

# GAME COUNTS IN NORTH-WEST NAMIBIA

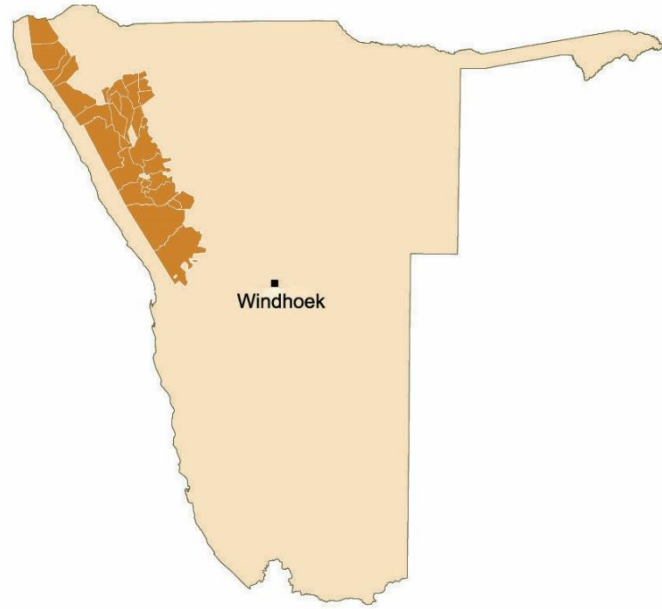
## Regional Summary

June 2016

### Total Population Estimates

Species	Population estimate	Lower 95% CL	Upper 95% CL
Gemsbok (HN)	19,740	14,540	26,810
Kudu (HN)	4,340	2,550	7,390
Ostrich (U)	7,910	5,810	10,780
Springbok (U)	103,980	79,210	136,490
Steenbok (HN)	12,830	9,670	17,010
Hartmann's Zebra (U)	16,320	11,540	23,090

Estimates are derived using DISTANCE analysis which takes account of drop-off in detectability with distance from the transect line. They are conservative estimates as, on average, 28% of the count area is not sampled (due to inaccessibility) and is consequently assumed to hold no animals. Model selection: U = uniform; HN = half normal.

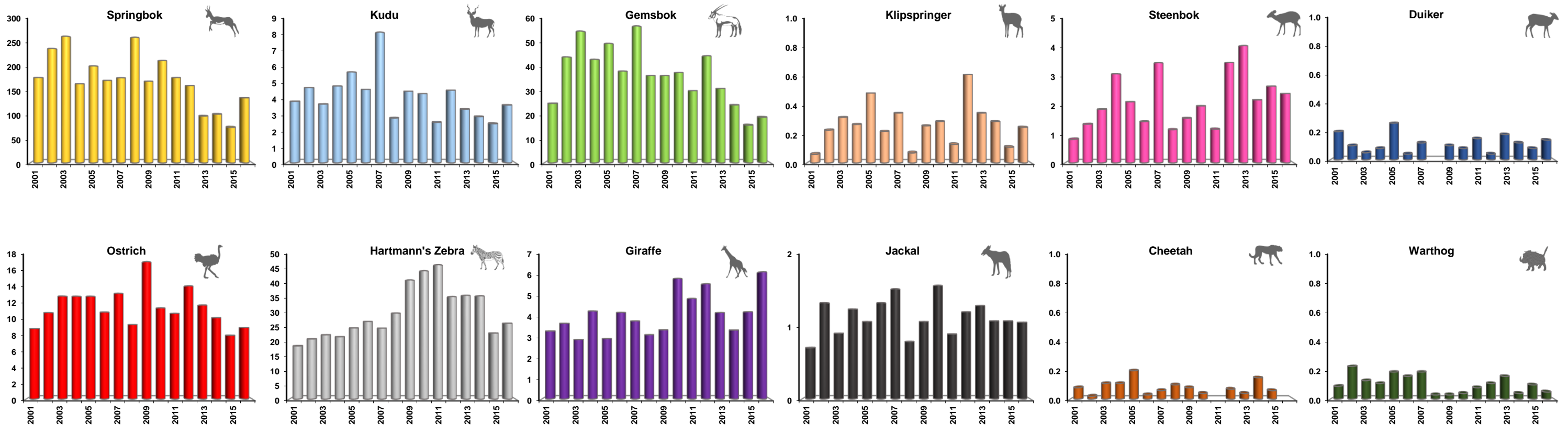


Count area: 6.9 million ha

### Total number of animals seen each year

Species	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Baboon	108	116	203	135	555	165	567	239	310	390	172	510	548	192	334	667
Cheetah	5	1	7	7	14	2	4	7	6	3		5	3	11	5	
Duiker	12	6	3	5	18	3	8		7	6	11	3	14	9	6	11
Eland	63	19		12	10	12	45	5	30		13	2		5	45	21
Elephant	40	24	45	17	107	5	36	44	72	31	73	39	34	74	64	41
Gemsbok	1,616	2,698	3,483	2,749	3,506	2,612	3,898	2,609	2,652	2,755	2,238	3,244	2,413	1,791	1,247	1,510
Giraffe	215	232	189	281	213	296	268	231	253	441	362	420	336	256	346	504
Hyaena	2			1	7		4	3	1	10	2	1	9	1	5	4
Jackal	45	84	60	82	78	94	108	59	81	119	68	91	104	83	89	87
Klipspringer	3	14	20	17	34	15	24	5	19	21	10	45	27	21	9	20
Kudu	189	297	241	316	413	324	576	207	337	327	190	329	269	221	200	296
Ostrich	577	659	815	817	903	741	902	666	1,247	832	772	1,027	911	752	630	706
Springbok	11,606	14,560	16,734	10,509	14,227	11,746	12,135	18,729	12,411	15,601	12,818	11,711	7,586	7,531	5,876	10,744
Steenbok	49	85	122	203	154	101	245	85	117	149	88	261	325	167	218	197
Warthog	6	14	8	7	13	11	13	2	2	3	6	8	12	3	8	4
H. Zebra	1,210	1,274	1,414	1,376	1,738	1,838	1,684	2,136	3,004	3,248	3,361	2,583	2,790	2,648	1,812	2,084

### Trends - Number of animals per 100km



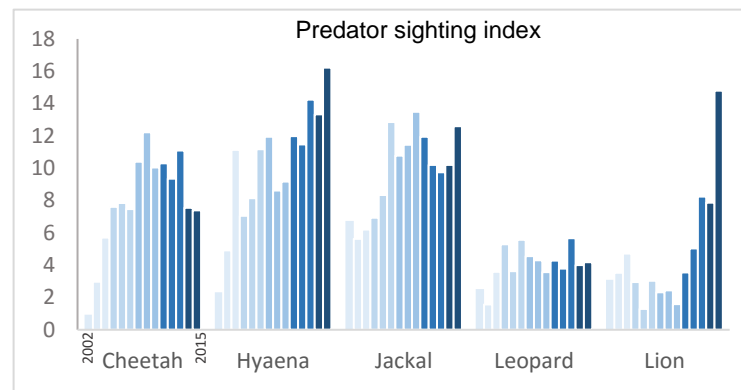
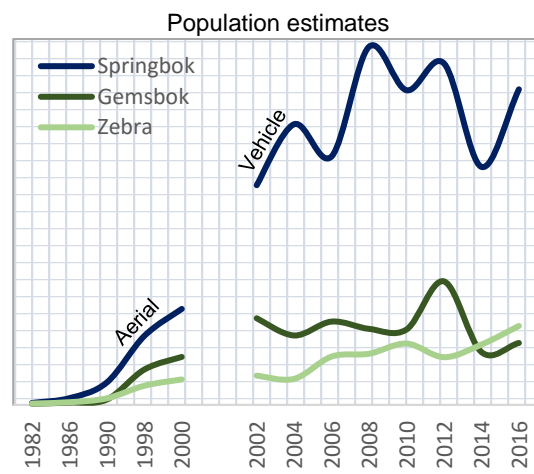
### Synopsis

Wildlife populations in north-west Namibia have increased dramatically from all-time lows in the 1980s caused by a combination of severe drought and poaching. Community conservation, formalised in 1996 through conservancies, facilitated this increase through effective control of poaching and the foregoing of hunting by local people. In the mid 2000s controlled utilisation began as a reward to communities for their conservation efforts and to begin to slow the increase in wildlife numbers in the face of anticipated drier episodes characteristic of hyper-arid environments.

These offtakes, in balance with natural growth rates, resulted in the stable or growing population trends for most species between 2003 and 2012 (see graphs above).

A recent dry phase from 2012 to the present has resulted in a sharp decline in populations of many game species although numbers have remained significantly higher than in the 1980s and early 1990s.

Predator numbers have also increased over the past 15 years and this will have contributed to recent wildlife declines.



### Harvesting offtake

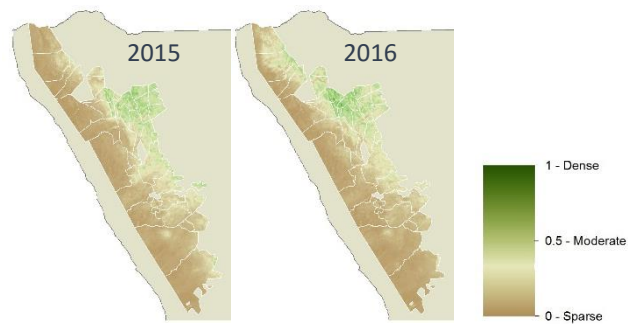
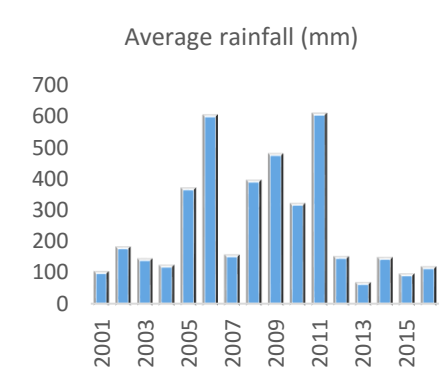
Species	Animals	
	2014	2015
Gemsbok	572	208
Giraffe	16	9
Jackal	14	5
Klipspringer	5	5
Kudu	120	49
Ostrich	95	75
Springbok	1727	821
Steenbok	8	3
H. Zebra	350	288

In response to the decline in numbers, harvesting through controlled hunting has been reduced since 2014.

Latest count figures suggest that for almost all species the population trend has stabilised.

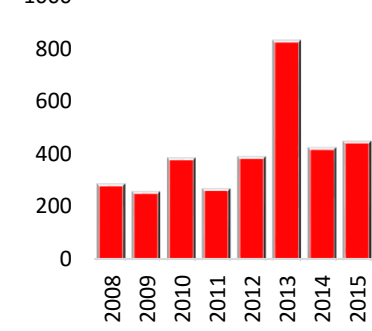
The concession areas of Palmwag and Etendeka (which represent only slightly more than 9% of the region) remain important natural refuges for many wildlife species, containing an estimated 32%, 26% and 17% of the region's springbok, gemsbok and Hartmann's zebra respectively.

Estimates for 4 main sub-regions are provided below. There is also a poster available for each, depicting trends and numbers in these areas.



NDVI is a measure of the density of chlorophyll in vegetation cover. It can be used as an indicator of the amount of biomass available to wildlife. The maps here show the average values for Feb-Apr in the current and previous game count year.

### Mortalities: number of animals



Species	Estimates by sub-region			
	South of Vet. Fence	North of Vet. Fence	Palmwag & Etendeka	Hobabere
Gemsbok	7,265	7,240	5,080	160
Kudu	2,310	1,410	510	310
Ostrich	2,340	5,120	430	
Springbok	14,490	56,140	33,010	350
Steenbok	7,070	5,490	275	
H. Zebra	4,280	8,360	2,790	900

### Animals seen(\*) during this count and minimum estimates (\*\*)

	Total	!Khoru !Goreb	#Kheadi //Hans	Anabab	//Audi	Doro //Nawas & //Uhasen Twyfelfontein	Eh-Rovipuka	Etendeka	#Gangu	Hobabere	//Huab	Marientluss	Ohungu	Okangundumba	Okonjombi	Onatendeka	Ombujokanguidi	Ongongo	Orupembe	Orupupa	Otjambangu	Otjikondavirongo	Otjimboyo	Otjiu-west	Otuzemba	Ozonduudu	Palmwag	Puros	Samitatas	Sestontein	Sorris sorris	Torra	Tsiseb
Total Route km	7,845	117	465	207	40	520	269	95	709	62	413	291	186	138	194	210	161	78	304	207	58	130	102	90	107	90	558	309	165	303	216	524	567
Total area (km2)	69,154	1,337	3,358	1,636	335	4,137	1,979	633	7,756	258	2,129	3,034	1,245	1,130	1,643	1,613	657	619	2,616	1,775	348	1,067	432	1,208	741	743	5,891	3,564	1,446	2,469	2,290	3,492	7,908
Number of routes	155	3	9	5	2	9	5	3	10	3	8	6	3	3	4	4	3	5	6	3	1	4	2	2	3	2	11	6	4	8	4	8	8
% area excluded	28	45	45	51	0	6	28	44	17	5	4	28	14	29	16	48	26	53	10	44	74	58	30	26	55	43	31	28	42	18	25	16	
NDVI Difference (%) (***)	-36.8	-29.8	-19.1	-36.8	-26.0	-24.6	-38.1	-32.5	-28.6	-24.1	26.1	-41.0	-12.4	-12.3	-22.7	-8.3	-11.4	8.3	-26.5	-7.1	-7.9	-36.0	-7.1	-25.5	-10.2	-24.7	-15.7	-12.7	-13.8	-30.4	-31.1	-20.3	
Average Rainfall (mm)	219	178	153	221	79	218	115	73	222	193	82	199	240	131	190	192	239	99	237	224	151	128	203	254	210	69	83	114	101	112	61	51	

Species	Total	!Khoru !Goreb	#Kheadi //Hans	Anabab	//Audi	Doro //Nawas & //Uhasen Twyfelfontein	Eh-Rovipuka	Etendeka	#Gangu	Hobabere	//Huab	Marientluss	Ohungu	Okangundumba	Okonjombi	Onatendeka	Ombujokanguidi	Ongongo	Orupembe	Orupupa	Otjambangu	Otjikondavirongo	Otjimboyo	Otjiu-west	Otuzemba	Ozonduudu	Palmwag	Puros	Samitatas	Sestontein	Sorris sorris	Torra	Tsiseb			
Gemsbok	19,740	28	57	95	10	254	15	43	15	11	170	3	421	121	33	22	125	26	75	137	883	27	638	63	414	215	48	1,224	9	1,398	945	329	156	180	611	270
Giraffe	4,340	30	48	5	54	76	33	6	93	6	93	3	6	10	6	10	3	3	3	3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Kudu	4,340	143	90	10	148	152	118	14	13	14	13	16	16	12	186	12	186	6	6	6	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Ostrich	7,910	78	23	2	1	22	42	14	13	14	13	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
Springbok	103,980	5	125	2097	138	424	1727	74	53	45	806	56	128	109	739	203	22	227	65	247	156	117	5	37	1760	414	76	260	82	302	245	245	245	245		
Steenbok	12,830	2	22	3	2	7	16	1	16	5	15	7	9	2	14	6	2	20	2	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
Hartmann's Zebra	16,320	17	110	11	17	70	76	8	141	17	85	38	53	16	56	16	10	106	12	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		

(\*) Values in bold are numbers of animals seen along transects.

(\*\*) Values shaded yellow are minimum estimates assuming all animals within 500m on each side of the transect line are detected i.e. there is no adjustment for drop off in detection with distance from the transect line. In addition, for springbok, gemsbok and giraffe, large groups were excluded from extrapolations and added afterwards. The sum of these values will be significantly lower than the totals indicated in the top left table as the total estimates take account of species detection curves.

(\*\*\*) NDVI is a measure of 'greenness' or biomass cover. The value presented is the % difference between the current year and the long term average (2001-16). A negative value (red or orange) indicates there was less biomass cover than average while a positive value (green) indicates there was more cover.