



Greater Sossusvlei Namib Landscape (GSNL) : Tracking ungulate movements (Newsletter 4)

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Dr. Morgan Hauptfleisch

Namibia University of

Science and Technology:

mhauptfleisch@nust.na

061 207 2339



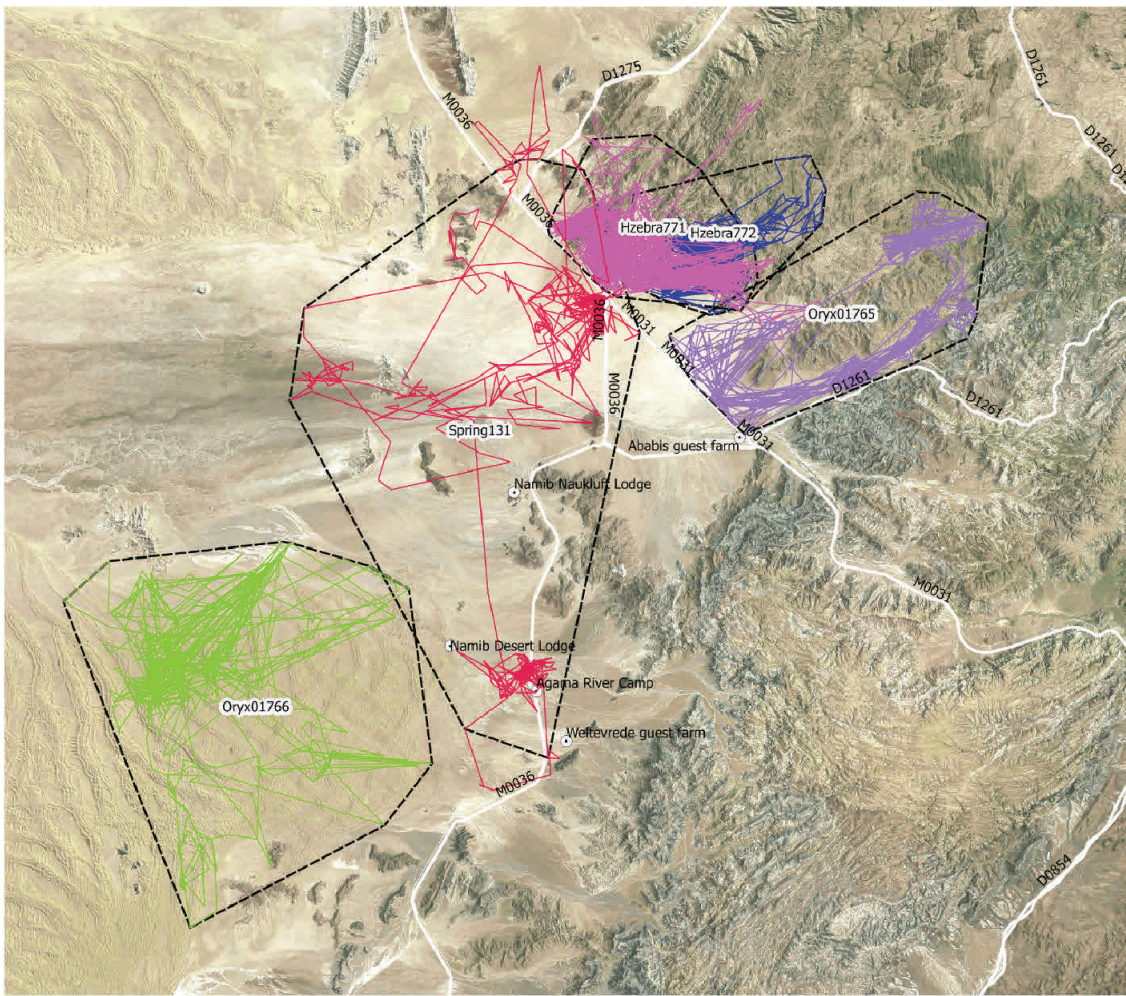
This research project deploys satellite tracking collars on ungulates in the GSNL and monitors their movements as well as other environmental parameters. Its objective is to document movement corridors and identify impediments to migration routes for springbok, oryx and Hartmann's mountain zebra.

Stefanie Urban successfully completed her Bachelor of Natural Resources Management (Honours) project at NUST at the end of 2016. Her project report is available on request. Some of her major findings were:

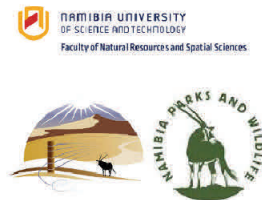
- Overall oryx and springbok home-ranges were larger than those of Hartmann's zebra, and the largest home-ranges were in fence free areas (1887km² for oryx 1770 which moves in the southern portion of Namibrand, and 560 km² for springbok 131);
- In fence affected areas the shapes and sizes of home-ranges of oryx and springbok were visibly and statistically different to those in fence free areas, while Hartmann's zebra were less limited by fencing;
- Hartmann's zebra did not move into the Pro-Namib plains during 2016, as there was little grazing available following poor rains. They did however show distinct east-west movement patterns on a month to month basis.

Daily and monthly movements of collared animals (from Stefanie's thesis)are provided below for interest:

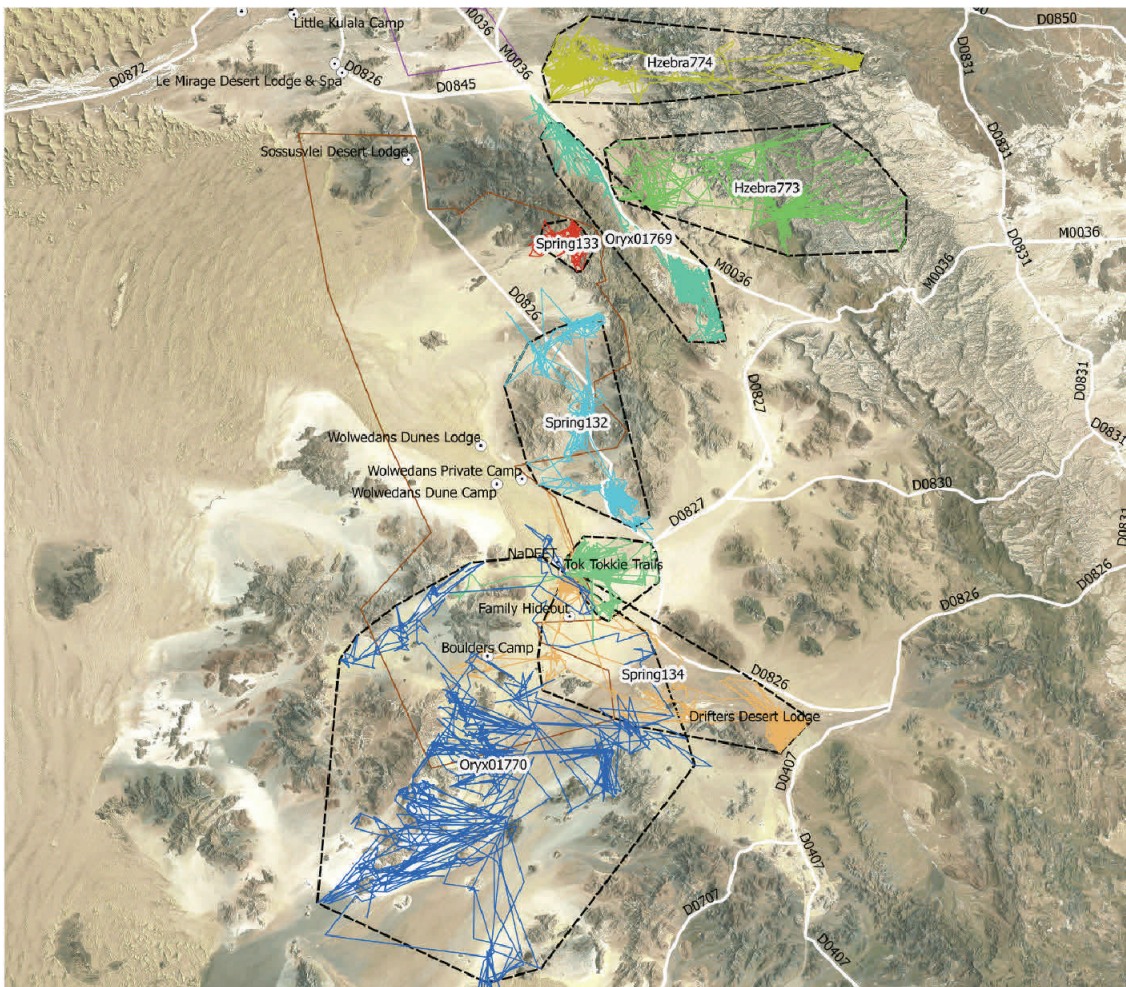
Animal ID	Total distance moved over data collection period (km)	Months of data collection	Mean monthly distance (km) (±SD)	Mean daily distance (km)
Springbok 131	836.35	8	104.54 (±54.09)	3.68
Springbok 132	319.73	3	106.58 (±36.41)	4.57
Springbok 134	1094.67	8	136.83 (±31.59)	4.49
Springbok 135	707.13	7	101.02 (±16.81)	3.37
Oryx 1765	1198.85	8	149.86 (±66.01)	4.91
Oryx 1766	1175.96	8	146.99 (±34.99)	4.82
Oryx 1768	2141.64	8	267.71 (±56.29)	8.78
Oryx 1769	818.05	8	102.26 (±24.76)	3.35
Oryx 1770	2045.07	8	255.63 (±66.62)	8.38
Zebra 1771	1957.11	8	244.64 (±32.58)	8.02
Zebra 1772	902.63	8	112.83 (±36.83)	4.07
Zebra 1773	850.22	5	170.04 (±35.72)	6.34
Zebra 1774	678.62	8	84.83 (±45.72)	4.19



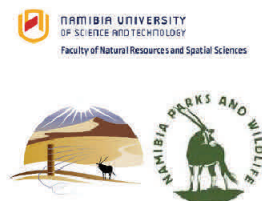
- Legend**
- Home-range for each animal
 - Movements between points
 - Hzebra771
 - Hzebra772
 - Hzebra773
 - Hzebra774
 - Oryx01765
 - Oryx01766
 - Oryx01769
 - Oryx01770
 - Spring131
 - Spring132
 - Spring133
 - Spring134
 - Spring135



Above: Movement of collared animals in the **northern part of the GSNL** (December 2015– November 2016)



- Legend**
- Home-range for each animal
 - Movements between points
 - Hzebra771
 - Hzebra772
 - Hzebra773
 - Hzebra774
 - Oryx01765
 - Oryx01766
 - Oryx01769
 - Oryx01770
 - Spring131
 - Spring132
 - Spring133
 - Spring134
 - Spring135

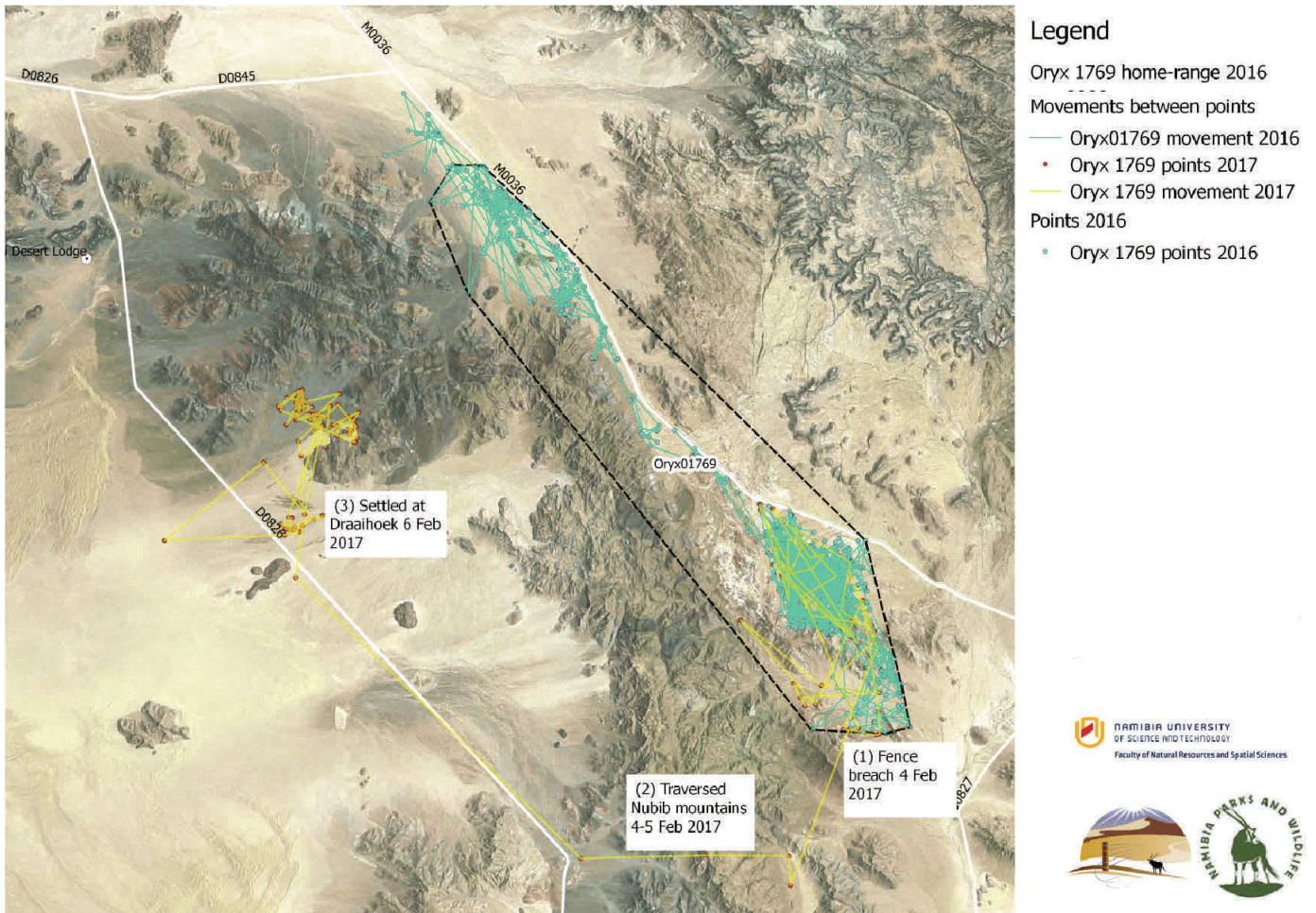


Above: Movement of collared animals in the **central and southern part of the GSNL** (December 2015– November 2016)

Some observations on the maps of the previous page

The maps on page 2 (previous page) may look a little chaotic, but they provide interesting insights into the movement areas and highlight possible corridors for wildlife movement. The impact of the fence along the D1261 on oryx 1765 is clearly visible in the top map—while springbok 134 and 135 are clearly impeded by fences around Tok Tokkie Trails in the lower map. Hartmann's zebra 773 and 774 (in the lower map of page 2) regularly traverse a number of commercial farms, seemingly unaffected by the fencing, while they also moved out of the mountains into the Pro-Namib plains during late 2016 (after Stefanie had completed here analysis.) With some good rains in parts of the Pro-Namib in early 2017, the zebra are likely to move further west. This will be monitored and reported on in the next newsletter.

Oryx 1769 was constantly moving along the southern and western boundary fence within the farm Hammerstein in 2016, and (on the map below) (1) breached the fence on 4 February 2017, (2) traversed the Nubib mountains and is now located on (3) Namibrand near Draaihoek. It will be interesting to compare its daily and monthly movements now with its fence limited movements of 2016.



Above: Oryx 1769's movements during 2016 (light blue dots and paths) and its movements in 2017 (red dots and yellow path)

More information

Movement animations for the ungulates for 2016 are available for download at <http://www.landscapesnamibia.org/sossusvlei-namib/fauna>.

This newsletter is produced from time to time in order to inform GSNL members of progress regarding the project. The spatial analyses produced are preliminary, feedback and enquiries are welcome.

Dr. Morgan Hauptfleisch

081 124 1365

mhauptfleisch@nust.na



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Faculty of Natural Resources and Spatial Sciences