



## Spotted Hyenas at Garub – Part One of their Story

by Ingrid Wiesel

Many of you may have followed the print and online press statements about the fate of the spotted hyenas and wild horses at Garub and the subsequent social media discussions, which we are not engaging in as we don't believe it to be the right forum for scientifically based discussions. A lot of different stories have been told and persist in the public and I therefore felt that it is important to give you an overview about what we know about the spotted hyena population at Garub based on our data, without engaging in speculations, and to summarize the management decisions that have been made on government level. This subject is emotionally shaped for many of our readers and close friends and we will not engage in any discussions judging the actions that have been taken and decisions that have been made. This is done on a professional level together with the government. Our project's objective was and still is to provide the relevant authorities with sound data and recommendations to aid their decision making and to then deal the best we can with the action plan that will and has so far been decided upon.



We first started studying the spotted hyena population at Garub in more detail in 2007, although their occurrence in the Koichab and at Garub had been reported to us as far back as 1995.

Sightings were more regularly reported from 2006 after we initiated a farmer survey in the area. Additionally, road mortalities that we recorded since 2000 and conflict related reports by farmers south and east of Garub indicated that there was a resident population.

In 2007, we managed to fit a GPS telemetry collar to a breeding female of the clan. A total 9317 positions were recorded over a period of 13 months. Home range location varied over time, with centres of activity at Garub and in the Koichab. Total home range size was estimated just short of 4000 km<sup>2</sup>. The hyena only ventured onto farmland on eight occasions, predominately onto farms north of the Koichab.

Population size was conservatively estimated at 3 adult animals including the collared female in 2008, but we suspected the presence of either a second clan around the mountain Dikwillem or the presence of a further adult hyena, as sightings

of three adult uncollared hyenas were reported from the mountain on a regular basis. Our subsequent darting attempts were unfortunately unsuccessful, so that we were unable to continue to monitor the population at that time.

However, we continued with our study in 2013, due to the onset of the most recent drought that contributes up to date greatly to the mortality of the horses at Garub. Additionally, the horses' weak condition makes them easy prey to spotted hyenas. Predation on horses had not been considered a significant mortality factor prior to 2013, but is suspected to be the main mortality factor now. Survival of the horses is only possible due to the permanent provision of fresh water at the trough at Garub. During extreme droughts additional water, mineral supplements and food is provided, too, enabling the horses to survive in the area. However, this also means that spotted hyenas have all year-round access to fresh water, so that they can stay in the area instead of migrating together with other game species to more favourable areas within their home range.

We therefore set-up 12 camera traps to monitor the spotted hyena population and their reproductive success at a known den site in the Garub area in 2014. Clan size was consistent and stable at five adult animals, one to two sub-adults and three to five cubs of three different ages, indicating the presence of three breeding females in the clan. In 2016, we managed to fit one of the breeding females and a young male with GPS telemetry collars. The male emigrated north shortly after collar deployment, but the female stayed in the area until today. We unfortunately were only able to do one data download, but her movements were consistent with the data that we retrieved from the collared female in 2007 and 2008, indicating that their home range area remained the same. At present, camera footage shows that the clan consists of five adults, 2 sub-adults and 2 cubs.

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## Spotted Hyenas at Garub – The Way Forward

by Ingrid Wiesel

The concern that the wild horse population at Garub would not be able to survive the drought and natural occurring predation was carried forward by the Namibian Wild Horses Foundation to the Namibian Ministry of Environment and Tourism (MET) in March this year. The Ministry reviewed the Foundation's and our data and decided that they would allow the Foundation to move the horses to try to ensure their survival, pending a detailed proposal. At least two proposals on the logistics of the move were submitted to MET awaiting further comments and approval, before any action can take place.

In the meantime, however, the Foundation received permission to start with diversionary feeding of the spotted hyenas to minimise horse predation. Diversionary feeding started at the end of March and continues up to today, with feeding sites being monitored with camera traps.

Logistic and financial constraints are preventing the Foundation to use diversionary feeding to guide the spotted hyenas away from the horses' core feeding areas and to distribute feeding sites widely to simulate natural deaths, so that hyenas and horses are currently fed in in proximity to each other.

Both, the Horse Foundation and the Hyena Project are currently doing their best to deal with the situation. Monitoring is done by both sides. There is no doubt that the movement of the horses will be stressful, but the Foundation has the necessary professional experience to guide this action.

But the transition also harbours challenges for the spotted hyenas: The movement of the horses away from Garub would deprive the spotted hyenas of their major food source at once, forcing them to forage elsewhere – and unfortunately the closest food sources are found on farmland, where conflict could occur. Also, if the horses are moved onto farmland close-by, the hyenas may just follow their horse prey. Up to recently, these spotted hyenas have lived and predominately moved within the confines of two National Parks and have hence not caused any significant conflict on private land, where they run the danger of conflict related killing. We have set-up 10 additional camera traps along the National Parks' fence in May to monitor movement away from the Parks. Our additional plans to monitor the daily movement of the clan members with the help of Iridium satellite collars were unsuccessful. Although the hyenas detected our bait, they were extremely shy and alert and did not approach the bait at night when people were close-by. Alertness was definitely influenced by previous darting activity in the area as well as natural weariness at food sources, however, a major factor that contributed to their behaviour was that the hyenas were well satiated, having fed on 10 supplied carcasses in the previous three weeks, and hence not hungry enough to risk approaching an 'insecure' food source.

We also have to be careful, as long-term diversionary feeding of carnivores can lead to unexpected problems. For example, feeding related to humans can promote unwanted habituation, but we are mostly concerned that feeding may influence natural emigration and increase reproductive success, as studies on other species have shown, therefore, rather enhancing the problem of horse predation than reducing it in the long-term.

We all sincerely hope that the area receives significant rainfall soon, so that other potential prey species return to the area, and also that any decision regarding the movement of the horses is finally made, so that diversionary feeding can cease to reduce other future potential conflict.

We strongly believe that if the majority of the horses - but not all, to provide a food source buffer for the spotted hyena population – are moved, we still have the chance of a good outcome for both species.

At this point, we also urge all farmers adjoining the Parks to report sightings of spotted hyenas and to please keep us informed about their actions. One of the animals is still fitted with a collar, but its battery has expired. We need this collar to retrieve all of 2016's data, which will help us in interpreting the current situation to be able to learn from this year's experiences to guide future management decisions of similar nature.

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### **Sponsoring of Alaika**

Silke Partner has sponsored our main breeding female of the Atlas Bay Clan for the duration of one year, as a present to her father. We hope that they enjoy the updates via the newsletter. Thanks very much for your support.

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### **Publications**

**Please have a look at:**  
Burroughs, R. E. J., Penzhorn, B. L., Wiesel, I., Barker, N., Vorster, I., Oosthuizen, M. C. (2017): Piroplasms in brown (*Parahyaena brunnea*) and spotted hyaenas (*Crocuta crocuta*) in Namibia and South Africa are closely related to *Babesia lengau*. Parasitology Research 116. 685-692.

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### **Aerial telemetry**

Gino and Inga tried to find Zane, our missing male spotted hyena. They flew via the Koichab to Namtib, Weissenborn, Mount Valley, Kaanan and north towards Aanster. They didn't pick up his signal, which means that he either migrated further north or that his collars battery is expired.

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## Modelling Study

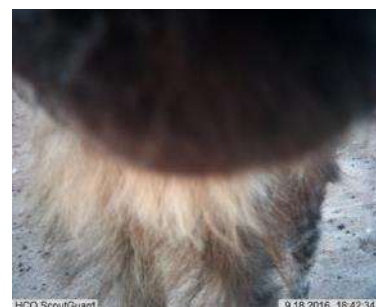
by Inga Jänecke



The first 3 months period of our random set-up of the camera traps came to an end in May. As expected we didn't capture as many hyenas on the camera traps as before. Nevertheless, we still captured the one or the other hyena. I am already excited to see the first results of the analysis to see what difference the random and non-random set-up make. Currently, the camera traps are back to our previous non-random set-up and we capture a lot more hyenas again.

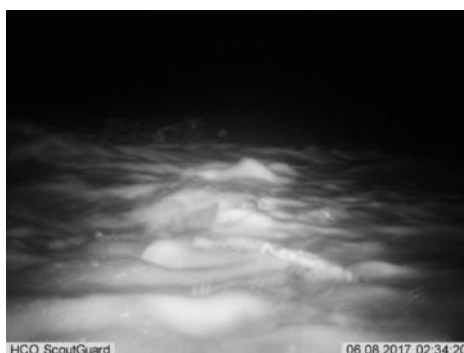


Over time our Quivertree Base camera trap started to become a marking site for our hyenas. I was initially wondering what the brown, moist texture on the protective housing might be, until I discovered a fresh hyena paste mark on the housing. That's when I realised that our camera trap housing was used for pasting. Even when I moved the camera trap away from the Quivertree Base latrine for the random set-up, the hyenas found it and continued to mark on it. A few weeks ago, I had to exchange the camera trap and I expected the paste marking to stop. But I was wrong: The hyenas have established our camera trap as a proper marking spot and



continue to paste even on the new protective housing.

During the first week of June a storm hit Cape Town which also caused high swells (approx. 6m) at our part of the coast. When I heard about the high swell I got worried about our Beach PM camera trap - as the name indicates it is on the beach, just at edge of the hummock dunes. So, when I went to check the camera trap, I was prepared for the worst. But luckily, the camera trap was still where I left it last time and it didn't seem to be damaged at all. Furthermore, the surrounding area didn't seem to have changed much. Only when I wanted to check the paste mark (which the camera trap aims on) for fresh markings, I realised that it was gone, hence the water must have been higher than what I thought. When I finally had a look through the images I saw that the water level had just reached below our camera trap. So, I would say we have been really lucky that we didn't lose our it.



## Cheetah at Overhang

by Inga Jänecke



Although people might think that a main part of our work is out in the field, an important part is reviewing and entering our data in the office. I am always excited to download the camera trap images from the SD cards to see which species we managed to capture this time. When I looked through the images of our May check, I couldn't believe my eyes and I thought I was seeing a ghost: or could it really be a cheetah on our South Coast PM camera trap? I had to look at the image several times before I was convinced that I didn't see a ghost, but a cheetah. It is quite amazing to find a cheetah just 15 km south of E-Bay and 2km off the coast. We normally find them further inland. It shows how the continuing drought may be affecting the movement of carnivores.

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## Darting Season

by Inga Jänecke



In the middle of April we started our annual darting season and it was great to have our team from 2015 back together: Kirk Suedmeyer, Clair Fukumoto, Ingrid, Max and myself. We decided to start with collaring brown hyenas at Elizabeth Bay. As always it didn't take our E-bay hyenas long to realise that we provided bait again. The first hyenas started to approach the bait soon after sunset. We were only waiting for about 1 hour when the first uncollared sub-adult hyena approached. As always, the adrenaline started rushing through my body as soon as I heard Kirk loading his dart gun and I was just waiting for the familiar sound of the dart gun going off. Everything went really fast and smoothly and we had our first hyena, a young male named Lloyd, collared. The next night was really quiet and only our general suspects (KC, Obelixa and their cubs) and our newly collared hyena, Lloyd, were feeding at the bait. The night after, we had the pleasure to welcome Brad, the manager of the E-Bay mine, and his sons in our darting team. As every night, Kirk was taking his practice shot and everyone was getting ready to settle, when the first uncollared hyena approached. I wasn't even completely settled yet, when I knew Kirk was ready to dart this hyena. I sat down on top of my sleeping bag and once again was waiting for the familiar darting sounds. Once more everything went really

smoothly and I was able to keep the hyena within the light of my torch for quite a while, but then it just managed to disappear behind a ridge. I was about a hundred meters away from the ridge and I knew that I had to get on this ridge as fast as possible. I started running towards the direction where the hyena went out of sight, jumping over rocks and trying to follow the little riverbeds. Once I got onto the ridge it took me a few minutes until I caught sight of our darted animal. At this point it was already sedated. As before everything went well and we had our second hyena, another young male named Kai-Alex, collared. It was great to share this experience with our visitors and talk them through a capture.



As we had two hyenas successfully collared, we decided to try and spent some time in other areas. Therefore, we went to Atlas Bay. Unfortunately, all the animals that came to our bait were either collared or too young to be darted. This confirmed our suspicion that there were indeed no new animals in the clan and we decided that it wasn't worth spending another night there. Three weeks later I returned to the site to remove the earth anchors and chains that we used to secure the bait. All meat was gone, but I was surprised that the bones were still properly attached to the chains. This is proof that by now we have found the perfect way to secure our bait and that the time we spend on securing bait every night, is well worth it.

Another area that we decided on to try and collar animals was the territory boundary between the Van Reenen Bay and Dreimasterbay clans. We already knew that we had a couple of long nights ahead, as we expected these animals to be really shy. We were lucky enough to have hyenas coming to the bait both nights, but they were really careful and skittish and would never stay long enough or at the right angle to the bait for Kirk to dart them. So unfortunately, we were not able to collar any animals in this area, but it was definitely an experience to remember. While we were trying to dart in this remote area, we were staying at the Van Reenen Bay research station. As there wasn't any distraction during the day we finally had some time to catch up on office work. I have to say I can get used to sitting outside in the sun and working on the computer, it is definitely something different and makes normal office work even more enjoyable.



All in all we had an exciting and successful darting season. When I checked the camera traps a few weeks later it was great to see Lloyd and Kai-Alex on the images at our E-Bay plant camera trap. They both look really well and seem to be used to the collars by now.

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## Project Volunteer Report

by Marie Lemerle

Hello, I'm Marie, the new volunteer with the BHRP. I'm French and I arrived last week in Lüderitz under a beautiful blue sky and a warm east wind weather. During my first week, I had the chance to go twice on the field in the Sperrgebiet with Inga. I really enjoyed it as I was very curious to discover the Namibian desert and I was impressed by all the different landscapes. In a day, we crossed flat and sandy areas, rocky hills, ghost towns and the ocean makes all of it even more amazing. I was also very impressed by the diamond mining area, with all the installations and the strict regulations. We were checking the camera traps that are most of time off the road, so when we hike to them we are all alone in the desert and we can only hear the sound of the wind. I loved this feeling to be the last human on earth! On our first field trip, I got even more lucky as I saw my first brown hyena, Obelixa. She was resting next to a bush on the side of the road, near the ghost town. Inga saw her first and stopped the car a bit further so we wouldn't disturb her. We went out of the car and we could approach her. She raised her head to look at us and went back to her nap. At this moment, I was very happy and I realized how lucky I was. She was beautiful and peaceful, and she wasn't afraid of us. She was the cherry on the cake and made my day even more special. Now I am working on the photos taken by the camera traps. I enjoy it because it's a good way to get to know the brown hyenas, it makes me feel closer to them. This first week was a success and I'm really looking forward to my 3 months here.



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## Citizen Science Project Participants

by Ingrid Wiesel

At this stage, I would like to thank the following participants and share some of their images: Freddi Herzberg, Timm and Inéz Miller, Werner Rogl, Alexander Rogl, Barra Viljoen, Burkart Rust, Petro Slabbert, Doris Gladis, John Moolman, Joerg Gaugler, Phil van Schalkwyk, Ferdinand Wittrock, Neurath Botha, Thys Blaauw, Uwe Rentel, Gudrun and Frank Heger, Heiko Emmel, Christian Baas, Merwe Fourie, Johan van Wyk, Michael Zimny, Andrew Campbell, Heiko Binding, MJP Hilbert, Piet, Christine and Ben Stoman, Rhyno Dreyer, Gys van Schalkwyk, Keith Newnham, Natacha Batault, Bob and Tina Roberts, Hans Christian Denk, Solveigh Thude, Allan Cilliers, D. J. Smit and E. U. Rusch.

Sightings were reported by Liesl Maritz and Remi Leemans. Thanks very much to all participants!



## FUNDRAISING

- **Namdeb** generously renewed their annual donation, which covers the majority of our running expenses. We are extremely grateful that they continue to support our work.
- **Tony Edmunds** donated **N\$ 1000** and **Silke Partner** sponsored our hyena Alaika for **€ 150**. Thank you so much for your support.

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