

## Project Update: August 2023

By mid-August 2023, 12 sites have been visited and sampled; six sites with resident spotted hyaenas and six without. With the continual help and assistance from local property owners, managers, and staff at each site, a total of 48 carcasses have been found, recording 11 different Namibian vertebrate scavenger species. These include lappet-face vultures (*Torgos tracheliotos*), white-backed vultures (*Gyps africanus*), Cape vultures (*Gyps coprotheres*), pied crows (*Corvus albus*) and Cape crows (*Corvus capensis*), as well as spotted hyaenas (*Crocuta crocuta*), brown hyaenas (*Parahyaena brunnea*), black-backed jackals (*Canis mesomelas*), Cape foxes (*Vulpes chama*), honey badger (*Mellivora capensis*) and slender mongoose (*Herpestes sanguineus*). The carcass species include: 14 gemsbok (*Oryx gazella*), five Hartman's mountain zebra (*Equus hartmannea*), three Burchell's plains zebra (*Equus quagga*), three blue wildebeest (*Connochaetes taurinus*), four ostrich (*Struthio camelus*), four greater kudu (*Tragelaphus strepsiceros*), one warthog (*Phacochoerus africanus*), one feral donkey (*Equus asinus*), one Chacma baboon (*Papio ursinus*), one Cape hare (*Lepus capensis*), one impala (*Aepyceros melampus*) and 10 springbok (*Antidorcus marsupialis*).

Each site has had vultures present thus far, and preliminary findings from the collected data show the located natural carcasses at the sites without spotted hyaenas is marginally higher (28) than at sites with spotted hyaenas (20). From the data gathered by the remote camera traps placed at these carcasses however, more carcasses have been visited by vultures at the sites with spotted hyaenas (eight) than at sites without their presence (two). Although these inferences lend support to the hypothesis that spotted hyaenas play an important role in vulture carcass selection and feeding, further analyses on carcass sizes and scavenger species' associations from this valuable data will reveal the true nature of their relationship.

With the direct involvement of staff, local researchers, and occasional guests and volunteers at each site, the conservation importance of this project is being communicated far and wide. The steady decline of vultures and hyaenas is not always known, and even less about their interactions and potential reliance. By assuring outside involvement in this project's fieldwork I am not only communicating the current facts, but for at least one property, I was able to influence a management decision to not reduce the local spotted hyaena population in that area. This is a positive first step in the impact that this project is expected to create.

With the fieldwork continuing through to mid-September 2023, the project is well on track to gather a sufficient dataset to determine what impact spotted hyaena presence has on vulture feeding ecology, and what conservation strategies and actions benefiting both groups can be developed.



Camera trap image of a male African lion (*Panthera leo*) visiting a gemsbok (*Oryx gazella*) carcass he produced on the TimBila Reserve, a spotted hyaena absent site. © Karl S Fester.



Camera trap image of white-backed (*Gyps africanus*) and lappet-faced (*Torgos tracheliotos*) vultures feeding together on a greater kudu (*Tragelaphus strepsiceros*) carcass produced by disease on the Okonjima Reserve, a spotted hyaena present site. © Karl S Fester.



Camera trap images from the Kanaan Reserve showing multiple scavenger species visiting a gemsbok (*Oryx gazella*) carcass. Top image: a spotted hyaena (*Crocuta crocuta*) revisiting its kill, bottom image: white-back vultures (*Gyps africanus*), lappet-face vultures (*Torgos tracheliotos*) and cape crows (*Corvus capensis*) feeding the following morning. © Karl S Fester.



Route planning for a morning of data collection together with Harnas Reserve researcher Mr. Stefanus "Franco" Ndundu. © Martine Maron.



Field classroom: a hands-on demonstration at a gembok carcass (*Oryx gazella*) on data collection, project background and importance involving international conservation volunteers visiting Namibia on the Zannier Reserve, a spotted hyaena absent site. © Karl S Fester.