is available in *Oryx—The International Journal of Conservation.*

## Ben Jobson

Ben Jobson is based at BirdLife International, where he has worked to improve the safe development of renewable technologies through sensitivity mapping. He is currently Programme Officer at the Integrated Biodiversity Assessment Tool, which provides biodiversity data to inform wildlife compatible developments in the private sector.