GAME COUNTS IN NORTH-WEST NAMIBIA

May 2021

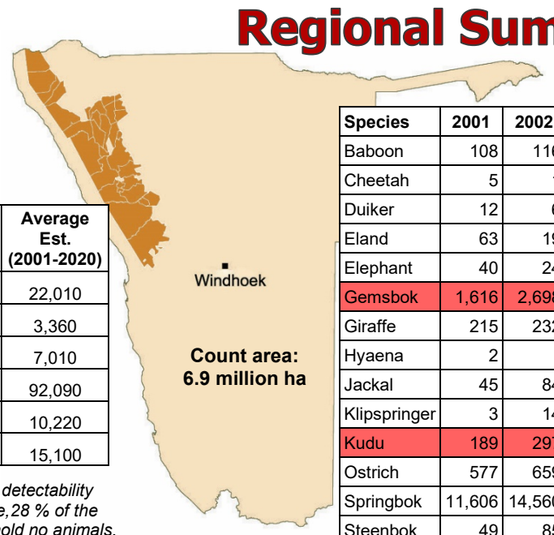
Regional Summary

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

Total Population Estimates

Species	Population estimate	Lower 95% CL	Upper 95% CL	Estimate 2020	Average Est. (2001-2020)
Gemsbok (U)	**1,296**	733	2,292	3,002	22,010
Kudu (U)	**868**	393	1,916	2,631	3,360
Ostrich (U)	**3,424**	2,346	4.997	4,806	7,010
Springbok (U)	**62,870**	37,765	104,660	59,420	92,090
Steenbok (U)	**3,545**	2,249	5,589	8,901	10,220
Hartmann's Zebra (U)	**5,567**	3,240	9,567	6,422	15,100

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.

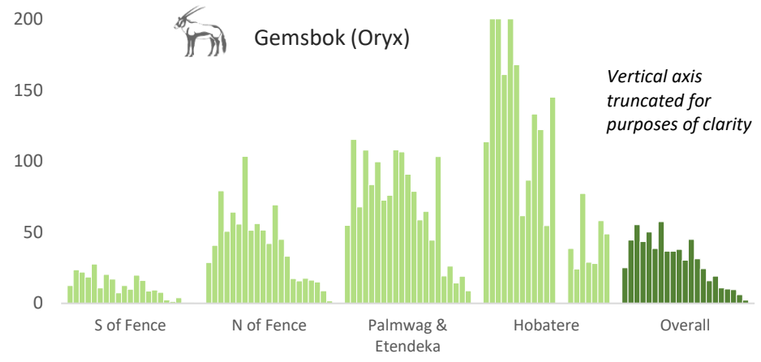


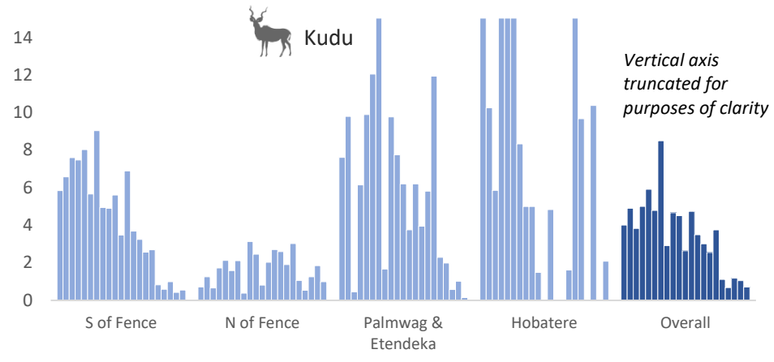
Total number of animals seen each year

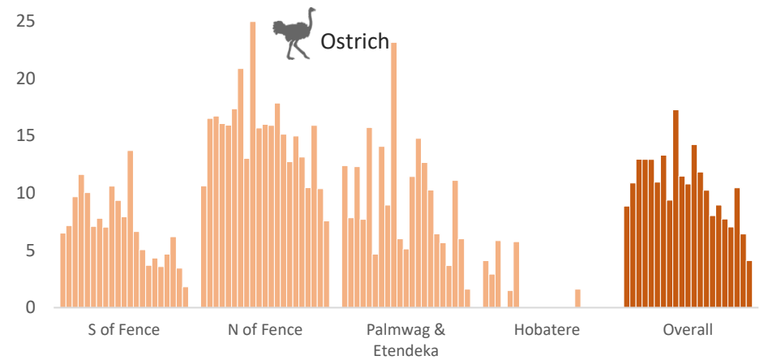
Species	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Baboon	108	116	203	135	555	165	567	239	310	390	172	510	548	192	334	667	302	356	443	136	**82**
Cheetah	5	1	7	7	14	2	4	7	6	3		5	3	11	5		6	1	2	5	
Duiker	12	6	3	5	18	3	8		7	6	11	3	14	9	6	11	2	5	8	2	**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**
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**
Giraffe	215	232	189	281	213	296	268	231	253	441	362	420	336	256	346	504	354	418	509	382	**329**
Hyaena	2			1	7		4	3	1	10	2	1	9	1	5	4	8	3	3	4	**2**
Jackal	45	84	60	82	78	94	108	59	81	119	68	91	104	83	89	87	86	51	40	59	**40**
Klipspringer	3	14	20	17	34	15	24	5	19	21	10	45	27	21	9	20	14	11	6	8	**2**
Kudu	189	297	241	316	413	324	576	207	337	327	190	329	269	221	200	296	88	53	95	84	**57**
Ostrich	577	659	815	817	903	741	902	666	1,247	832	772	1,027	911	752	630	706	610	545	842	521	**329**
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**
Steenbok	49	85	122	203	154	101	245	85	117	149	88	261	325	167	218	197	110	70	128	129	**66**
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**

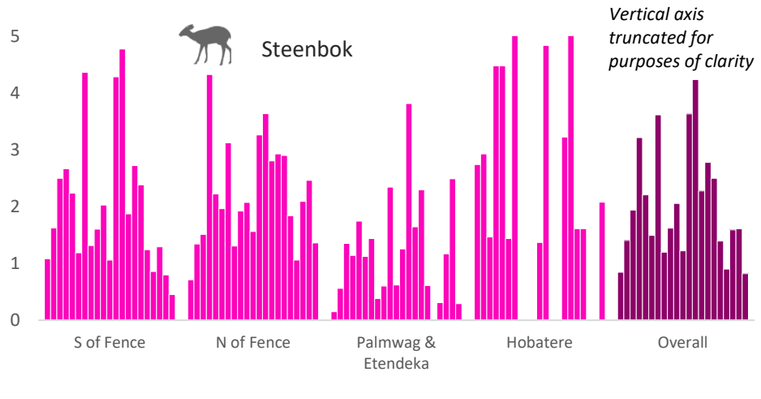
Species highlighted in red are experiencing severe declines in numbers in the north west

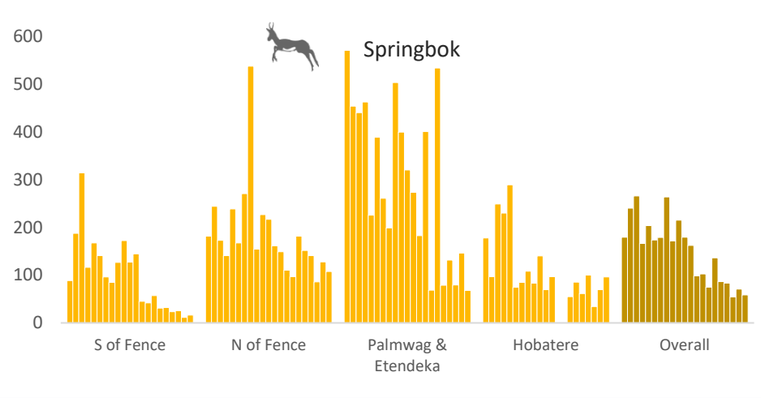
Trends - Number of animals per 100km (2001-2021)

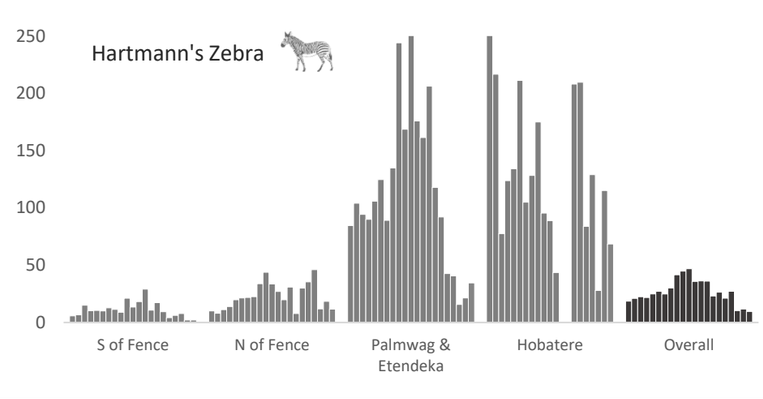












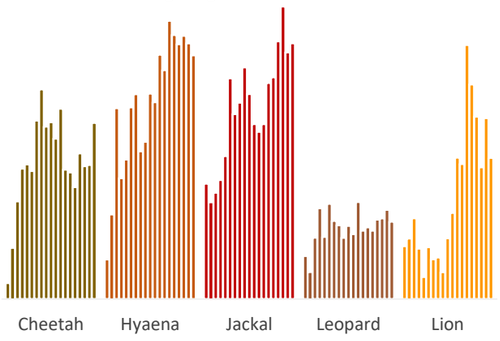
Synopsis

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 here.

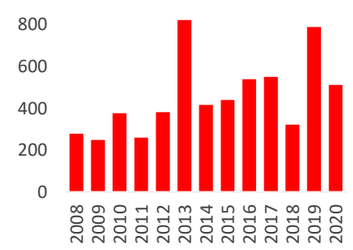
Predator sighting index 2002-2020



Harvesting offtake

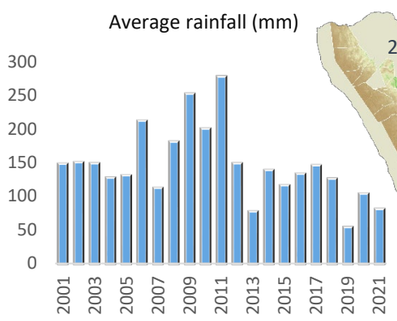
Species	Animals						
	2014	2015	2016	2017	2018	2019	2020
Gemsbok	572	208	163	131	43	35	1
Giraffe	16	9	6	11	2	6	1
Jackal	14	5	15	12	13	2	
Klipspringer	5	5	7	5	4	5	
Kudu	120	49	91	86	54	34	7
Ostrich	95	75	100	55	27	12	1
Springbok	1727	821	768	719	76	85	64
Steenbok	8	3	13	3	4	8	
H. Zebra	350	288	150	234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

Mortalities: number of animals

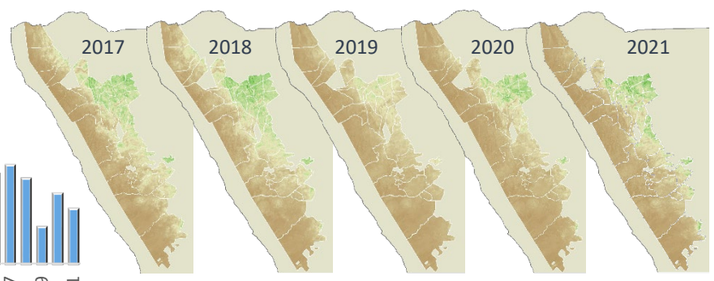


The 2021 count shows that the situation remains precarious for many game species, and it has reached a critical point for gemsbok (oryx). Covid-19 restrictions on people movement, which lasted for much of 2020, resulted in low harvesting offtakes for all the species. Conversely, there was reduced presence against wildlife crime. The startling declines in gemsbok numbers cannot be explained purely by trophy offtakes, drought conditions (as they are a desert adapted species) or competition with livestock for resources (as numbers of livestock have dropped dramatically). Of all mortalities in the conservancies counted, 9% were Oryx and 14% kudu. The concession areas accounted for 60% of Oryx seen (see the individual posters for these areas). Conservation efforts need to investigate and militate against the possible serious impacts of Illegal harvesting.

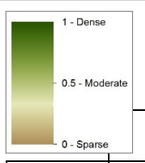
Average rainfall (mm)



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.



Species	Estimates by sub-area			
	South of Vet. Fence	North of Vet. Fence	Palmwag & Etendeka	Hobatere
Gemsbok	207	435	480	174
Kudu	327	468	50	24
Ostrich	1,074	2,233	117	-
Springbok	10,679	45,788	5,851	553
Steenbok	1,191	2,205	121	29
H. Zebra	948	2,604	1,832	183

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

	Total	!Khoro !Goreb	#Khoadi //Hôas	Anabeb	//Audi	Doro !Nawas & Uibasen Twyfelfontein	Ehi-Rovipuka	Etendeka	#Gaingu	Hobatere	//Huab	Marienfluss	Ohungu	Okangundumba	Okondjombo	Omatendeka	Ombujokanguindi	Ongongo	Orupembe	Orupupa	Otjambangu	Otjikondavirongo	Otjimboyo	Otjiu-west	Otuzemba	Ozondundu	Palmwag	Puros	Sanitatas	Sesfontein	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	**158**	4	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**	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 (%) (***)	-26.5	-28.6	-42.4	-15.9	-12.9	-34.3	-27.5	-19.8	-13.2	-31.6	-29.5	-11.5	-30.9	-36.4	-23.6	-38.5	-36.8	-46.0	-34.1	-34.1	-36.1	-44.6	-20.3	-42.8	-26.9	-39.8	-22.2	-21.2	-28.3	-27.3	-25.7	-25.9
Average Rainfall (mm)	98	81	59	150	42	135	61	70	121	79	34	77	159	53	101	110	99	41	162	117	66	58	86	193	120	39	41	51	42	52	38	55
Species																																
Gemsbok					**5**		**41**		**47**									**23**							**3**	**20**	**1**	**13**	**13**	**4**	**1**	**10**
					34		79		87									185							8	149	3	94	60	36	4	99
Giraffe		**34**	**18**		**7**	**17**	**50**		**13**					**6**	**39**			**15**	**1**		**6**			**6**		**29**	**24**	**8**	**26**	**5**	**17**	**8**
		120	36		14	61	84		50					12	78			30	6		12			12		58	34	16	52	10	34	16
Kudu		**1**	**1**			**15**	**1**		**2**	**17**	**1**				**2**				**13**												**4**	
		3	2			64	2			135	7				7				77												17	
Ostrich		**3**			**25**	**4**	**5**			**3**	**56**	**2**	**16**	**22**	**17**	**17**		**26**	**2**	**7**		**10**	**19**	**1**	**3**	**6**	**17**	**17**	**22**	**5**	**1**	**23**
Springbok		**51**	**61**		**6**		**93**	**66**	**93**	**22**	**313**	**7**	**185**	**1126**	**949**	**146**	**10**	**111**	**29**	**80**	**60**	**9**	**1**			**371**	**90**	**65**	**269**	**4**	**434**	**46**
		252	206		36		215	435	201	170	450	44	532	2,163	1,262	670	59	881	188	124	219	37	4			1,257	668	355	1,250	38	1,090	397
Steenbok	**4**	**5**	**2**		**2**	**14**	**2**	**1**	**2**	**2**		**2**	**4**	**2**	**2**	**5**	**2**	**3**	**4**	**1**	**1**			**2**	**2**						**1**	**1**
	19	20	6		14	69	5	7	9	5		12	25	9	8	20	8	16	25	2	4			8	11						4	13
Hartmann's Zebra		**53**	**12**		**8**	**20**	**154**		**66**	**11**	**7**			**192**	**25**			**47**			**14**			**6**	**11**	**83**	**9**	**8**	**26**	**0**	**16**	**0**
		166	26		115	60	341		127	24	60			956	94			318			51			15	31	635	64	43	112		99	

(*) 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 (2003-20). A negative value (red or orange) indicates there was less biomass cover than average while a positive value (green) indicates there was more cover.