

# Namibia Large Carnivore Atlas

Dec 2003 Vol. 2



Photo: Flip Stander

**Report by: L. Hanssen and P. Stander**

Predator Conservation Trust  
PO Box 90427  
Windhoek  
Namibia

Funded by:  
National Biodiversity Task Force  
Directorate: Environmental Affairs



Ministry of Environment  
and Tourism



## **A note to Contributors**

The Namibia Large Carnivore Atlas is an ongoing project aimed at improving the quality of data on large carnivore numbers and their distribution. Atlas data are analysed every six months and a new Atlas Report is produced with updated results. In time the Atlas Project will become a valuable tool in the monitoring of large carnivore populations.

Since the last Atlas Report (Vol. 1) in July 2003 we have received an astonishing 926 observations. This brings the total number of observations to 5108. The information presented within this report is based on all carnivore sightings and spoor observations. Due to several requests we are developing an electronic Atlas data form. Participants are able to use the online data entry option or send observations via email.

An information poster on the Carnivore Atlas is now available from the PCT. It contains instructions on how to record carnivore observations and an identification key to the six large carnivores, with their scientific names and common names in six Namibian languages. There is also a map of Namibia with colour tags highlighting focus areas of the Atlas Project. The poster is also available as an A4 flyer and in PDF format, and can be viewed on our website.

Approximately 500 Atlas Reports are distributed within Namibia and a further 150 are circulated by email. Due to high costs, we do not post reports outside Namibia, but if you would like to be added to our email list, send us your contact details. The report can also be downloaded from our website. The Predator Conservation Trust, based in the UK, circulates the report internationally to the "Friends of PCT" as part of their newsletter mailings. For more information on this distribution, contact:

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Tel: +44 (0)1244 381329; Email: [jean@predatorconservation.com](mailto:jean@predatorconservation.com)**

Thanks to the following people and organisations for their assistance: Ingrid Wiesel from the Brown Hyaena Research Project for submitting her brown hyaena research data; Dries Alberts, K. Chapu and MET Tsumkwe for providing carnivore data from full moon counts in Kaudom Game Reserve; Charis Britz for data entry; Anthony May for developing the online atlas format for data entry and management; Tony Robertson and Alice Jarvis for assistance with database technical problems.

For further information, enquiries or requests, contact us at:

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[www.predatorconservation.com](http://www.predatorconservation.com)**

Thank you for the many photographs that we received along with some of the Atlas forms. Your ongoing participation is very much appreciated. We hope you enjoy the latest edition of the Atlas Report. We look forward to your continued involvement, which is essential to the ongoing success of the Namibia Large Carnivore Atlas.

Yours sincerely



Lise Hanssen  
Project Co-ordinator

## Namibia Large Carnivore Atlas

Namibia is one of few African countries that support six species of large carnivore. Lions, leopards, cheetahs, spotted hyaenas, brown hyaenas and wild dogs occur primarily in the northern and western sections of Namibia. With the possible exception of lions and leopards we have a poor understanding of the exact distribution and density of these species, although available information suggests that the populations are stable. The Namibia Large Carnivore Atlas was launched to involve the tourism industry and the Namibian public in collecting baseline data on the six large carnivore species. The Atlas data improves our understanding of large carnivore distribution and density, and as key species, contributes to the monitoring of biodiversity in Namibia.

### A list of the names of participants followed by the number of Atlas forms submitted

#Oma	10	Bockmann, J & H	2	Cooper, T - MET	19	Engelhard, H	1
U	16	Botha, E	3	Cooper, Z	10	Epler, C	8
Abraham, Mr - NRNR	3	Botha, L	1	Cowan, G	2	Erasmus, J	12
Absolute Africa	2	Braine, D - Hobatere	4	Craig, C	1	Erdmann, L	2
Adams, J	11	Braine, S - Hobatere	106	Crazy Kudu Safari	3	Erpf, H	2
African Extravaganza	1	Braine, S & Kotze, T - Hobatere	6	Cristophe, J	1	Esterhuizen, A	17
Africat	100	Braine, S & tourists - Hobatere	5	Damaraland Camp - WS	14	Etosha Aoba Lodge	18
Ahlert, K	1	Brandenburg, S	1	David, R	1	Etosha Game View ers	1
Alberts, A - MET	157	Brell, B - SRT	30	Davis, T	1	Eyre, C - MET	1
Alberts, K - MET	14	Brell, B & Linus - SRT	1	De Beer, B	1	Faithfull, N	2
Alberts, M	2	Brell, B & Loutit, R - SRT	1	De Bryn, N	2	Falk, H	2
Alfred, A	1	Brell, B, SRT & MET staff	3	De Goede, P	4	Fallow s, C	1
Alpheus	7	Bridgeford, P - NRNR	8	Debe, T	6	Ferguson, D	1
Anderson, S	1	Britz, C	1	DeBels, J	1	Florry, V	5
Appleton, S	8	Brunzil, D - NRNR	1	Delpont, T - MET	2	Fortin	3
Ariseb, Sagarias	136	Buchert, J	2	Diamond miner	1	Fourie, J - MET	3
Arnold, M	15	Buekley, C - Raleigh	1	Dickmann, H	7	Fox, B - MET	1
Asugeo, D	1	Burger, H	1	Diekmann, A	3	Fredricks, A	1
Aw arab, B	8	Carstens, J	1	Dillmann, H	21	Freyer, R - MET	2
Aw arab, J	5	Caspary, T	1	Donovan	1	Friede, J	3
Bader, W	5	CB	4	Doray, I	1	Fulai, J	3
Bakkes, C	6	Chameleon Safaris	4	Dougab, W	23	Funke, A	4
Balderson, GC	1	Chandler, B	1	Drea, C	1	Gabes	1
Barlsol, C	1	Chapu, K - MET	4	Dreyer, N	3	Ganuseb, I	5
BBC	8	Childs, K	4	Du Plessis, C	1	Garbade, T	4
Beamish, E	1	Chizabulyo, CM - MET	2	Du Preez, P - MET	7	Gaw useb, A	2
Behrenbeste	1	Cilliers, A	8	Duffus, J	7	Gebhardt, E	1
Bell, S & K	1	Clapham, L	2	Dunkley, R	1	Gerdes, Mrs	1
Berents, G	1	Clayton, M	1	DuPlooy, Mr	1	Gibson, C & Rice, M	6
Berriman, N - MET	20	Cloete, C & Green, H - NRNR	1	Durr, M - NRNR	11	Gieraths, V	8
Berry, M - MET	44	Cloete, R	3	Ehrovipuka Conservancy	5	Gilchrest, D	13
Bertel, A	1	Codling, L	2	Elix	1	Ginarig, T	1
Besser, M	2	Coke, R	2	Elmendorf Family	2	Gortz, S	1
Beytell, B - MET	1	Combrard, B	1	Engelbrecht, A - MET	5	Gous, E	4
Blaine, L	1	Connan, P	1	Ashipala, V - MET	1	Gous, T	1
Bock, B	1	Conrad	2	Engelbrecht, A & Hango, M - MET	1	Gouw s, E	24

Gow taje, S	13	Jalh, H	1	Lenssen, J - NRNR	118	Murray, D	9
Graham, K	1	Jan, Bern, Fly	1	Leuschner, A	1	Muundja, B	1
Griem, R	1	Jerasmud	2	Liebenberg, D	19	Nadolshi, U	1
Griffin, M - MET	21	Johannes SRT	2	Liebenberg, W	1	Namdeb	4
Grobler, G	1	Jonas, SRT	2	Lifumbela Jn, C	4	Namib Office Machines	1
Grobler, K	1	Jonny	3	Linacher, B	1	Ncube, C	1
Groenewald, F	2	Jooste, K	9	Lister, M	78	Ndishishi, V	1
Groenewald, G	2	Josef, Andreas - SRT	2	Lombard, J	9	Nebe, B	17
Grumbles	1	Jsafo, G	3	Loutit, B - SRT	1	Nethersole, P	1
Gruttemeyer, J	14	Junker, J	33	Loutit, R - SRT	32	Neubert, S	3
Gudde, E	19	Kail, S	1	Louw, P	1	Neubert, S & Wieloch, E	49
Guerin	5	Kalkheuwel	1	Louw, T	1	Neudorfer, P	2
Hagman, C	1	Kanaira, F	4	MacLennan, S	47	Ngarangombe, M	2
Halenke, H	8	Kapner, F	46	Mafuta Isak	35	Nicola	1
Hall, T	193	Karsten, C	3	Manns, H	1	Noli, G	7
Hall, T & Summers, C	3	Kasaona, E	1	Mapanka, A - MET	3	NRNR staff	27
Hammond, N	6	Katangara, A	4	Margante, J	1	Okatumba Wildlife Research	14
Hanssen, L	316	Katjalanja, B	1	Marsh, S	3	Oliver & Randall	1
Hanssen, W	1	Katuuo, J	7	Martin, Jonas - SRT	3	Oliver, J	3
Hanstein, E	2	Kaum, R	1	Martinez, A	1	Omatendeka Conservancy	4
Haradoeb, P - MET	6	Kayser, C	4	Masen, D - MET	17	Oosthuisen, A	22
Haraseb, O - Hobatere	19	Keding, A	1	Matomola, C	1	Oosthuisen, E	1
Harnas	3	Kefas, E	1	Matson, T	20	Oosterhuisen, J	2
Haroua, G	2	Kemper, J	14	Mattheus - DAS	3	Owen-Smith, G	2
Hartung, O	1	Kemper, J & Roux, JP	1	Maulhard, B	1	Owuseb, J	2
Hatton, B	2	Kenahama, A	1	May, A	11	Pack Safari	2
Hearn, M - SRT	15	Keuning, L & French, D	1	May, J	1	Patric, S	3
Hedt, B	2	Khoadi Hoas Conservancy	7	McClure, N	31	Patterson, J & B - MET	6
Heger, F	2	Killian, W - MET	23	McWhinney, S	1	Paulick, V	3
Hein, J	5	Kirkman, S	2	Medais, D	7	Perry, C	3
Heinrich, D	46	Kleinlosen, B	1	Meeser, J - MET	1	Petrus	4
Hendrick - SRT	1	Kneib, M & U	2	Mehrdadfar, F	2	Pienaar, K	40
Hennig, J	9	Knox, N	6	Mentrup, C	2	Ponas, M	3
Henry, V	1	Koep, M	2	Mercier, X	1	Pottas, J	3
Herbert, D	3	Kolberg, H - MET	1	Meszaros, M	3	Prasch, P & Kirkman, S	3
Herzog, S	2	Kolbooi, J - MET	2	MET Kaudom	28	Pretorius, F	1
Hess, S	1	Korff, W	3	MET Tsumkwe	35	Purros Conservancy	17
Heynes, C	1	Korol, R	1	MET Gam	3	Purser, H	2
Hoab, G	71	Kotting, B & S	15	MET Ganab	1	Queck, G	3
Hobatere staff	9	Krauth, J	3	MET Namib Naukluft	1	Rabie, J	1
Hoeb, M	1	Kreiner, H	1	Mezies, D	2	Rahn, B	1
Hoffman, Mr - DAS	2	Kronitz, A	2	Michels, G	3	Raleigh International	2
Hoffmann, R	11	Krück, N	3	Mitchell, Y	1	Ras, J	12
Holtzhausen, T	2	Kuhneit, H	2	Moller, W - MET	5	Rathje, D	1
Holzhausen, H	2	Kuispel	1	Momberg, A	2	Raubenheimer, J	1
Holzhausen, J+N	3	Kuno, Moses, Obed	1	Mooy, R	1	Raue, R	17
Hoth, U & T	8	Kupzyk, T	1	Morgan, I	1	Redecker, F	1
Huckett, B	3	Kuvare, T - MET	2	Morris, L	1	Regina, Peter	3
Hungua, F	1	Kuyler, S	1	Mostert, A	1	Rehm, P & Kirkman, S	6
Hutchence, W	1	Lamek, J - MET	1	Mouton, D	4	Reinhardt, E - SRT	8
Immanuel, K	2	Lane, P - MET	1	Mouton, K	1	Rental, W	1
IUCN	1	Lang, M	1	Mr Marais	1	Reuter, HO	3
Jager	3	Le Roux, JP	1	Muhewe, M	3	Rhachford, J	1
Jagger, A	2	Le Seur, M	1	Mulisa, C	1	Riedel, H	1
Jahnke, V	5	Leech, J	1	Muller, Dr	1	Rimmermann, R	1
		Legget, K	1	Munembome, H - MET	8	Risser, D	2

Ritter, E	2	Shilipipo, J	7	Tatjana	1	Von Schutz, A	2
Robertson, D	1	Shilombella, S	3	Taylor, M	6	Von Seydlitz, F	1
Roesener, Mrs	1	Sichombe, S	2	Teichard, W	2	von Seydlitz, H	1
Rolt, G	2	Siehl	1	Thomas, A	1	Von Wiligh, J	1
Roman, B	1	Silke, H & Steiger, H	1	Thys - SRT	3	Vossie - MET	2
Rössler, R	20	Silvaro and Stefy	1	Tirronen, G	1	Wagner, K	10
Rotersin, C	2	Simmons, R	12	Tjihukununa, H	3	Wagner, M	1
Roux, JP	3	Simon, P	5	Tjiondu, J	1	Wagner, R	52
Rudiger & Bethem	1	Simpson, J	1	Tjipepa, U - MET	3	Waines, S	1
Rudke	1	Smith, C	1	Torra Conservancy	20	Walter, J	18
Rudman, D - MET	5	Sobotta, D	4	Tourists	355	Ward, D	54
Rutherford, S	2	Soeffner, A, H & G	2	Tyndal, B - MET	9	Wauschkuhn, R	2
Salvato	2	Solitaire Press	2	Uarje, A	3	Way, S	1
Sauber, E	1	Solomon	1	Uaroua, G	4	Weeks, D	1
Scheepers, L - MET	1	Stainthorpe, A	9	Uri-khob, S - SRT	3	Weinmann, K	15
Schlechter, Mr	1	Stander, P	542	Utz, G	7	Welsh, A	2
Schnaufer, C & H	2	Stander, P & De Goede, P	13	Valsparg	3	Weltevrede	1
Schock, S	1	Stander, P & Gilcrest, D	14	Van der Gruen, W	1	Whalley	1
Schreiber, Z	1	Stander, P & Hanssen, L	371	Van der Heever, I & J	2	Wiesel, I	220
Schunemann, H & W	5	Steenkamp, J	6	Van der Merwe, R	2	Wilckens, I	6
Scott, P	1	Steenkamp, P	2	Van Rooyen, B	1	Wild Things	5
Seblon - SRT	1	Steer, M	2	Van Wyk, C	1	Wilson, G	3
Seibeb, W	1	Steinbrink, H	1	Van Zyl, A	1	Wirriehausen, K	1
Seidel, D	7	Steyn, D	10	Verhagen	1	Witbeen, M	4
Seufert, J	3	Sulter, P	1	Versfeld, W - MET	26	Wohlberedt, G	2
Shackleton, C	1	Swart, W	6	Vezhagen, H	1	Wolfe, P	2
Shadreck	4	Swiegers, W	1	Vickers, J & T	5	Woneseredt, S	1
Shatumba, G	2	Sylvester, P	2	Viljoen, A	3	WWF	1
Sherriff, M	3	Syvertsen, H	3	Vinjevd, R	11	Zamzow, E	1
Shiern, S	3	Tarr, P	1	Von Gossler, O	12	Zandberg, C	4
						Zebra Film Productions	26

DAS – Desert Adventure Safaris

MET – Ministry of Environment and Tourism

NRNR – Namib Rand Nature Reserve

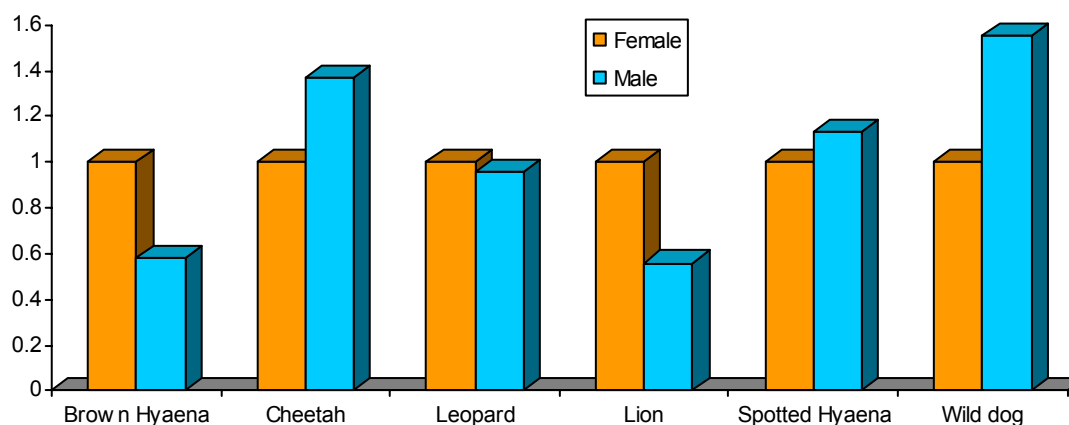
## RESULTS

### Total number of observations for each species

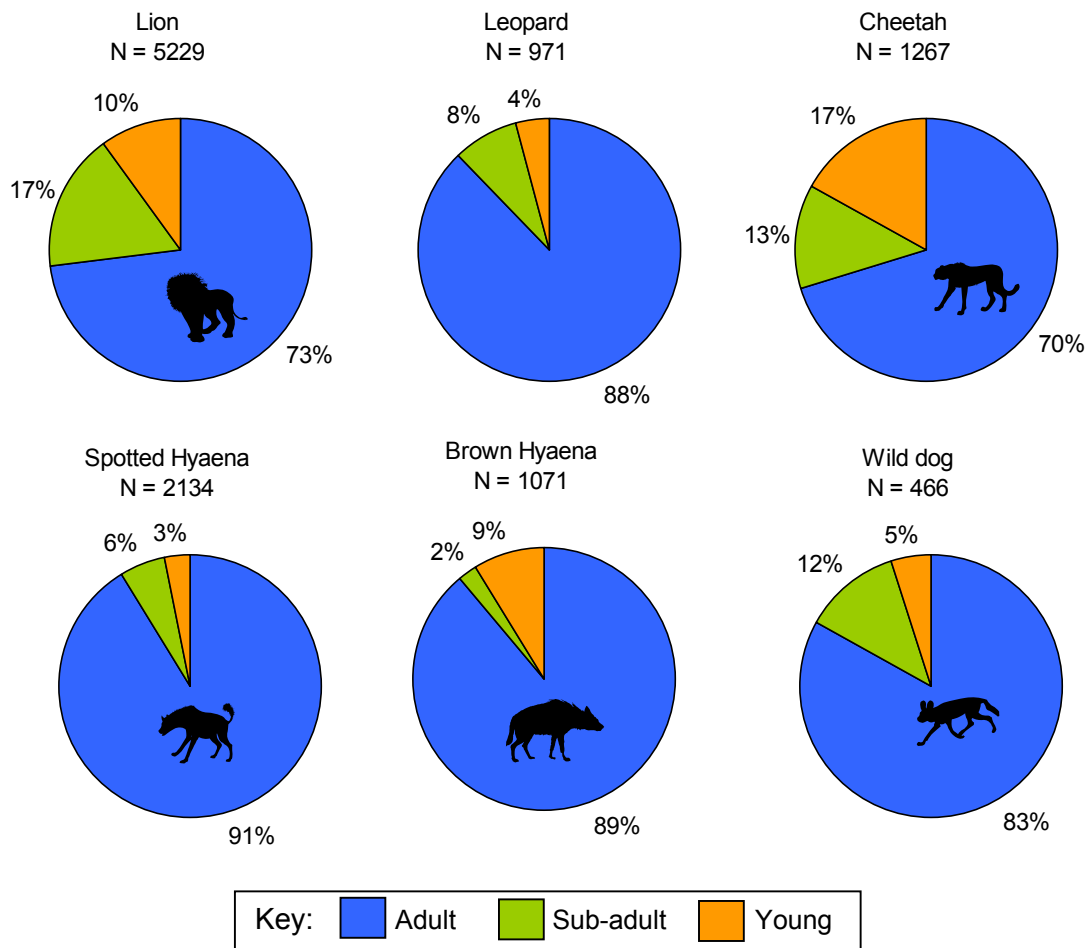
<b>Lion</b>	<b>1758</b>	<b>Spotted hyaena</b>	<b>1041</b>
<b>Leopard</b>	<b>913</b>	<b>Brown hyaena</b>	<b>903</b>
<b>Cheetah</b>	<b>679</b>	<b>Wild dog</b>	<b>91</b>

### The sex ratios of the six large carnivores

(Ratio of one female to x number of males)



## The age structure of the six large carnivores



## Different habitats where carnivores were observed

Habitat	Cheetah	Leopard	Lion	Spotted hyaena	Brown hyaena	Wild dog
Woodlands	29%	27%	22%	27%	11%	51%
Plains	37%	19%	9%	20%	4%	5%
Waterholes	5%	11%	29%	28%	5%	27%
Dry river beds	8%	14%	17%	7%	5%	2%
Mountains	3%	18%	9%	2%	5%	0%
Coastal areas	0%	0.2% *	1%	1%	56%	0%
Other habitats	18%	15%	13%	15%	14%	15%
<i>Sample size (n)</i>	709	907	1730	1043	906	94

\* Percentages are rounded off to whole numbers, except for leopards observed along the coast

## Density and Population estimates

Species	<b>Low density</b>				
	Area (km <sup>2</sup> )	Animals per 100km <sup>2</sup>		Numbers	
		Min	Max	Min	Max
Lion	127000	0.05	0.1	64	127
Leopard	417831	0.5	1	2089	4178
Cheetah	356636	0.05	0.1	178	357
Spotted Hyaena	255982	0.01	0.1	26	256
Brown Hyaena	334700	0.07	0.1	234	335
Wild Dog	117321	0.01	0.05	12	59
	<b>Medium density</b>				
	Area (km <sup>2</sup> )	Animals per 100km <sup>2</sup>		Numbers	
		Min	Max	Min	Max
Lion	19600	0.5	0.7	98	137
Leopard	132149	1	2.5	1321	3304
Cheetah	125058	0.7	1.5	875	1876
Spotted Hyaena	64982	0.5	1.5	325	975
Brown Hyaena	205730	0.1	0.15	206	309
Wild Dog	20602	0.5	1	103	206
	<b>High density</b>				
	Area (km <sup>2</sup> )	Animals per 100km <sup>2</sup>		Numbers	
		Min	Max	Min	Max
Lion	28642	1.4	2.2	401	630
Leopard	82320	2.5	3.8	2058	3128
Cheetah	104203	2	3.4	2084	3543
Spotted Hyaena	94498	5	8	4725	7560
Brown Hyaena	54370	0.15	1	82	544
Wild Dog	24046	1	1.4	240	337

Note: Population densities are based on results from ongoing research projects and published data

### National Population Estimate

**Lion**  
**562 – 894**

**Leopard**  
**5469 – 10610**

**Cheetah**  
**3138 – 5775**

**Spotted hyaena**  
**5075 – 8791**

**Brown hyaena**  
**522 – 1187**

**Wild dog**  
**355 - 601**

*Erratum*  
*Atlas Report July 2003*  
*Lion population estimate*

*An error in the medium density formula for Lions resulted in an incorrect estimate which inflated the upper limit of the population estimate. The error was corrected and we apologise for the oversight.*



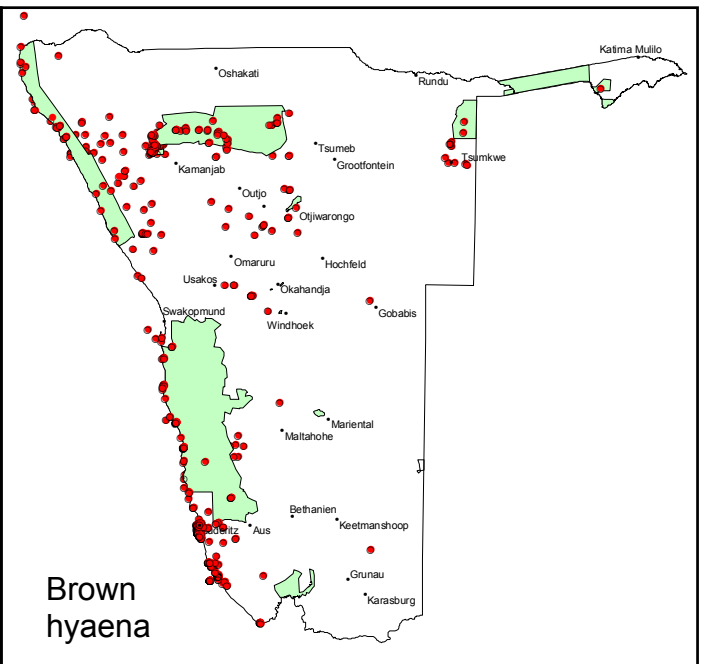
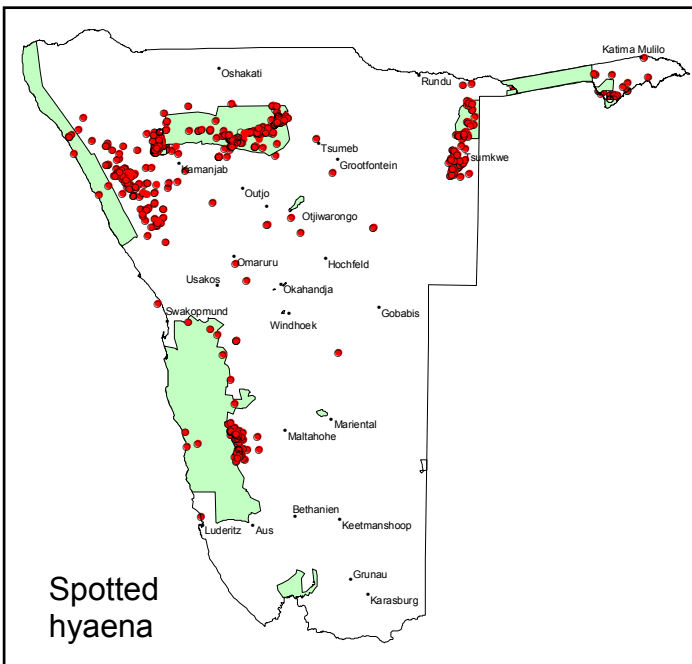
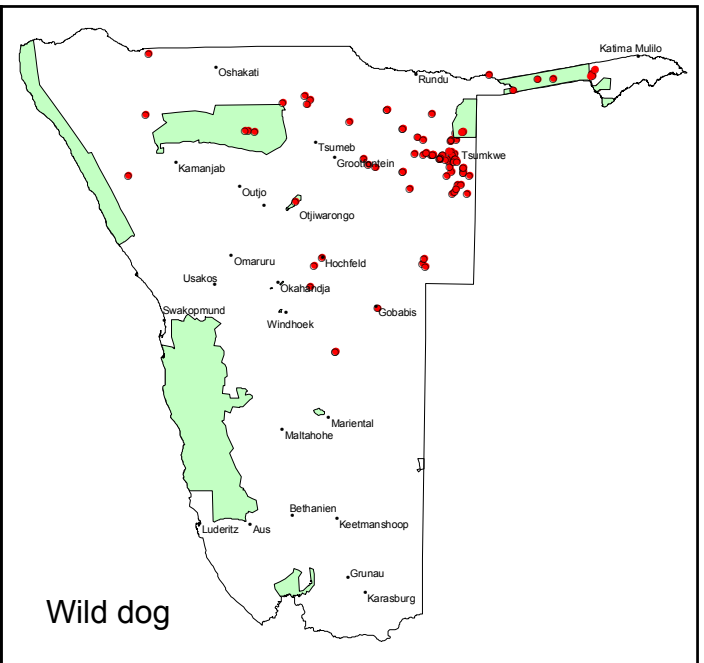
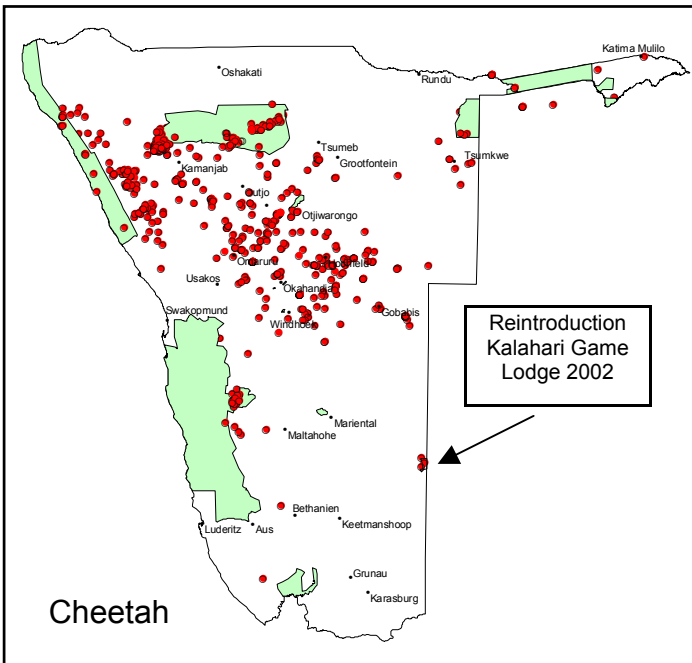
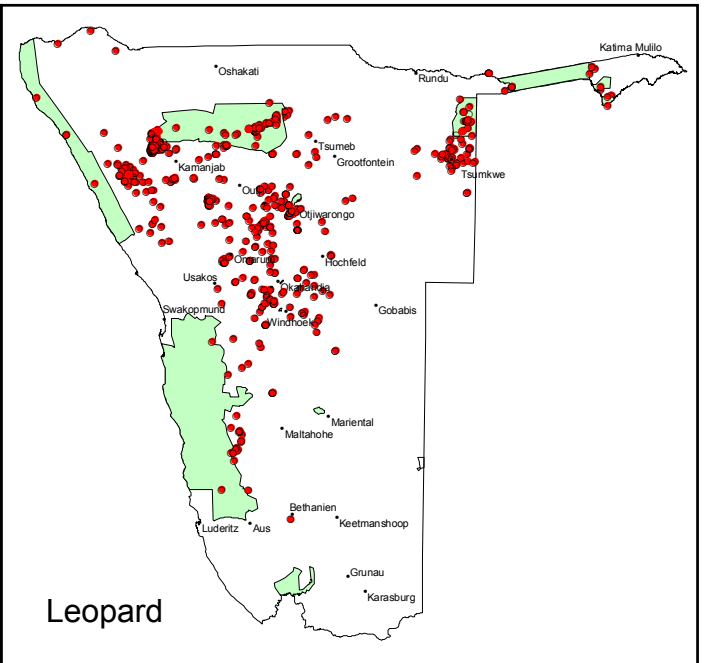
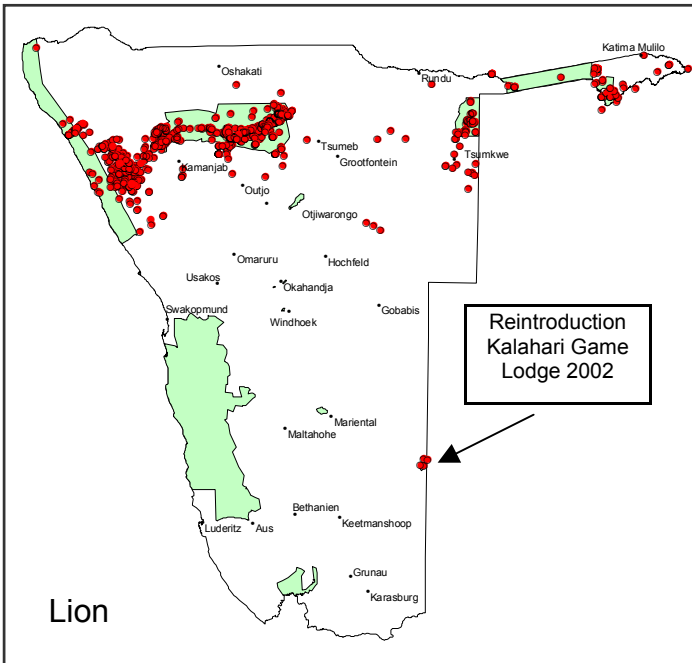
Photo: Dirk Heinrich

### A tribute to Lue Scheepers

We dedicate this issue of the ATLAS to the memory of JL (Lue) Scheepers who died suddenly after a brief battle with cancer. Lue dedicated the best part of his life to conservation and worked as a field scientist for MET for over 21 years. Starting off as a biochemist Lue moved on to studying giraffes in Etosha. It is here that he developed a passion for carnivores that he pursued until his death. His work on large carnivores was as unique and colourful as his character; full of enthusiastic appreciation for wildlife and wild places, and a splendid sense of humour. During his long career with MET Lue was an inspiration to me and many of his friends. His unique character, witty humour and passion for lions will be missed.

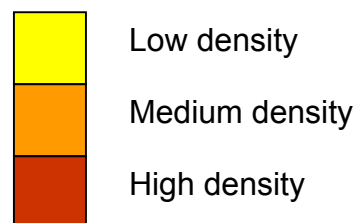
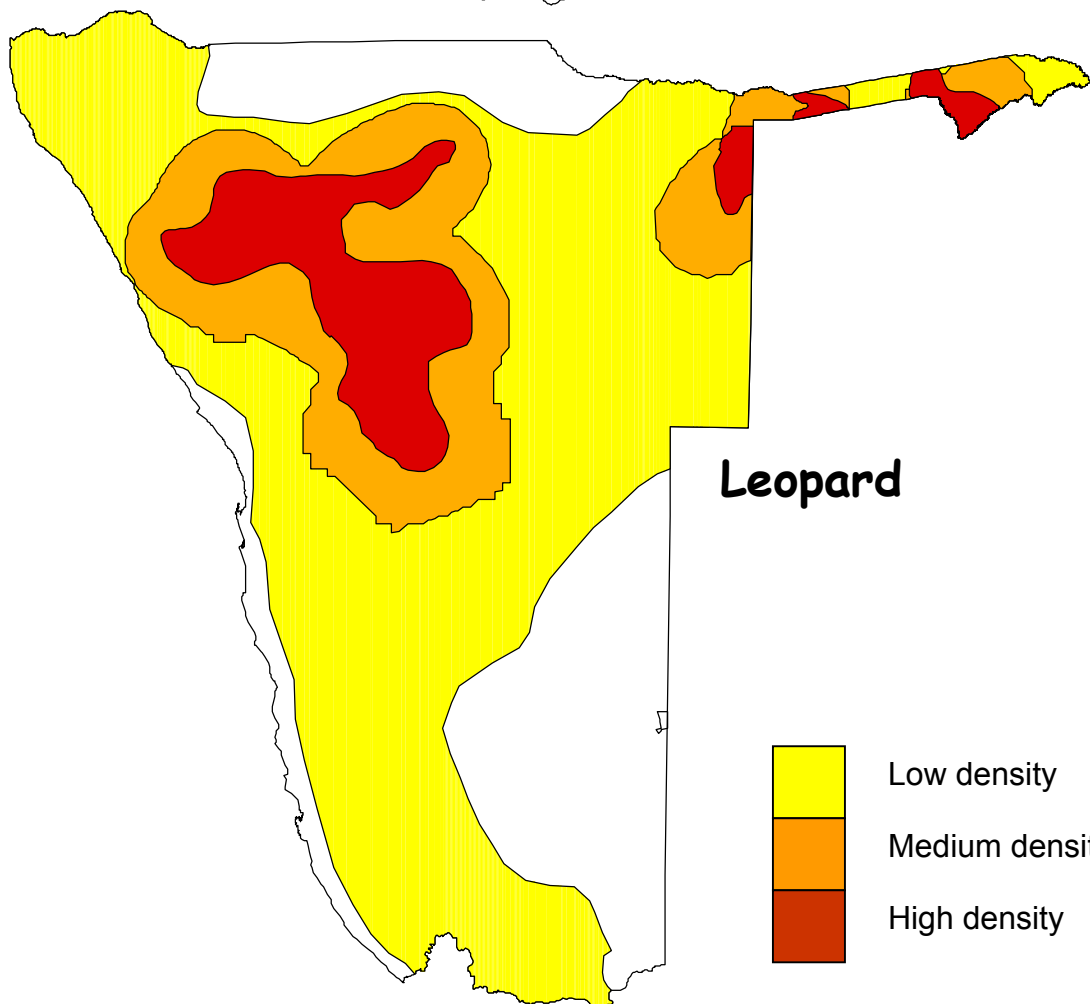
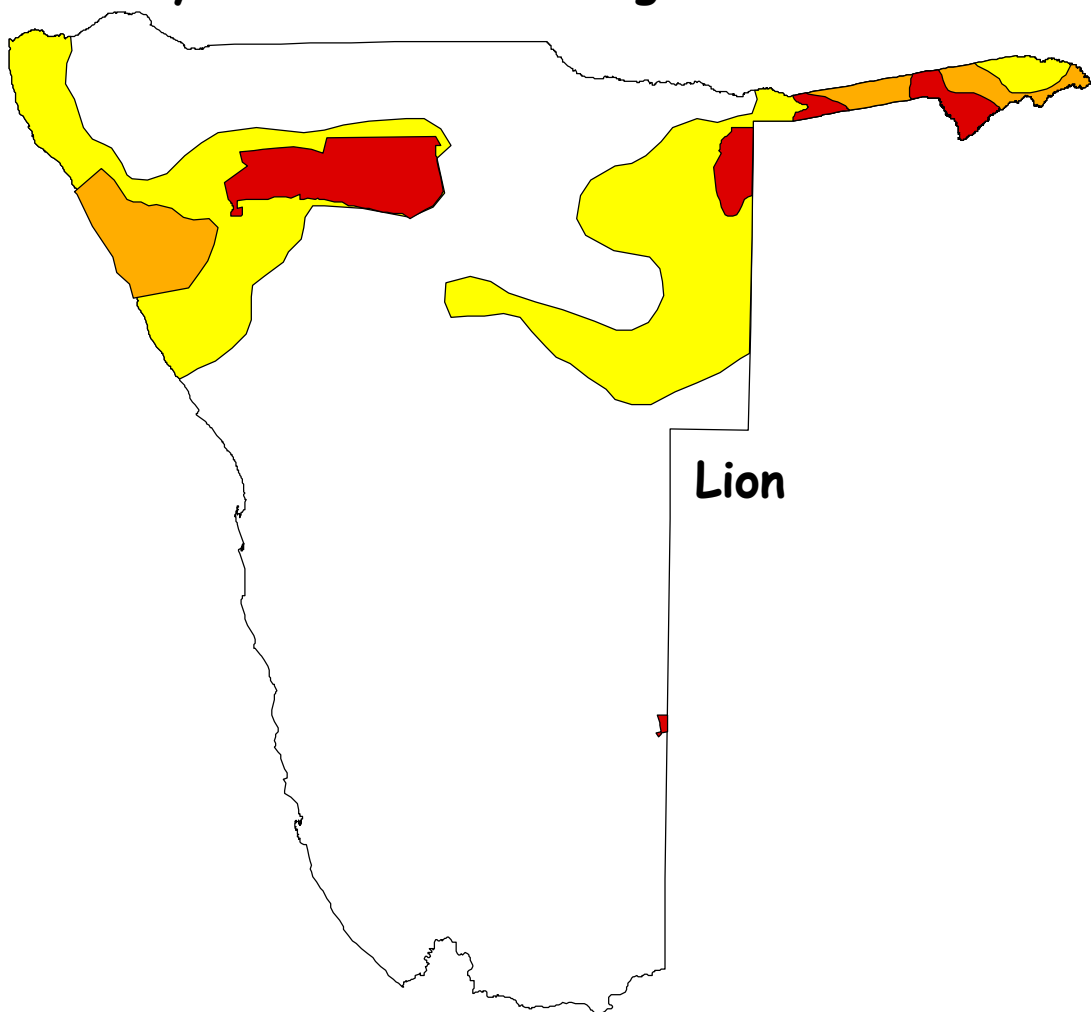
*Flip Stander*

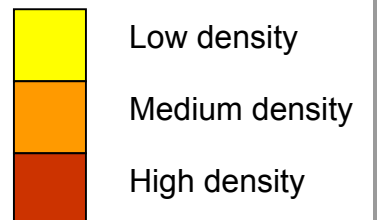
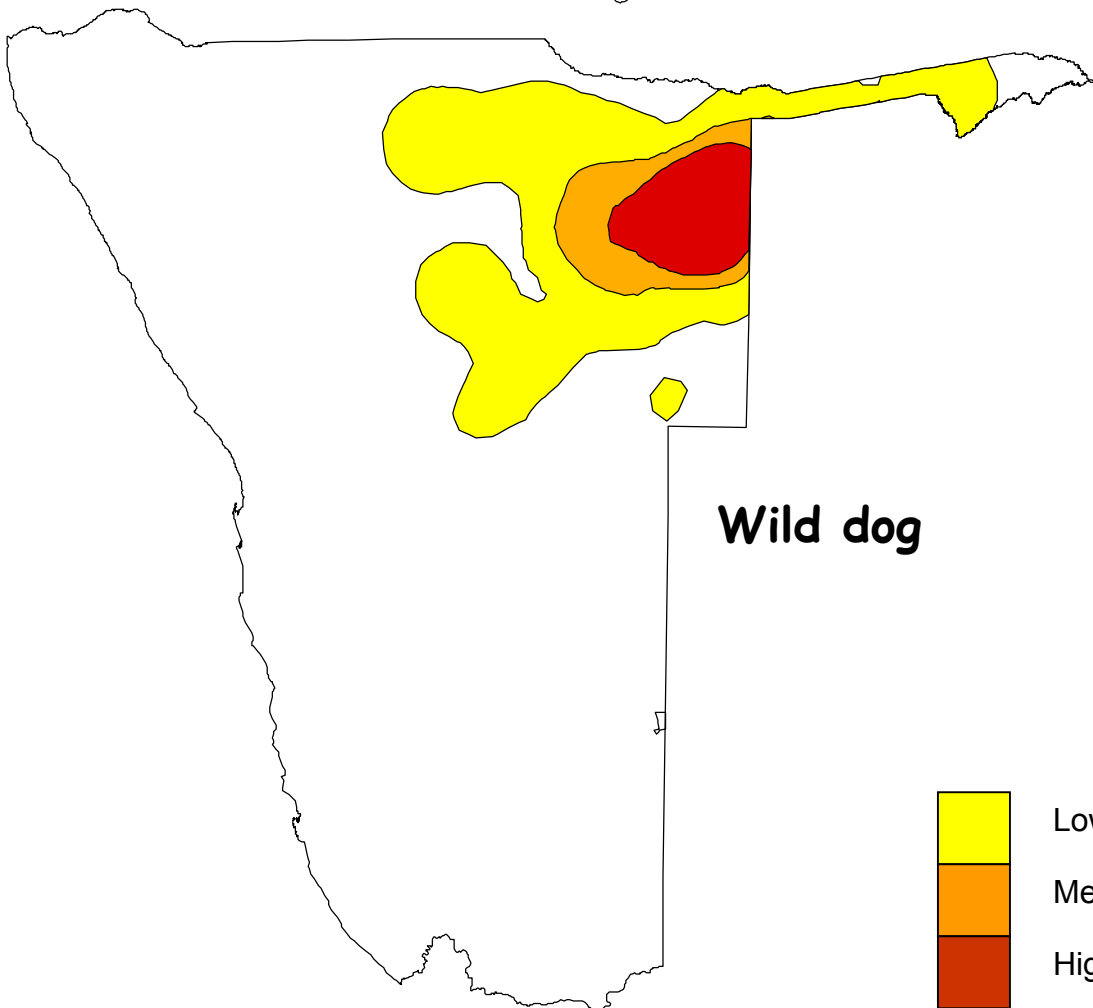
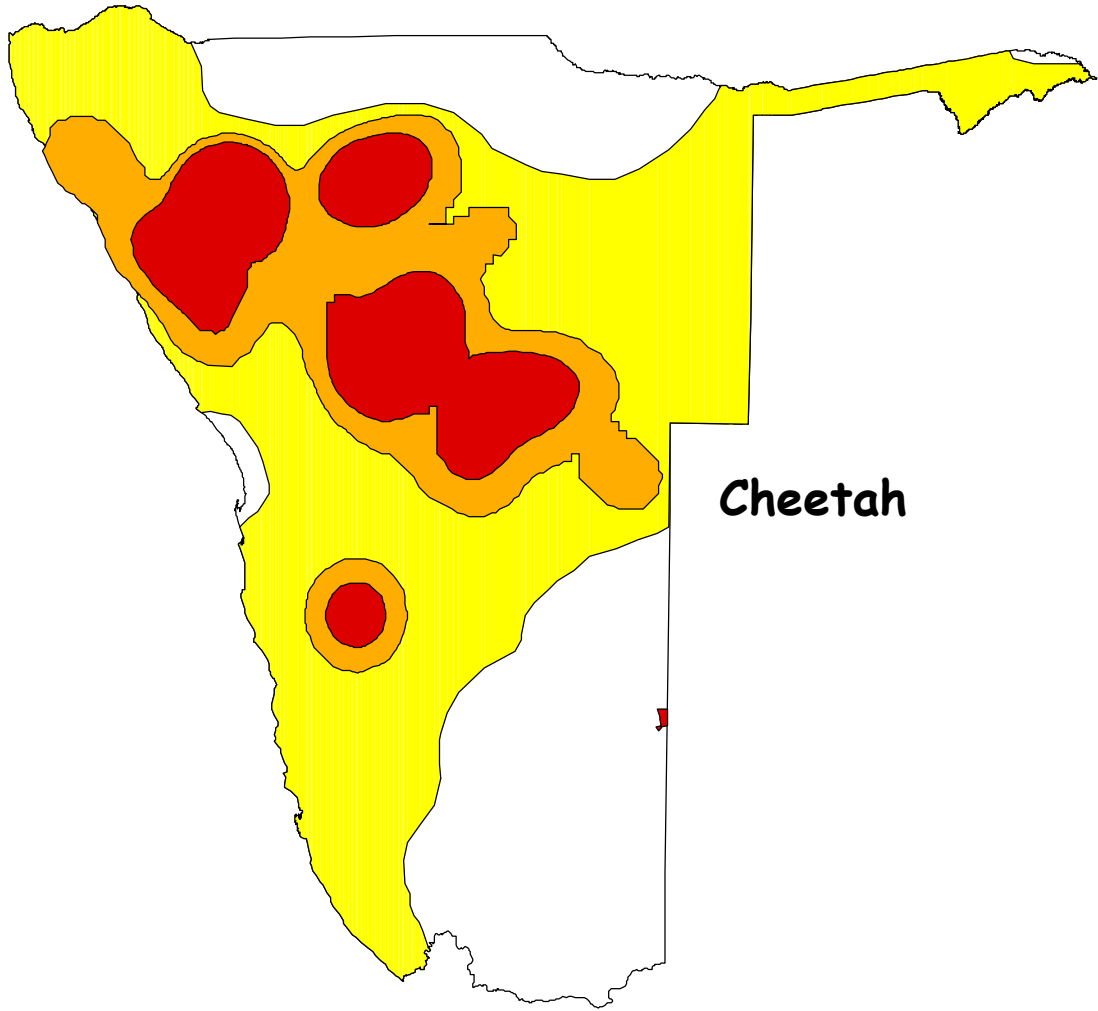
# Large carnivore observations based on Atlas forms

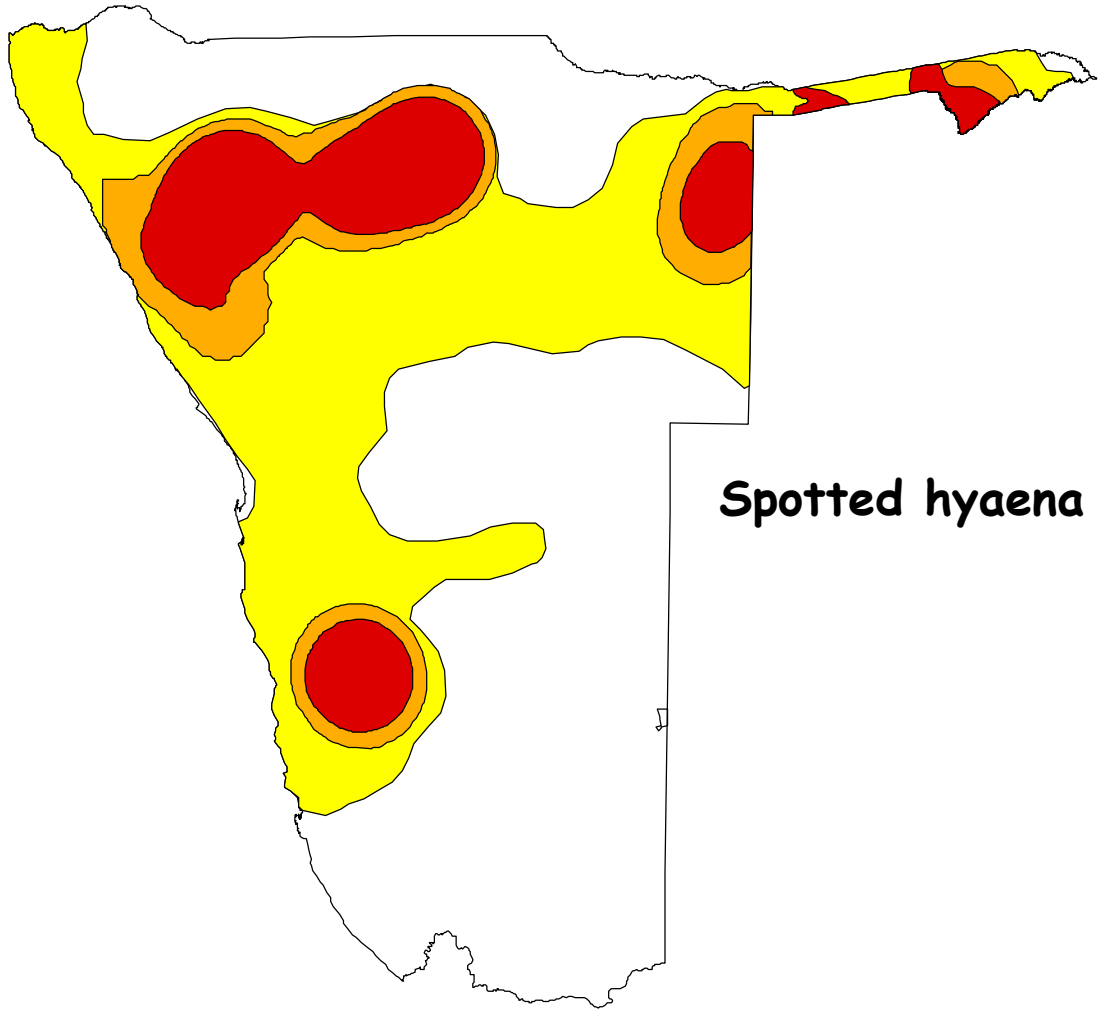




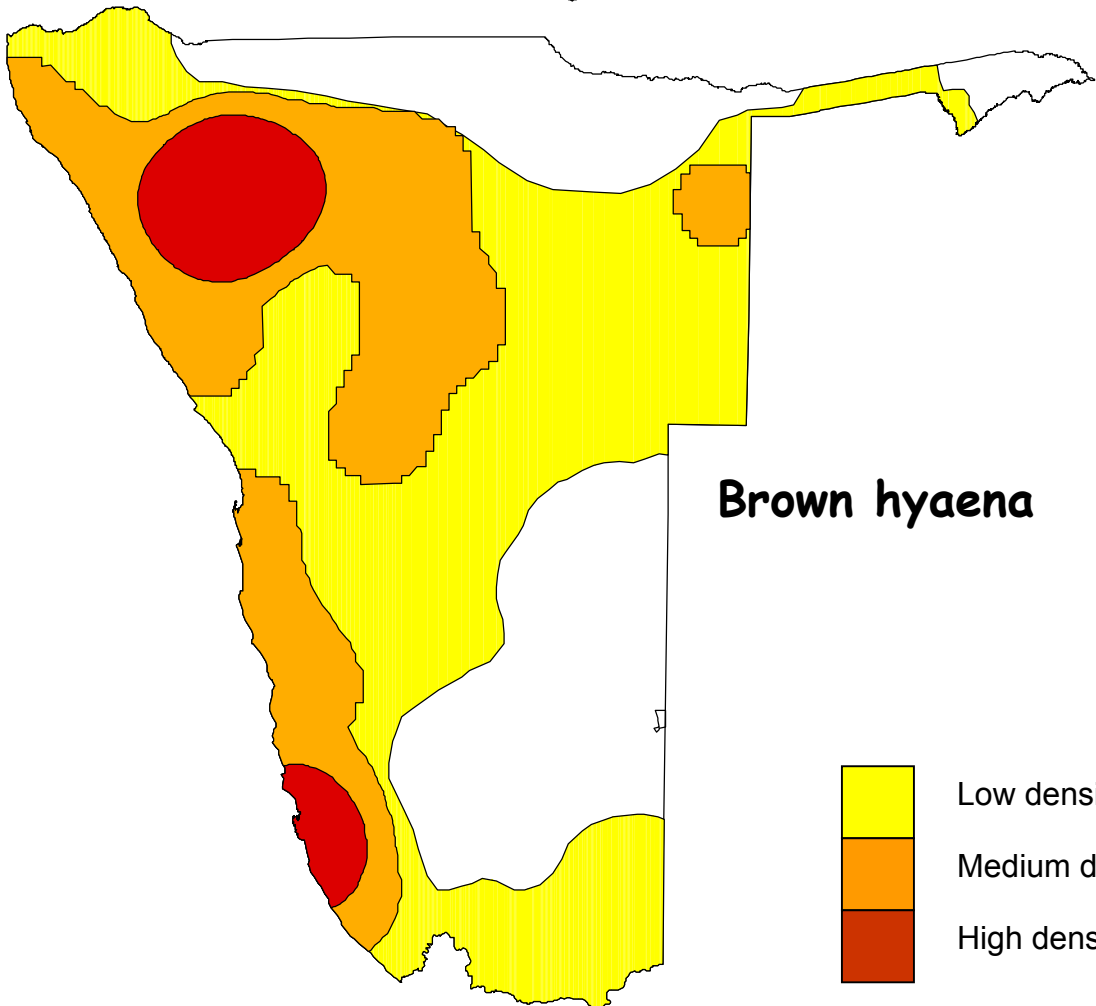
# Density distribution of large carnivores



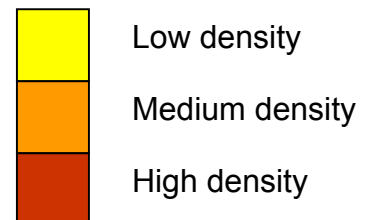




**Spotted hyaena**



**Brown hyaena**



## Report credits

**Analyses:** Flip Stander; Lise Hanssen

**Data entry:** Charis Britz, Lise Hanssen, Patrick De Goede

**Graphics and GIS:** Flip Stander

**Design and layout:** Lise Hanssen

## Acknowledgements

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GTZ

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Ministry of Environment and Tourism

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*Ministry of Environment  
and Tourism*



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