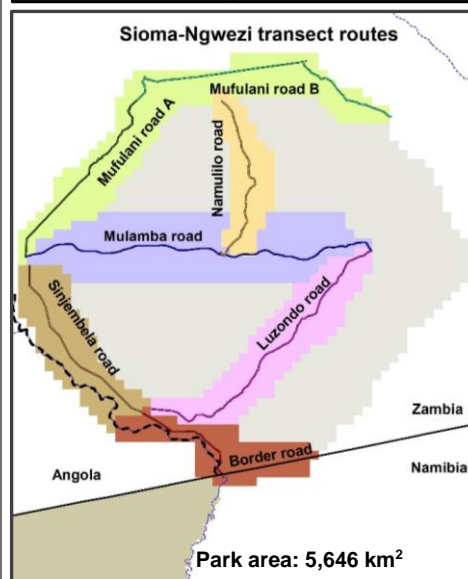
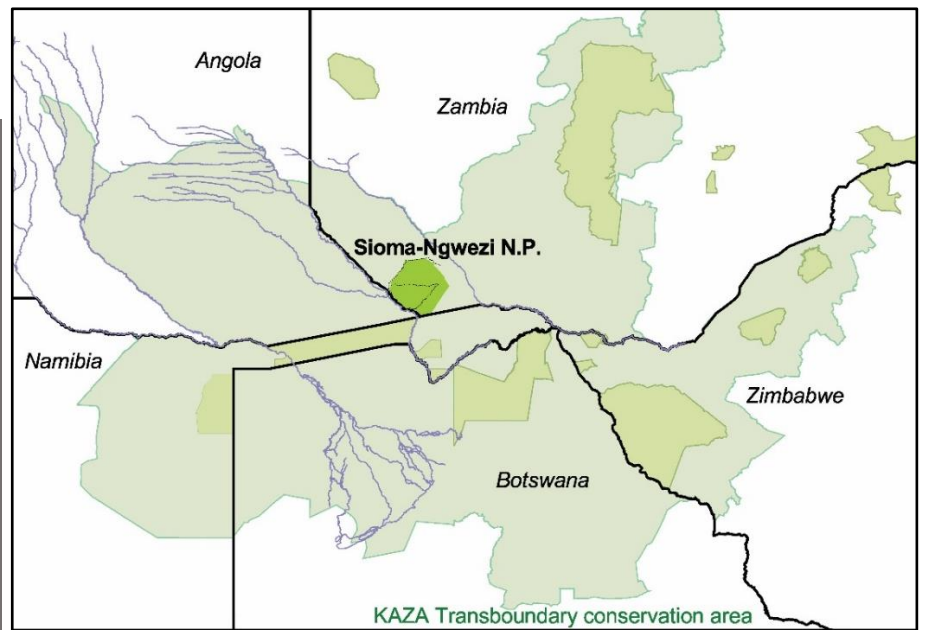


GAME COUNTS IN SIOMA-NGWEZI N.P.

October 2023

Numbers of animals and groups seen:

Species	2023		2022		2021		2020		2019		2018		2017	
	Animals	Groups	Animals	Groups	Animals	Groups	Animals	Groups	Animals	Groups	Animals	Groups	Animals	Groups
Baboon					73	2								
Buffalo	60	2	120	1	130	4					150	1	2	1
Bushpig					5	3			4	2				
Crocodile							4	4					1	1
Duiker	97	71	54	47	56	43	71	66	41	37	34	29	27	23
Eland	6	5	11	4	52	5	23	3			6	1	78	5
Elephant	2	1	4	2	12	8			1	1				
Giraffe	14	5	4	4	29	13	18	5	3	1	5	1	38	5
Hippo			9	1			1	1						
Hyaena					12	9					2	1		
Impala	14	5	20	3	30	3	14	3	3	1	57	6	12	5
Kudu	54	9	47	11	71	20	71	18	43	8	29	7	18	6
Lechwe					16	1								
Leopard			4	3										
Lion					2	1								
Oribi													1	1
Reedbuck	5	2	51	9	23	9	4	3	7	5	17	9	8	3
Roan	7	2	40	6	18	7	7	4	37	7	77	5	2	1
Sable	6	4	8	3	95	13	55	6	50	5	51	7	20	4
Steenbok	6	5	10	8	3	3	9	9	1	1			3	3
Tsessebe			1	1			1	1	4	1			2	1
Vervet Monkey	20	4	37	4	1	1	3	1	4	1				
Warthog	1	1					4	1			4	2	4	1
Wild dog			12	1	8	1								
Wildebeest	7	1	29	4	25	2	41	2	88	5	15	1		
Zebra	7	2	15	2	10	3	8	2	7	1	5	1	9	1



Transect statistics:

Route	Distance (km)	Duration (hours)
Border road		
Luzondo road	68	5.2
Mufulani road A	58	5.3
Mufulani road B	52	6
Mulamba road	81	5.7
Sinjembela road	40	3.3
Namulilo road	40	2.8

Not counted:
2021-Luzondo road, 2022-Sinjembela road, 2023-Border road.



Zambian Wildlife Authority

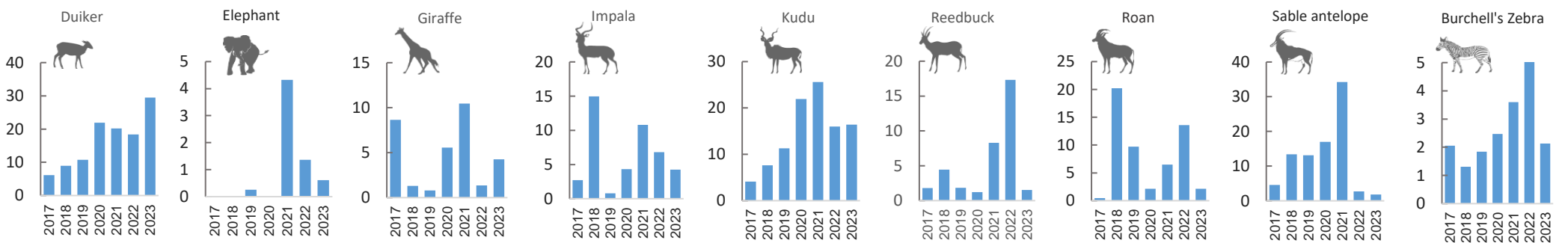
In order to derive population estimates (using the DISTANCE method) adequate numbers of sightings are required for each species to determine detection profiles which can be used to extrapolate animal numbers across the larger area. The number of sightings recorded (using all years of data) is too low for many species to be able to derive sensible detection curves and estimates. Very rough estimates for 6 species are presented (opposite). Too few sightings were recorded for elephant, impala and zebra. No estimates are therefore provided for these species.

Linear trends (animals seen per unit distance) may be a more useful tool for assessing the stability of the majority of species as long as the counting method remains consistent over time. Trends for kudu and duiker are promising while those for elephant, impala and Sable antelope may be cause for concern.

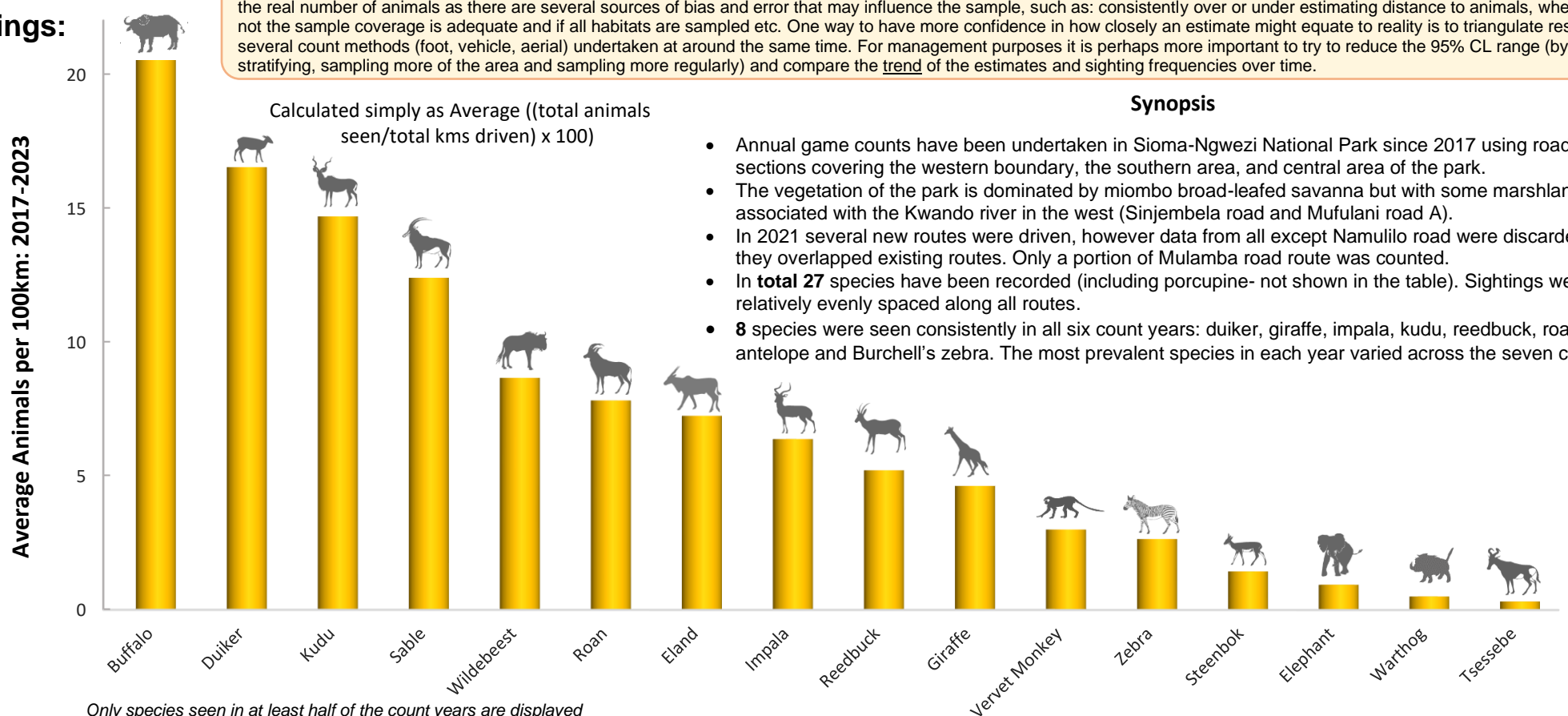
Park Estimates:

Species	2023	(95% CL)
Duiker	10,754	8,712-13,275
Giraffe	837	460-1,523
Kudu	4,770	3,086-7,372
Reedbuck	841	346-2,049
Roan	1,028	538-1,964
Sable	367	113-1,188

Trends: Animals per 100km



Sightings:



Confidence limits indicate that, based on the sample, there is a 95% probability that the 'true' estimate falls somewhere in the range. We cannot however say that this estimate equates to the real number of animals as there are several sources of bias and error that may influence the sample, such as: consistently over or under estimating distance to animals, whether or not the sample coverage is adequate and if all habitats are sampled etc. One way to have more confidence in how closely an estimate might equate to reality is to triangulate results from several count methods (foot, vehicle, aerial) undertaken at around the same time. For management purposes it is perhaps more important to try to reduce the 95% CL range (by stratifying, sampling more of the area and sampling more regularly) and compare the trend of the estimates and sighting frequencies over time.

Synopsis

- Annual game counts have been undertaken in Sioma-Ngwezi National Park since 2017 using road-route sections covering the western boundary, the southern area, and central area of the park.
- The vegetation of the park is dominated by miombo broad-leaved savanna but with some marshland associated with the Kwando river in the west (Sinjembela road and Mufulani road A).
- In 2021 several new routes were driven, however data from all except Namulilo road were discarded as they overlapped existing routes. Only a portion of Mulamba road route was counted.
- In total 27 species have been recorded (including porcupine- not shown in the table). Sightings were relatively evenly spaced along all routes.
- 8 species were seen consistently in all six count years: duiker, giraffe, impala, kudu, reedbuck, roan, sable antelope and Burchell's zebra. The most prevalent species in each year varied across the seven counts.

Only species seen in at least half of the count years are displayed