GAME COUNTS IN NORTH-WEST NAMIBIA

May 2022

Regional Summary

The fundamental purpose of game counts in communal areas is to inform conservancies and MEFT of wildlife trends for the purposes of adaptive management of resources. While estimates of numbers are provided, these should only be considered as an approximate guide to species abundance

Count area: 6.9 million ha

Windhoek

Total Population Estimates

Estimates are derived using DISTANCE analysis which takes account of drop-off in detectability with distance from the transect line. These 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.
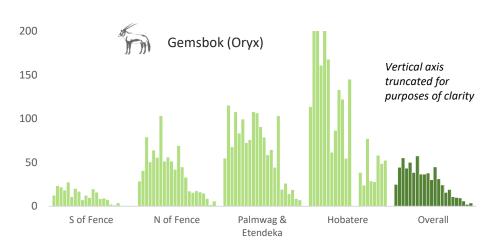
Species	Population estimate	Lower 95% CL	Upper 95% CL	Estimate 2021	Median Estimate (2001-2021)
Gemsbok (U)	899	409	1,976	1,296	21,016
Kudu (U)	658	339	1,278	868	3,330
Ostrich (U)	4,419	3221	6063	3,424	6,444
Springbok (HN)	33,422	23,516	47,501	62,870	93,214
Steenbok (HN)	2,202	1,297	3,738	3,545	8,476
Hartmann's Zebra (U)	5,083	2,972	8,694	5,567	15,260

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	2021	2022
Baboon	108	116	203	135	555	165	567	239	310	390	172	510	548	192	334	667	302	356	443	136	82	144
Cheetah	5	1	7	7	14	2	4	7	6	3		5	3	11	5		6	1	2	5		1
Duiker	12	6	3	5	18	3	8		7	6	11	3	14	9	6	11	2	5	8	2	4	4
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	63	34
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	491	181	309
Giraffe	215	232	189	281	213	296	268	231	253	441	362	420	336	256	346	504	354	418	509	382	329	260
Hyaena	2			1	7		4	3	1	10	2	1	9	1	5	4	8	3	3	4	2	1
Jackal	45	84	60	82	78	94	108	59	81	119	68	91	104	83	89	87	86	51	40	59	40	33
Klipspringer	3	14	20	17	34	15	24	5	19	21	10	45	27	21	9	20	14	11	6	8	2	8
Kudu	189	297	241	316	413	324	576	207	337	327	190	329	269	221	200	296	88	53	95	84	57	41
Ostrich	577	659	815	817	903	741	902	666	1,247	832	772	1,027	911	752	630	706	610	545	842	521	329	554
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	5,717	4,697	2,449
Steenbok	49	85	122	203	154	101	245	85	117	149	88	261	325	167	218	197	110	70	128	129	66	46
Warthog	6	14	8	7	13	11	13	2	2	3	6	8	12	3	8	4	5	4			1	
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	768	787

Species highlighted in red are experiencing severe declines in numbers in the north-west

Trends - Number of animals per 100km (2001-2022)

Gemsbok (Oryx) — *Vertical axis truncated for purposes of clarity*

Kudu — *Vertical axis truncated for purposes of clarity*

Ostrich

Steenbok — *Vertical axis truncated for purposes of clarity*

Springbok

Hartmann's Zebra

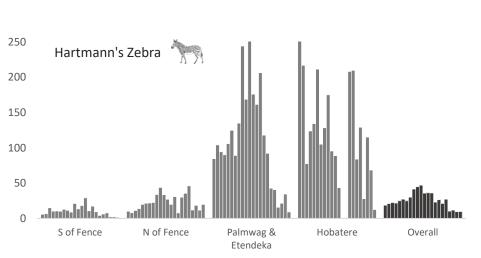(Sub-areas: S of Fence, N of Fence, Palmwag & Etendeka, Hobatere, Overall)

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 prolonged dry phase has resulted in a steady decline in populations of many game species. It is unclear how much illegal harvesting has contributed to this decline. Predator numbers increased sharply but have now levelled off or even dropped slightly. In response to the decline in numbers, official harvesting through controlled hunting has been reduced since 2014 to enable populations to recover.
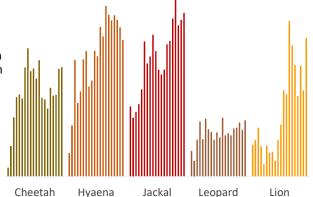
The north-west comprises 4 distinct sub-areas: conservancies south of the veterinary fence, conservancies north of the fence and the concession areas (where no utilisation is permitted): Palmwag & Etendeka and Hobatere. There are clear differences in animal density between these areas with the concession areas having highest densities and the southern area having the lowest.

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

Predator sighting index 2002-2021
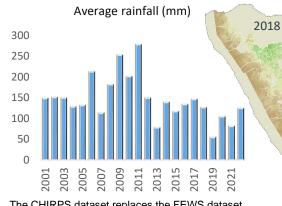

(Cheetah, Hyaena, Jackal, Leopard, Lion)

Average rainfall (mm)

The CHIRPS dataset replaces the FEWS dataset used in previous posters. A rainfall season is from July of the previous year to June of the current year.

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, over the last 5 years.

Harvesting offtake

Species	2014	2015	2016	2017	2018	2019	2020	2021
Gemsbok	572	208	163	131	43	35	1	
Giraffe	16	9	6	11	2	6	1	3
Jackal	14	5	15	12	13	2		
Klipspringer	5	5	7	5	4	5		
Kudu	120	49	91	86	54	34	7	10
Ostrich	95	75	100	55	27	12	1	3
Springbok	1727	821	768	719	76	85	64	42
Steenbok	8	3	13	3	4	8		2
H. Zebra	350	288	150	234	72	45	8	10

Mortalities: number of animals

Estimates by sub-area

Species	South of Vet. Fence	North of Vet. Fence	Palmwag & Etendeka	Hobatere
Gemsbok	120	316	306	156
Kudu	231	364	40	23
Ostrich	1,394	2,836	189	-
Springbok	9,303	19,228	4,492	400
Steenbok	977	1,011	213	-
H. Zebra	363	4,208	471	41

Results from the 2022 count show that kudu, gemsbok and springbok numbers remain a cause for concern. More Hartmann's zebra and ostriches were seen in this count however, compared to the 2021 count. Reasonable rains, at least in the eastern parts of the north-west resulted in good vegetation production in the months just prior the count (see the NDVI maps and table below). The impacts of this on recruitment in these areas will only be evident in 2023. If the next rainy season has average or above average rainfall, and offtakes are kept to a minimum then some recovery of populations might be expected.

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

Species	Total	!Khoro !Goreb	#Khoadi /Hôas	Anabeb	//Audi	Doro !Nawas & Uibasen Twyfelfontein	Ehi-Rovipuka	Etendeka	#Gaingu	Hobatere	//Huab	Marienfluss	Ohungu	Okangundumba	Okondjombo	Omatendeka	Ombujokangundi	Ongongo	Orupembe	Orupupa	Otjambangu	Otjikondavirongo	Otjimboyo	Otjiu-west	Otuzemba	Ozondundu	Palmwag	Puros	Sanitatas	Sesfontein	Sorris sorris	Torra	Tsiseb
Total Route km	8057	229	507	228	64	503	271	103	713	88	412	294	191	147	179	217	181	83	302	173	43	125	97	101	102	88	592	314	156	301	210	464	580
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	159	4	9	5	2	9	5	3	10	4	8	6	3	3	4	4	3	5	6	3	1	4	2	2	3	2	11	10	4	8	2	9	8
% Area excluded	28	30	45	51		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 (%) (***)		9.3	23.9	11.9	-10.3	57.4	13.6	21.7	29.9	14.9	26.3	-18.8	28.1	-3.3	-4.5	27.1	1.4	-16.1	-14.4	4.1	-9.3	4.2	70.7	-15.2	-4.3	1.4	2.3	-3.5	4.4	-7.2	42.3	5.7	24.2
Average Rainfall (mm)		164	141	92	218	59	198	105	72	199	135	51	139	251	92	160	186	160	72	226	203	108	92	145	257	204	43	47	82	46	84	50	54

Species

Gemsbok					25		46		19					152							26	16	5	3		14
					62		105		267					192							55	49	36	23		99

Giraffe	32	8		16	33	12			2	3	36			3			30				28	21	5	8		9
	92	16		32	120	24			10	6	72			6			60				56	42	8	16		18

Kudu	12				5	2		1				1			2			4		4	8					
	52				32	17		3				4			9			15		24	22			19		

Ostrich	2	4		52			7		1	2	29	2	27	6	33	10	24	66	5	22	3	8	4		5	25	27	21	35	15	31	78
	8	11		305			7		10	197	11	142	22	128	27	88	381	33	46	10	29	13		14	151	164	128	155	119	142	311

Springbok	4		235	139	8	78	140	60	2	326		47	28	54	46	29	144	85	77	160	14	4		302	85	27	88	44	24	192
	16		946	765	25	237	1,353	137	5	1,403		248	232	222	171	105	902	668	159	207	39	11		1,118	572	170	416	322	158	2,132

Steenbok			1	2		1		4		6	2		1	5	3		4			2		4	1	6						2		
			16	17		8		11		33	11		4	23	11		27			6		24	6	13						20		

Hartmann's Zebra		20	317		14	56		11	2				32	39		145			4				6	8	52	36	13		32	
		48	976		47	170		25	10				152	121		314			17				17	42	423	250	51		221	

(*) 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 (2003-21). A negative value (red or orange) indicates there was less biomass cover than average while a positive value (green) indicates there was more cover.