NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Greater Sossusvlei-Namib Landscape: Tracking ungulate movements

20 June - 26 November 2016

Collar id.	Animal	Collar status	Total no. of pings	Minimum distance (km)	Mean daily distance (km)	Current location
1771	H. zebra	Active	463	1236.10	7.87	Solitaire
1772	H. zebra	Active	424	391.26	2.64	Solitaire
1774	H. zebra	Active	307	699.75	5.93	Shangri-La
1775	H. zebra	Active	324	418.77	3.74	Ichtenberg
1776	H. zebra	Active	304	995.95	9.22	Neuras
131	Springbok	Mortality (15 August 2016)				
132	Springbok	Active	329	560.89	5.01	Wereldend
133	Springbok	Active	335	417.86	3.73	Toskaan
134	Springbok	Active	475	656.76	4.10	Stellarine
135	Springbok	Mortality (29 July 2016)				
1765	Oryx	Active	472	423.10	2.64	Namakorabis
1766	Oryx	Active	463	709.79	4.44	Namib Naukluft Park
1768	Oryx	Active	468	1530.50	9.57	Keerweder
1769	Oryx	Active	467	498.55	3.12	Hammerstein
1770	Oryx	Active	473	1176.18	7.35	Aandster

Above: Of the animals that had a comparable number of location pings, Oryx 1768 on Keerweder, Hartmann's zebra 1771 on Solitaire and Oryx 1770 on Aandster moved the furthest daily distances with 9.57 km, 7.87 km and 7.35 km respectively. Three animals were collared at the end of July/ beginning of August, including Springbok 132 (after the last one with the same collar id. died in March) and 133, Hartmann's zebra 1775 and 1776. Hartmann's zebra 1776, which is currently ranging on Neuras, moved a considerable mean daily distance of 9.22 km. As was indicated in the previous newsletter, Hartmann's zebra 1773 died in May and its collar was retrieved in June. Sadly, two collared springbok (131 and 135) died in August and July respectively. Note: Location signals/ pings are 8-hourly.
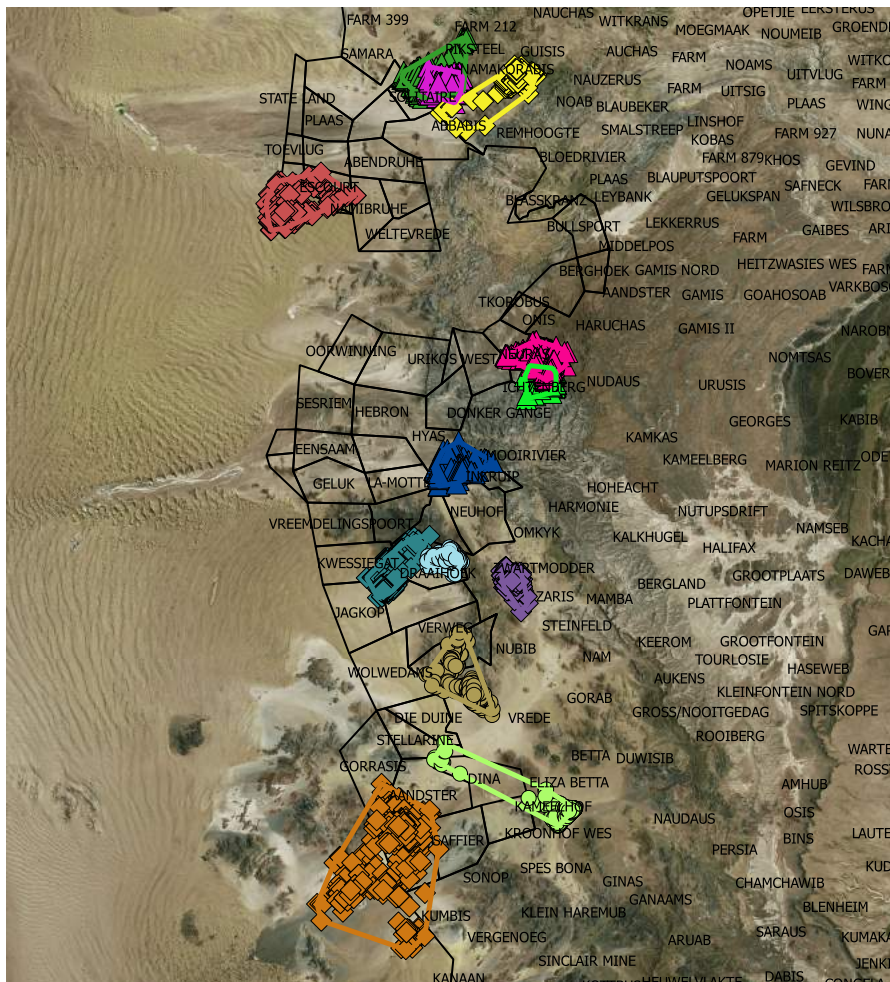
Left: Map of GSNL showing the movements of all collared animals (Points represent 8 hourly positions, polygons represent home ranges)

Legend

- ● Springbok (132)
- ● Springbok (133)
- ● Springbok (134)
- ◆ Oryx (1765)
- ◆ Oryx (1766)
- ◆ Oryx (1768)
- ◆ Oryx (1769)
- ◆ Oryx (1770)
- ▲ Hartmann's zebra (1771)
- ▲ Hartmann's zebra (1772)
- ▲ Hartmann's zebra (1774)
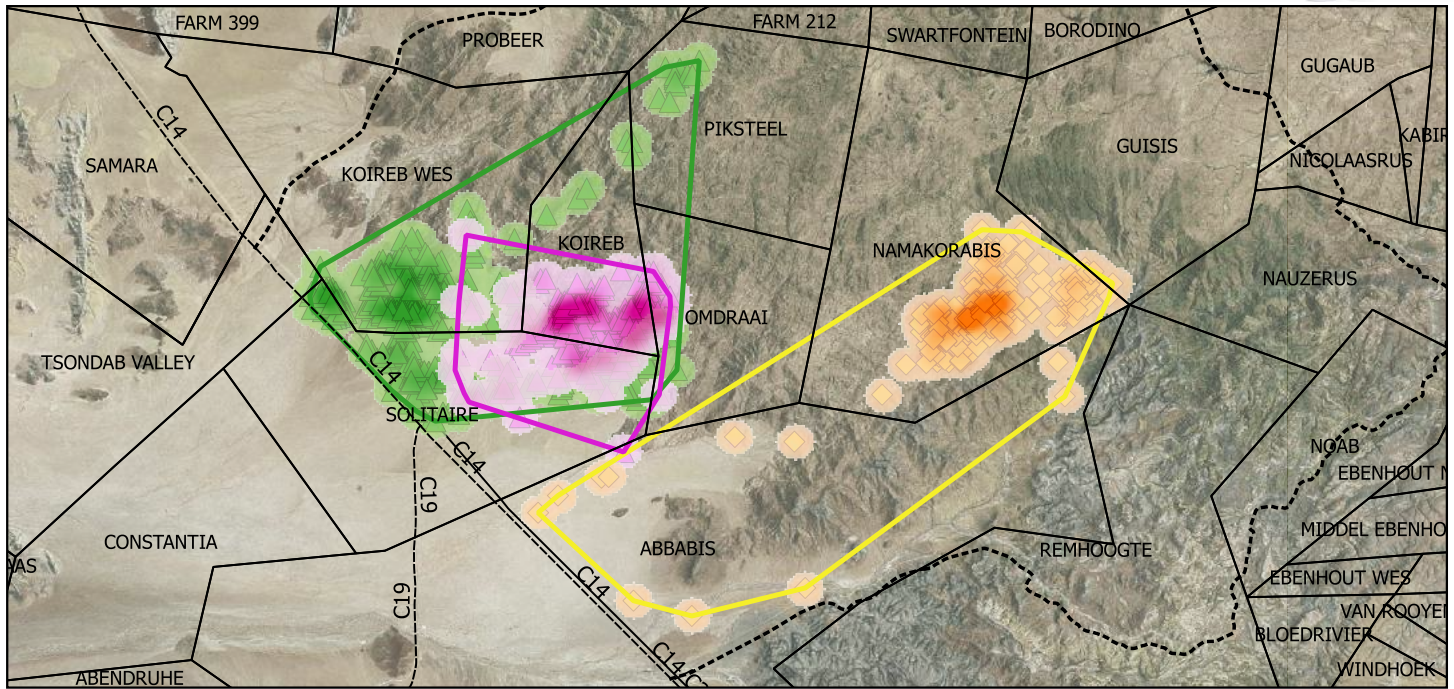- ▲ Hartmann's zebra (1775)
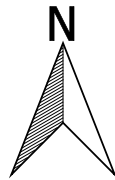- ▲ Hartmann's zebra (1776)

N

0 10 20 30 40 km

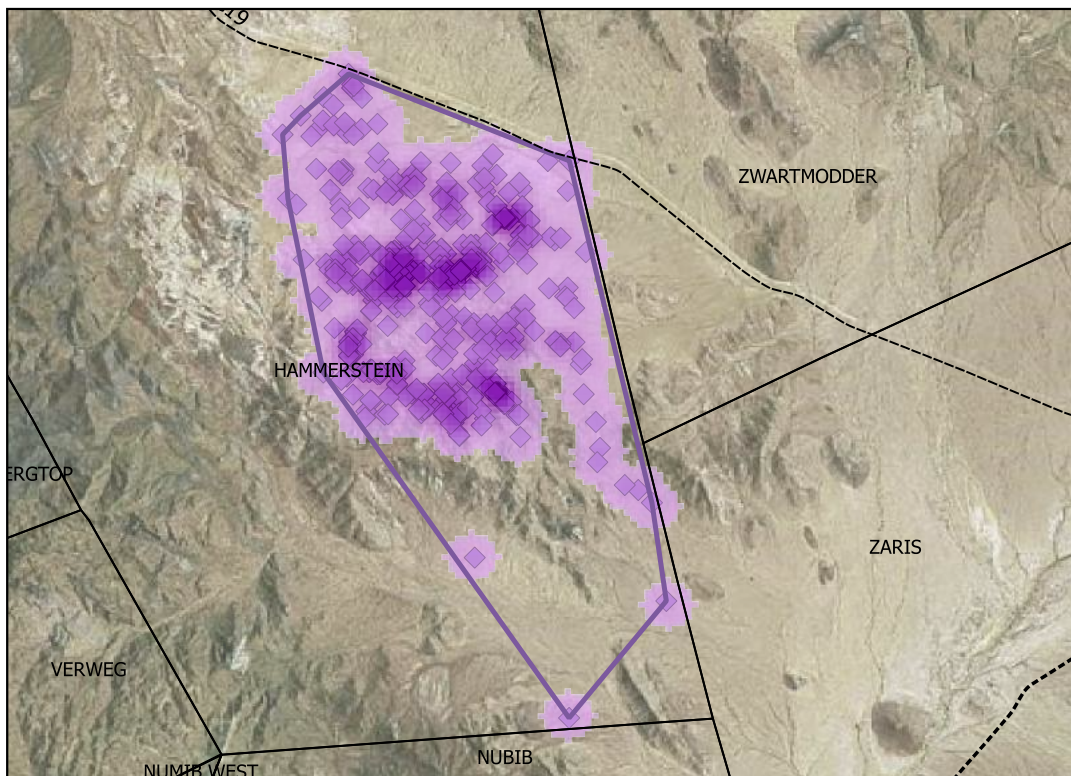## Greater Sossusvlei-Namib Landscape: Tracking ungulate movements

Above: Heat maps of three collared individuals ranging in the mountains around Solitaire and Abbabis - darker shades representing areas of higher concentration/ activity. Hartmann's zebra 1771's movement is limited by the C14 corridor road fence. Oryx 1765, which was previously ranging on farm Abbabis, is now located on Namakorabis. Its movement is restricted by the farm fence to the east of its distribution.

0   2   4   6   8 km
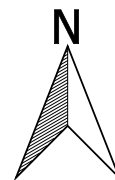
N

Legend

☐ Home range (1771)
▲ Hartmann's zebra (1771)
☐ Home range (1772)
▲ Hartmann's zebra (1772)
☐ Home range (1765)
◇ Oryx (1765)
----- Main road
····· District road

Left: Oryx 1769 is still located on farm Hammerstein, in the same area in which it has been ranging since March 2016.

Legend

☐ Home range (1769)
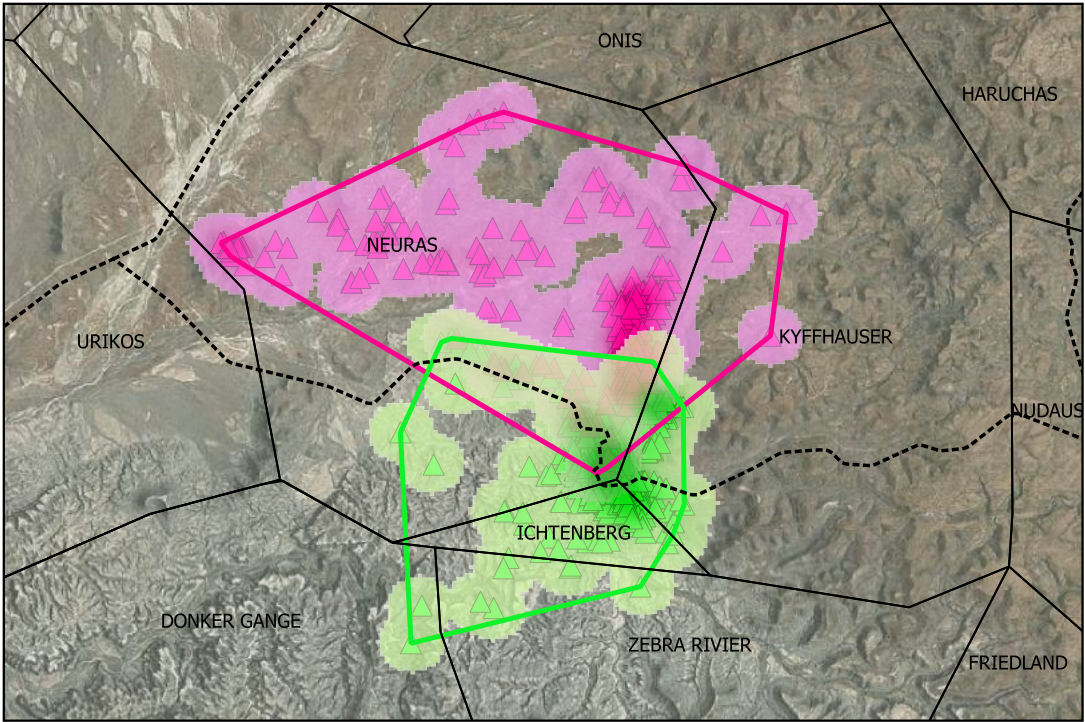◆ Oryx (1769).shp
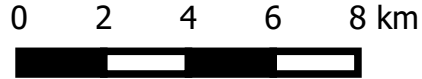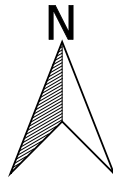----- Main road

N

0   1   2   3   4 km

# Greater Sossusvlei-Namib Landscape: Tracking ungulate movements

Legend

- ☐ Home range (1775)
- ▲ Hartmann's zebra (1775)
- ☐ Home range (1776)
- ▲ Hartmann's zebra (1776)
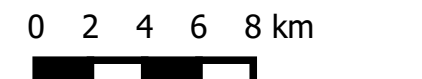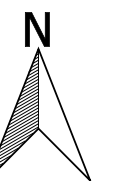- ---- District road

Above: The two male Hartmann's zebra that were collared in August have slightly overlapping home ranges. Their movements are concentrated along fences, although it appears that they are able to cross the fences in certain areas.
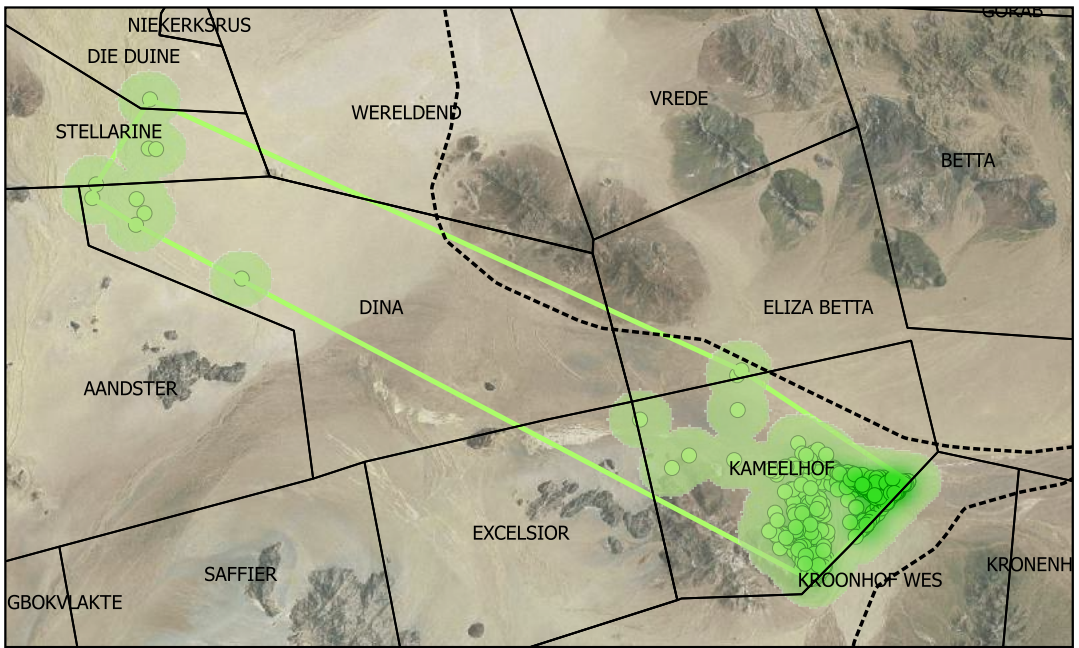
Legend

- ☐ Home range (134)
- ○ Springbok (134)
- ---- District road

Above: After being located on Kameelhof for a while, where its eastward movement was visibly restricted by the fence between Kameelhof and Kroonhof Wes, Springbok 134 has recently moved back to Stellarine - most likely in search for better forage.

S. Urban completed her Honours mini-thesis related to the movement of collared ungulates in the GSNL. The main findings of the project were the following:
- Fences had an impact on the shape and size of home ranges and constituted a significant barrier to ungulate movements
- Some collared animals clearly moved in relation to rainfall
- Oryx and springbok may be susceptible to fence entanglement due to their fence-crossing behaviour, as both can jump over fences

Feedback and enquiries are welcome:
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