

GAME COUNTS IN LUENGUE-LUIANA N.P.

October 2024

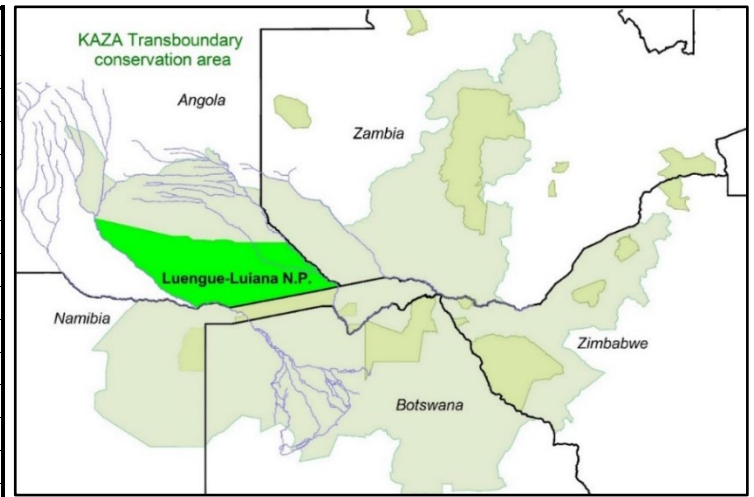
In 2018, 2019 and 2020 three routes were counted. In 2021 four were counted and in 2022, 2023 and 2024 five were counted. Any sections of transect overlap were excluded from summaries and analyses.

Numbers seen:

Animals

Groups

Species	2024	2023	2022	2021	2020	2019	2018	2024	2023	2022	2021	2020	2019	2018
Baboon			12			66	6			2			2	1
Buffalo	77	653	523	1,216	1,104	2,448	1,175	2	4	5	15	13	19	14
Bushbuck						3							1	
Bushpig						23							3	
Duiker	62	27	3	7	24	15	16	26	25	3	6	16	12	15
Eland	15	4		12		27	10	3	3		2		2	2
Elephant	18	153	644	159	47	85		5	6	9	4	6	2	
Giraffe	1	15	5		1	1		1	5	2			1	1
Hippo					16							1		
Hyaena, spotted			1							1				
Impala	83	56	431	236	39	139	103	8	7	18	20	7	13	17
Jackal, black-backed				3							2			
Kudu	23	75	33	4	52	28	25	5	17	11	3	10	9	6
Lechwe, red	16	28	42	93	142	183	405	3	5	2	4	8	14	8
Leopard		1				1			1				1	
Lion	2							1						
Oribi				12							4			
Ostrich					1							1		
Reedbuck	3	9	47	28	103	2	69	1	4	8	9	16	2	14
Roan	23				23			3				1		
Sable antelope	40	88	13	22	9	45	8	5	12	5	7	4	12	2
Steenbok	4	13	13	20	2	14	6	1	13	13	19	2	12	5
Tsessebe		36	19						2	2				
Vervet Monkey	64	3	27	45	34		34	3	2	3	2	1		1
Warthog	3	13	17	15	32	30	20	1	7	7	4	9	9	6
Waterbuck							31							2
Wild dog					3	3						1	1	
Wildebeest		32	11	53	61	42			3	3	3	8	3	
Zebra, Burchell's	28	112	69	206	26	55	14	2	8	5	7	3	6	3



- Game counts in Luengue-Luiana N.P. (proclaimed in 2011) were initiated in 2018. Three road section transect routes were initially established. A further two were added in 2021.
- The transects are limited to the extreme south-eastern portion of the park and represent an area of approximately 2,030 km².
- The vegetation of the park is dominated by broad-leaved savannah with several riparian networks crossing the park.
- In total **29 species** have been recorded.
- For large herd species like buffalo, or floodplain species like red lechwe linear density provides the best measure of animal trends.

Transect statistics:

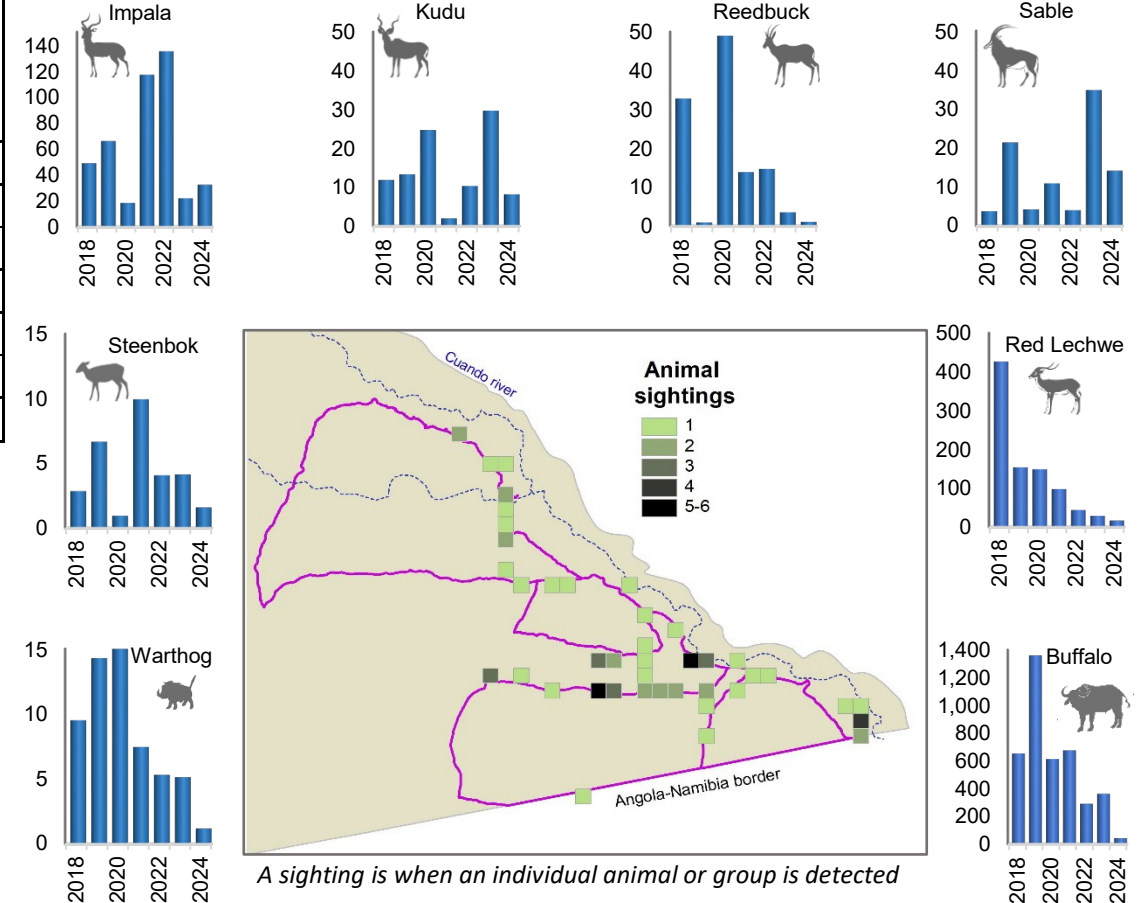
	Total	Route 1	Route 2	Route 3	Route 4	Route 5
Total Route km	255	118	13	33	56	36
Duration (hrs)	22	6.5	3.3	2.5	5.1	5
Total Area Represented (km ²)	2,030					

- For other species, 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 represented by routes. Due to the general low number of sightings, very rough estimates can currently only be derived for some of the species in the area. The fact that transects are limited to one portion of the park, and that such a small percentage of the park is sampled, invalidates extrapolation to other areas of the park.
- Trends (animals seen per unit distance and/or species densities) are a useful tool for assessing the stability of a particular species as long as the counting method remains consistent over time. This is perhaps more important for management purposes than trying to determine precise estimates. This visual representation can quickly highlight areas of concern. For example, why are red lechwe numbers declining year on year? Why do some species like kudu, impala and sable antelope show major spikes and drops?

Abundance estimates in the 2,030 km² represented by routes 1-5

Species	Estimate	95% CI
Duiker	3,480	1,231-9,842
Impala	2,870	440-18,715
Kudu	799	214-2,981
Reedbuck	56	5-686
Sable	513	170-1,551
Steenbok	401	72-2,231
Warthog	105	19-567

Trends: animals per 100km



Animals per 100km: 2018-2024

Average calculated simply as average of (total animals seen/total kms driven) x 100

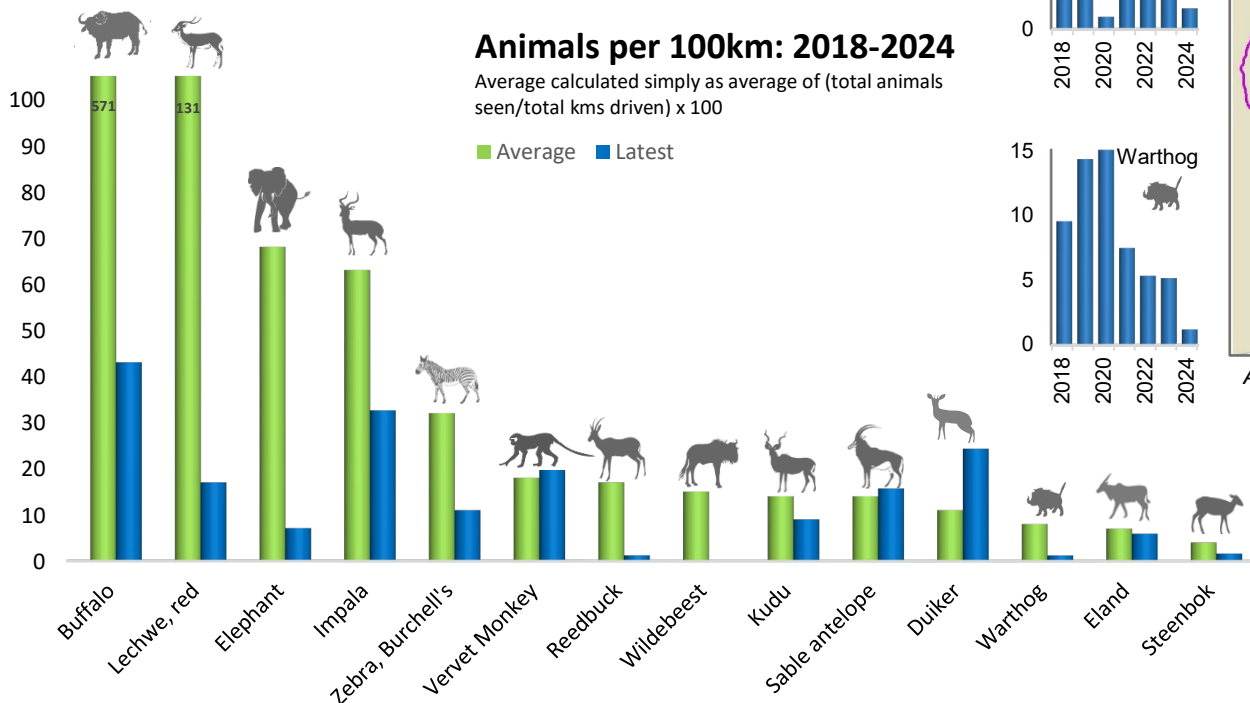


Chart vertical axis for buffalo and lechwe truncated for display purposes. For these two species the index was calculated using primarily river sections of transects. Only frequently observed species are shown in the chart.