

# GAME COUNTS IN NORTH-WEST NAMIBIA

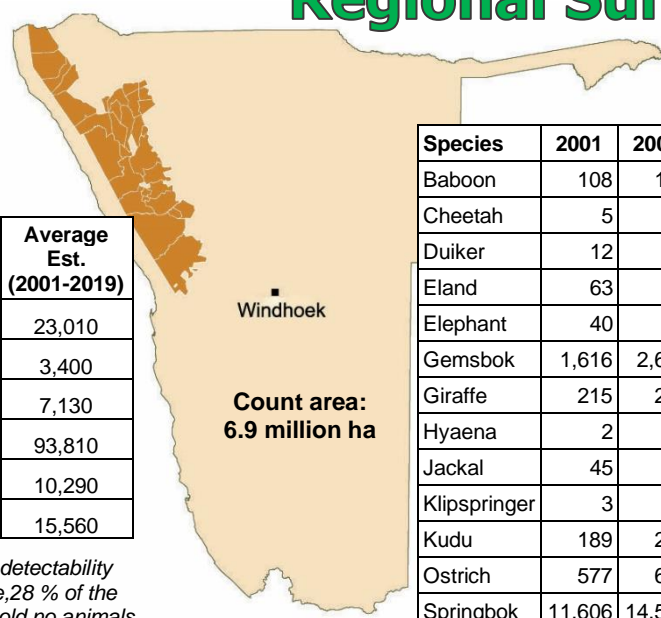
May 2020

## Regional Summary

### Total Population Estimates

Species	Population estimate	Lower 95% CL	Upper 95% CL	Estimate 2019	Average Est. (2001-2019)
Gemsbok (U)	3,002	1,899	4,746	6,605	23,010
Kudu (HN)	2,631	1,228	5,634	2,035	3,400
Ostrich (U)	4,806	3,404	6,787	8,120	7,130
Springbok (HN)	59,420	44,683	79,018	61,190	93,810
Steenbok (U)	8,901	6,092	13,005	8,220	10,290
Hartmann's Zebra (HN)	6,422	3,989	10,339	8,695	15,560

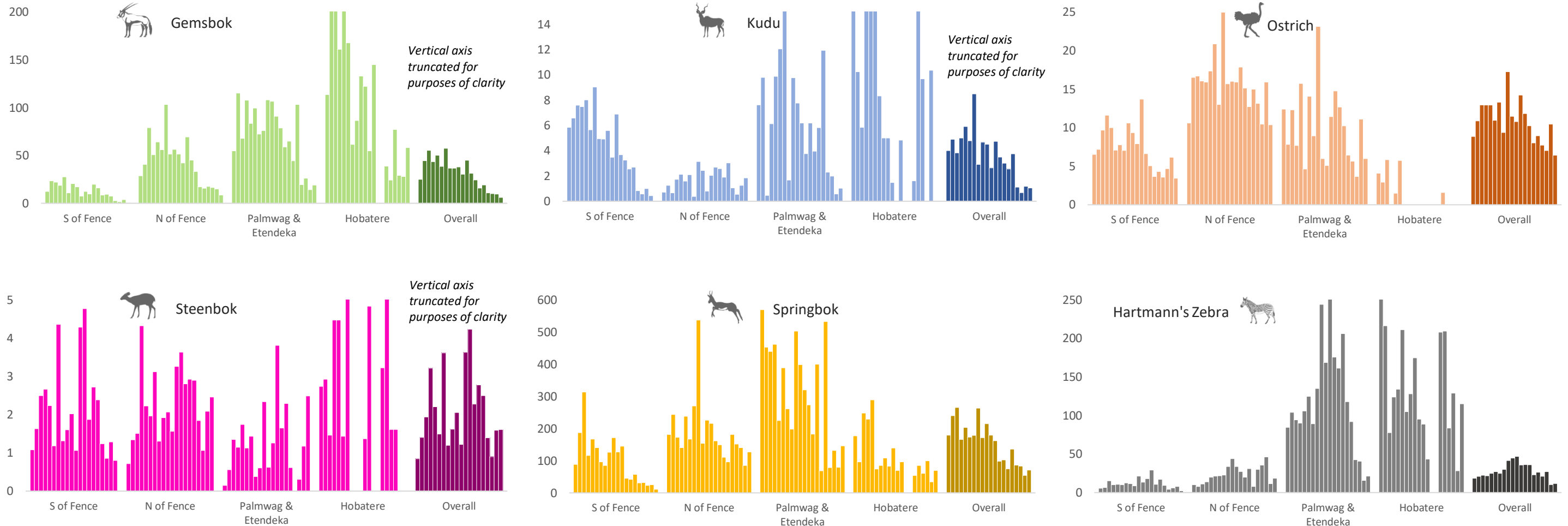
Estimates are derived using DISTANCE analysis which takes account of drop-off in detectability with distance from the transect line. They are conservative estimates as, on average, 28% of the count area is not sampled (due to inaccessibility) and is consequently assumed to hold no animals. Model selection: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



### Total number of animals seen each year

Species	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Baboon	108	116	203	135	555	165	567	239	310	390	172	510	548	192	334	667	302	356	443	136
Cheetah	5	1	7	7	14	2	4	7	6	3		5	3	11	5		6	1	2	5
Duiker	12	6	3	5	18	3	8		7	6	11	3	14	9	6	11	2	5	8	2
Eland	63	19		12	10	12	45	5	30		13	2		5	45	21	5	9	26	1
Elephant	40	24	45	17	107	5	36	44	72	31	73	39	34	74	64	41	94	31	95	30
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	856	782	774	489
Giraffe	215	232	189	281	213	296	268	231	253	441	362	420	336	256	346	504	354	418	509	382
Hyaena	2			1	7			4	3	1	10	2	1	9	1	5	4	8	3	3
Jackal	45	84	60	82	78	94	108	59	81	119	68	91	104	83	89	87	86	51	40	59
Klipspringer	3	14	20	17	34	15	24	5	19	21	10	45	27	21	9	20	14	11	6	8
Kudu	189	297	241	316	413	324	576	207	337	327	190	329	269	221	200	296	88	53	95	84
Ostrich	577	659	815	817	903	741	902	666	1,247	832	772	1,027	911	752	630	706	610	545	842	515
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	6,823	6,456	4,384	5,676
Steenbok	49	85	122	203	154	101	245	85	117	149	88	261	325	167	218	197	110	70	128	129
Warthog	6	14	8	7	13	11	13	2	2	3	6	8	12	3	8	4	5	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	1,671	2,105	830	941

### Trends - Number of animals per 100km (2001-2020)



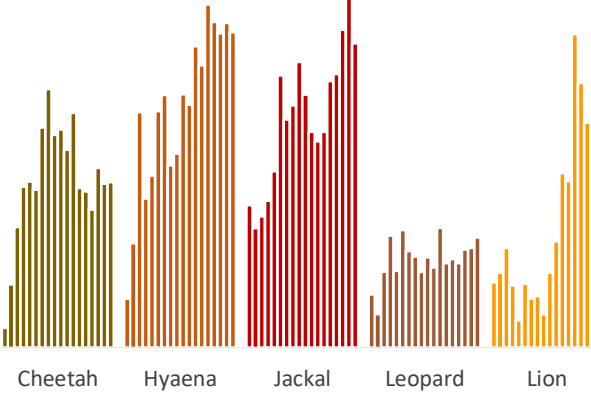
### Synopsis

Wildlife populations in north-west Namibia were severely impacted in the 1980s by a combination of severe drought and poaching. Community conservation, formalised in 1996 through conservancies facilitated an increase in wildlife numbers through controlled utilisation and effective control of poaching. Between 1996 and 2012 most species experienced stable or growing population trends. However, a subsequent 8-year long dry phase, together with low level harvesting, has resulted in a steady decline in populations of many game species. Predator numbers have also increased contributing to recent wildlife declines. In response to the decline in numbers, harvesting through controlled hunting has been reduced since 2014 to enable populations to recover.

The north-west comprises 4 distinct sub-areas: conservancies south of the veterinary fence, conservancies north of the fence and the concession areas (where no utilisation is permitted): Palmwag & Etendeka and Hobatere. There are clear differences in animal density between these areas with the concession areas having highest densities and the southern area having the lowest.

Species	Estimates by sub-area			
	South of Vet. Fence	North of Vet. Fence	Palmwag & Etendeka	Hobatere
Gemsbok	171	1,630	998	203
Kudu	387	1,948	295	
Ostrich	1,155	3,230	421	
Springbok	9,585	40,534	9,197	105
Steenbok	2,803	5,067	1,032	
H. Zebra	1061	3,860	1320	181

### Predator sighting index 2002-2019



### Harvesting offtake

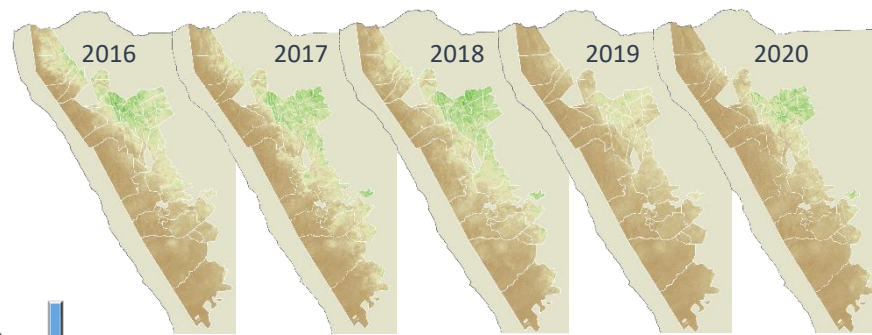
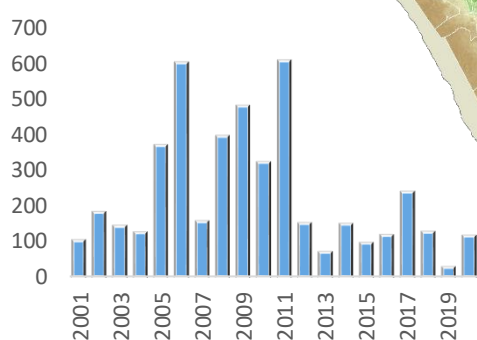
Species	Animals					
	2014	2015	2016	2017	2018	2019
Gemsbok	572	208	163	131	43	35
Giraffe	16	9	6	11	2	6
Jackal	14	5	15	12	13	2
Klipspringer	5	5	7	5	4	5
Kudu	120	49	91	86	54	34
Ostrich	95	75	100	55	27	12
Springbok	1727	821	768	719	76	85
Steenbok	8	3	13	3	4	8
H. Zebra	350	288	150	234	72	45

The concession areas of Palmwag and Etendeka (which represent only slightly more than 9% of the region) are 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. Trends in these areas often show radical spikes between years reflecting animal movements to and from the concessions, Skeleton Coast, conservancies, and freehold land. In any given year many animals may be missed due to under-sampling in counts; 43% of this area is excluded.

Although the current rainy season was an improvement (at least in the east) on last season, the amount of biomass available was still extremely low. This is reflected in the continued suppression of numbers seen for most species, and the lack of evidence of any real breeding success. Numbers north of the veterinary fence, and in concessions, seem stable or even slightly improved for many species compared with 2019. Of concern and alarm, however, is the continued decline in numbers seen for most species in conservancies south of the veterinary fence (see the posters available for each sub-area, depicting trends, sightings and wildlife estimates in these specific areas). With the already greatly depleted wildlife numbers comes the additional concern of the threat to resources arising from the severe socio-economic impacts of the COVID-19 virus pandemic.

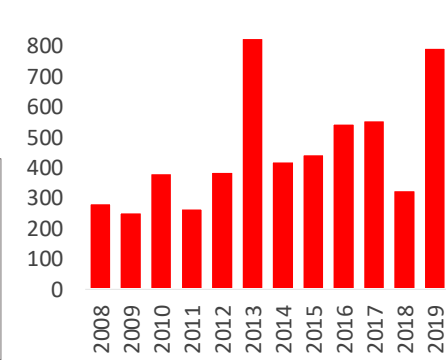
Estimates for the main harvested game species in the 4 sub-areas are indicated opposite.

### Average rainfall (mm)



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 over the 3-month period before the count.

### Mortalities: number of animals



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

	Total	Ikhero IGoreb	#Kheadi //Rooas	Anababb	//Audi	Doro //Nawas & //basen Twyfelfontein	Eh-Rovipuka	Etendeka	#Gangu	Hobatere	//Huab	Marientluis	Ohungu	Okangundumba	Okonjombi	Onatendeka	Ombujokanguindi	Ongongo	Orupembe	Orupupa	Otjambangu	Otjikondavirongo	Otjimboyo	Otjiu-west	Otuzemba	Ozonduudu	Palmwag	Puros	Samitatas	Sestontein	Sorris sorris	Torra	Tsiseb	
Total Route km	8,013	188	481	233	48	485	273	135	734	96	441	281	175	139	192	211	158	64	292	159	56	135	93	88	102	77	549	328	151	307	206	495	641	
Total area (km2)	69,489	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	156	4	9	5	2	9	5	3	10	3	8	5	3	3	4	4	3	5	6	3	1	4	2	2	3	2	11	6	4	7	4	8	8	
% area excluded	28	30	45	51	0	6	28	44	17	5	4	28	14	29	16	48	26	53	10	44	74	58	30	71	26	55	43	31	28	42	18	25	16	
NDVI Difference (%) (***)	-36.2	-38.8	-35.5	-18.8	-15.9	-23.6	-38.7	-23.8	-30.6	-37.1	-28.2	-32.4	-25.8	-33.7	-32.9	-32.0	-31.1	-31.5	-18.1	-37.8	-44.6	-33.4	-33.6	-17.6	-27.5	-23.9	-21.2	-28.0	-27.1	-34.5	-26.2	-19.0		
Average Rainfall (mm)	199	167	174	250	50	284	117	39	257	153	51	125	305	144	224	314	279	87	317	324	200	63	281	291	259	67	85	123	93	74	51	28		
Species																																		
Gemsbok		1			5	1	58			56		17				6			94								72	79	47	42		11		
Giraffe		50	22		10	53	40			32	1			28	24				5	6	14						335	198	404	117		45		
Kudu		188	20		20	166	52			57	6			56	42				10	37	18						30	54	12	32	6	52		
Ostrich		2			6	5				1			8		1				6	6	18				28	15	2	1		1	8			
Springbok		9			2					6			20	4	16	12	27	16	76	5	8	12			24	1	2	41	54	6	40	8	106	2
Steenbok		38	11		16					39			141	27	87	107	47	122	74	693	30	13	42		107	3	6	267	420	40	169	61	453	26
Hartmann's Zebra		2	22	315		24	156	123	45	67	60	69	1	147	181	176	353	43	1,612	11	220	56	1	24		40	879	481	107	155	43	202	61	

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

(\*\*) Values in shaded rows 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 (2003-19). A negative value (red or orange) indicates there was less biomass cover than average while a positive value (green) indicates there was more cover.