Project Update: January 2024

With the completion of the fieldwork portion of this project, and now the advent of the data analyses stage, I would like to reflect on the project's successes made possible with the generous support of The Rufford Foundation. In total, 13 private protected areas (sites) across Namibia were visited for sampling; seven sites without resident spotted hyaenas, and six sites with resident spotted hyaenas. All thirteen sites had vultures present in varying densities and compositions, with lappet-face vultures (*Torgos tracheliotos*) being present at all sites. With the continual help and assistance from local property owners, managers, and staff at each site, a total of 54 carcasses (Table 1) have been recorded; 24 in spotted hyaena occupied areas, and 30 in spotted hyaena unoccupied areas. Of the total carcasses, 11 were visited by vultures; eight were in spotted hyaena occupied areas and three were in spotted hyaena unoccupied areas, lending initial support to the hypothesis of a positive relationship between vultures and spotted hyaenas. Through the analysis of the collected dataset, we will be able to determine the circumstances behind this varied vulture visitation rate, and fully test the spotted hyaena-vulture relationship hypothesis.

Table 1. Number of carcasses from each prey species located during the fieldwork of this project.

Species	Scientific name	Carcass count
Gemsbok*	*Oryx gazella*	15
Hartman's mountain zebra*	*Equus hartmannea*	5
Burchell's plains zebra	*Equus quagga*	3
Blue wildebeest*	*Connochaetes taurinus*	3
Ostrich	*Struthio camelus*	4
Greater kudu*	*Tragelaphus strepsiceros*	6
Warthog	*Phacochoerus africanus*	1
Feral donkey	*Equus asinus*	1
Chacma baboon	*Papio ursinus*	1
Impala	*Aepyceros melampus*	1
Springbok	*Antidorcus marsupialis*	14

*Species carcasses visited by vultures

In addition to the diversity of carcasses located across all sites, the diversity of scavenging species identified by camera trap monitoring was similarly impressive (Table 2). To our knowledge, this dataset represents the most spatially diverse natural carcass utilisation captured of Namibian scavengers across a gradient of large carnivore compositions. This greatly improves our ability to interpret the data in how vultures choose and utilise carcasses across this gradient, in this case the presence or absence of spotted hyaenas and help to unravel the interspecific relationships they share. Utilising the outcomes of this project we'll be able to address the fundamental knowledge gap of how large carnivore loss impacts vultures and how to improve conservation initiatives for both taxa.

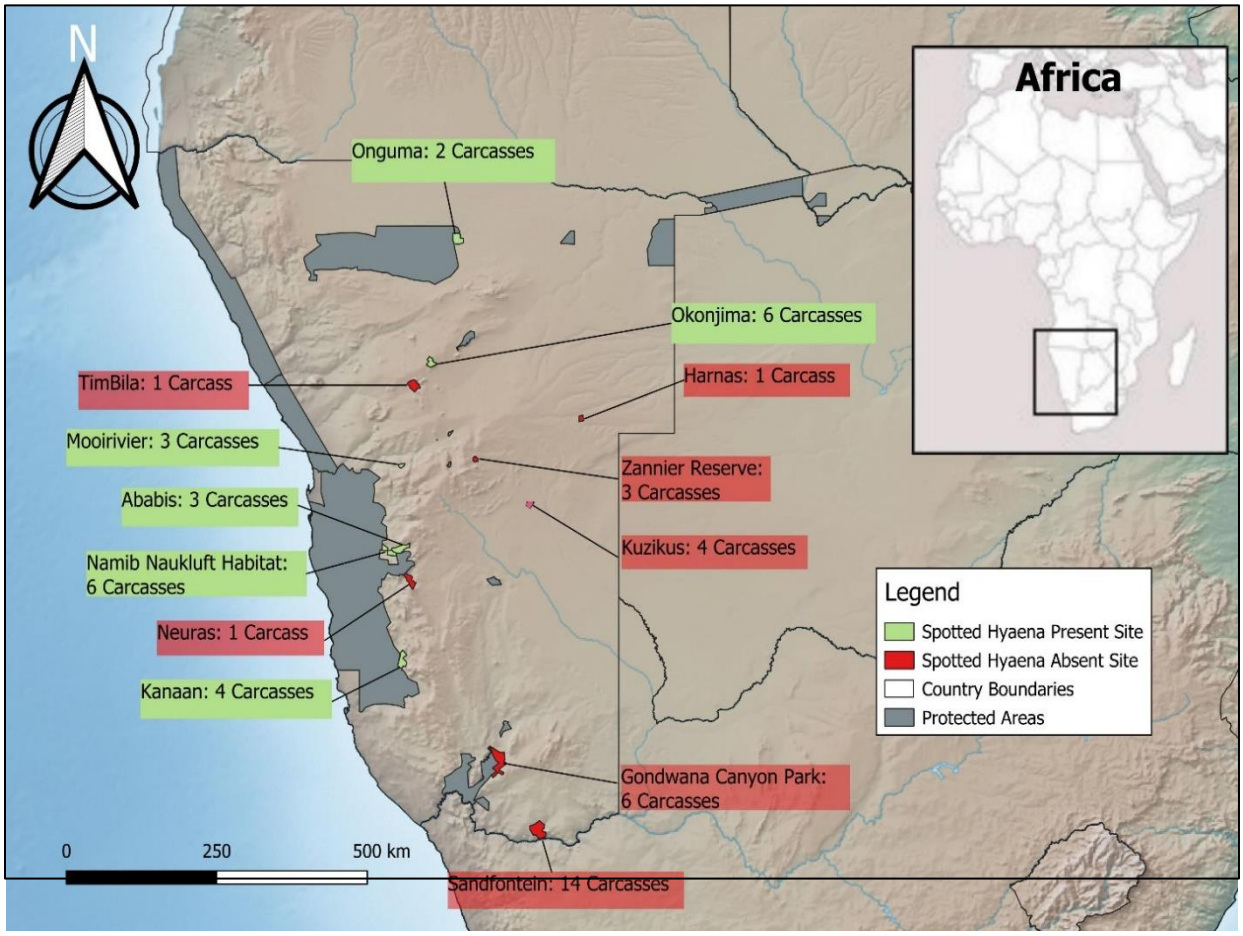
Table 2. Diversity of Namibian scavenger species identified visiting the carcasses, highlighting this resource's importance.

Species	Scientific name
Lappet-face vulture	*Torgos tracheliotos*
White-backed vulture	*Gyps africanus*
Cape vulture	*Gyps coprotheres*
Pied crow	*Corvus albus*
Cape crow	*Corvus capensis*
African lion	*Panthera leo*
Spotted hyaena	*Crocuta crocuta*
Brown hyaena	*Parahyaena brunnea*
Black-backed jackal	*Canis mesomelas*
Cape fox	*Vulpes chama*
Honey badger	*Mellivora capensis*
Slender mongoose	*Herpestes sanguineus*

Several informative presentations and casual information-sharing sessions with staff were given across the sites throughout the fieldwork, often including international guests and volunteers. The general feedback I have received is how unaware most of us are to the plight of vultures and spotted hyaenas both in Namibia and globally. The involvement with the various staff, local researchers, and managers at each of the 13 sites does not cease with the conclusion of the fieldwork. Each site will receive a compiled report on what was conducted and found there, including full access to the published findings of this project in due course. This continued contact and exchange of information should help keep an interest in this project's significance and foster continued future cooperation both with scavenger conservation and further conservation and research initiatives.

Informative presentation given to staff and volunteers at the Kanaan Reserve after a morning of data collection in the field. These sessions produced a lot of interest in the

significance and future outcomes of this project, which are intended to be shared openly including on social media platforms. © Karl S Fester.



Map of the private protected areas visited during this project's fieldwork for data collection. © Karl S Fester.

White-backed vultures (*Gyps africanus*) roosting in an acacia tree on the Kuzikus Reserve, a spotted hyaena absent site. © Karl S Fester.