

Supplement material

Table S1: Number of days each camera was active in the field, well positioned, and recorded date/time data correctly; upper part representing camera traps deployed at the river and bottom part representing camera traps deployed at (semi)artificial waterholes.

Site	RS1	RS2	RS3	RS4	RS5	RS6	RS7	RS8	RS9	RS10
Camera number	16	19	15	11	10	9	14	17	18	20
Number of days active	349	32	80	296	342	344	404	402	411	400
Site	Bush Dinneer	Ouland	Besteekraal	Besteekraal	Earth Dam	Earth Dam	Earth Dam	West Side	West Side	Total
Camera number	1	3	8	12	4	7	13	5	6	-
Number of days active	301	382	216	356	315	372	367	374	325	6068

Table S2: Number of camera traps that were fully or partially active during each month of the study period.

Month	Placement of the camera traps	Number of camera traps active for the full month	Number of camera traps active for a part of the month
9/2021	Waterholes	0	3
	River	0	0
10/2021	Waterholes	3	6
	River	0	8
11/2021	Waterholes	9	0
	River	8	2
12/2021	Waterholes	9	0
	River	8	1
1/2022	Waterholes	6	3
	River	5	5
2/2022	Waterholes	5	2
	River	6	2
3/2022	Waterholes	1	7
	River	5	4
4/2022	Waterholes	8	0
	River	7	0
5/2022	Waterholes	6	3
	River	7	1
6/2022	Waterholes	8	1
	River	7	1
7/2022	Waterholes	7	2
	River	7	1
8/2022	Waterholes	8	1
	River	8	0
9/2022	Waterholes	8	1
	River	7	1
10/2022	Waterholes	8	1
	River	7	1
11/2022	Waterholes	0	9
	River	8	0
12/2022	Waterholes	0	0
	River	0	8

Table S3: Overlap estimates of activity of individual species at different water source types (water hole, river) with corrected 95% confidence intervals. Overlap larger than 0.75 marked boldly, overlap lower than 0.25 marked boldly and in red. Confidence intervals exceeding these values for estimates >0.25 and <0.75 marked similarly. Values rounded up to two decimals.

Species	Overlap estimate	Upper 95% CI (basic0)	Lower 95% CI (basic0)
impala	0.80	0.76	0.83
wildebeest	0.51	0.31	0.72
blesbok	0.15	0.05	0.29
zebra	0.78	0.64	0.90
giraffe	0.80	0.76	0.83
waterbuck	0.62	0.58	0.66
warthog	0.88	0.82	0.95
steenbok	0.55	0.23	0.84
duiker	0.60	0.38	0.83
eland	0.64	0.43	0.81
nyala	0.79	0.72	0.83
bushbuck	0.80	0.71	0.89
kudu	0.84	0.77	0.91
bushpig	0.71	0.41	0.92

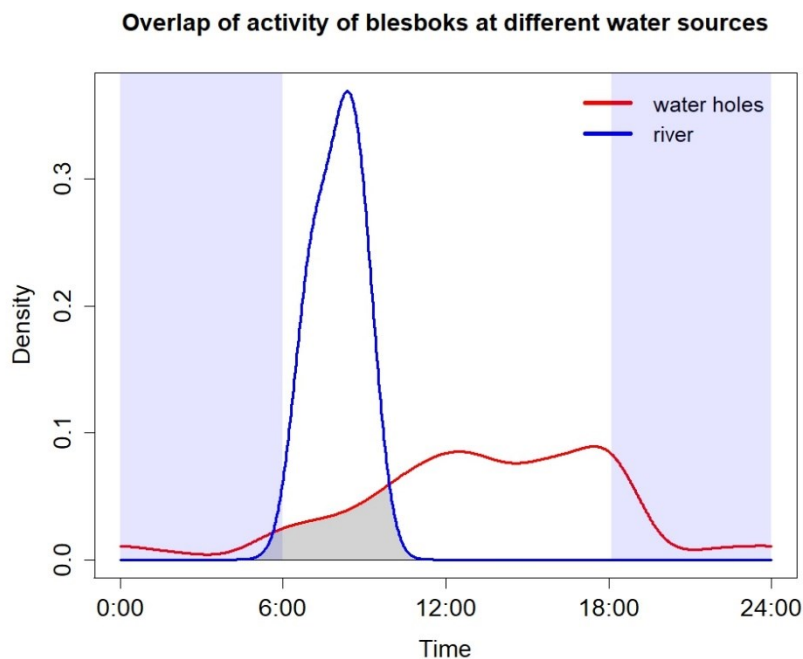


Figure S2: Plot of overlap of activity of blesboks at different water source types.

Table S4: Overlap estimates of activity of individual species at water sources during dry and wet season with corrected 95% confidence intervals. Overlap larger than 0.75 marked boldly, overlap lower than 0.25 marked boldly and in red. Confidence intervals exceeding these values for estimates >0.25 and <0.75 marked similarly. Values rounded up to two decimals.

Species	Overlap estimate	Lower 95% CI (basic0)	Upper 95% CI (basic0)
impala	0.89	0.85	0.93
wildebeest	0.73	0.63	1.03
blesbok	0.88	0.81	0.94
zebra	0.77	0.68	0.86
giraffe	0.86	0.82	0.91
waterbuck	0.69	0.64	0.74
gemsbok	0.41	0.16	0.68
warthog	0.89	0.83	0.94
steenbok	0.85	0.66	0.97
duiker	0.86	0.79	0.93
eland	0.67	0.54	0.79
nyala	0.77	0.71	0.84
bushbuck	0.89	0.83	0.95
kudu	0.83	0.76	0.90
bushpig	0.83	0.54	1.00

Overlap of activity of gemsboks at water sources based on season

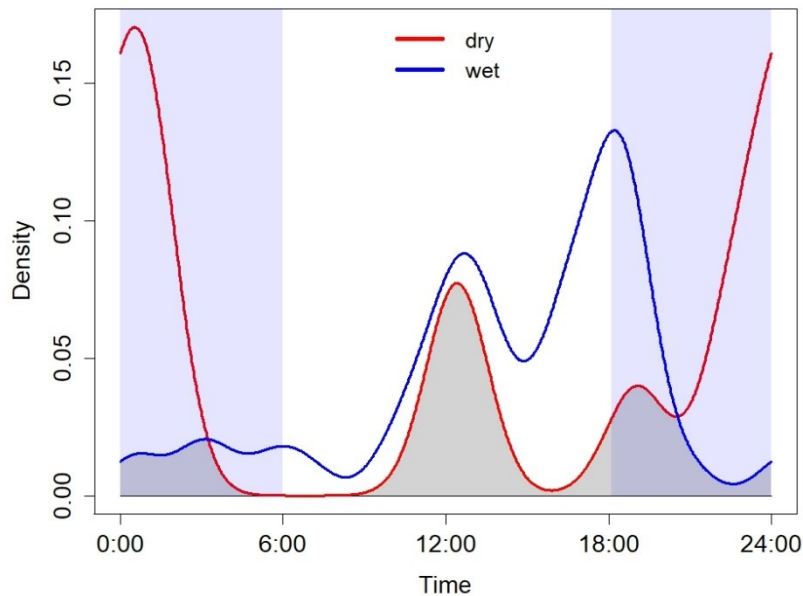


Figure S3: Plot of overlap of activity of gemsbok at water sources during dry and wet season.

Table S5: Overlap estimates of activity of individual species at water sources with and without juveniles with corrected 95% confidence intervals. Overlap larger than 0.75 marked boldly. Confidence intervals exceeding these values for estimates >0.25 and <0.75 marked similarly. Values rounded up to two decimals.

Species	Overlap estimate	Upper 95% CI (basic0)	Lower 95% CI (basic0)
impala	0.85	0.80	0.90
wildebeest	0.67	0.55	0.77
blesbok	0.90	0.83	0.97
zebra	0.91	0.82	0.97
giraffe	0.88	0.79	0.93
waterbuck	0.78	0.72	0.84
warthog	0.88	0.83	0.92
nyala	0.89	0.81	0.95
bushbuck	0.81	0.71	0.91
kudu	0.86	0.78	0.94

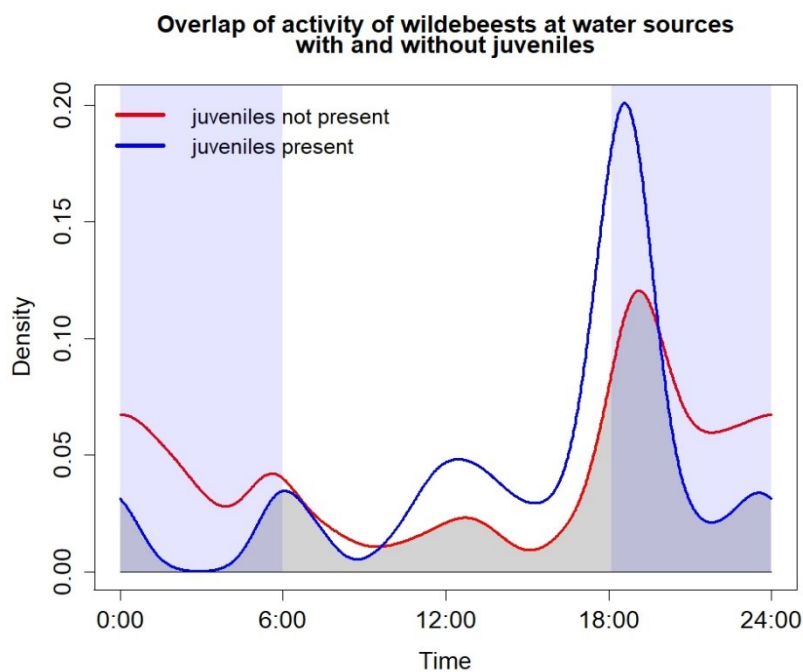


Figure S4: Plot of overlap of activity of wildebeests at water sources with and without juveniles present.

Table S6: Overlap estimates of activity of individual species at water sources during maximum daily temperatures $>30\text{ }^{\circ}\text{C}$ and $<30\text{ }^{\circ}\text{C}$ with corrected 95% confidence intervals. Overlap larger than 0.75 marked boldly, overlap lower than 0.25 marked boldly and in red. Confidence intervals exceeding these values for estimates >0.25 and <0.75 marked similarly. Values rounded up to two decimals.

Species	Overlap estimate	Upper 95% CI (basic0)	Lower 95% CI (basic0)
impala	0.91	0.88	0.95
wildebeest	0.72	0.64	0.81
blesbok	0.87	0.75	0.96
zebra	0.89	0.81	0.94
giraffe	0.88	0.85	0.91
waterbuck	0.88	0.83	0.93
gemsbok	0.41	0.18	0.57
warthog	0.91	0.84	0.97
steenbok	0.74	0.53	0.89
duiker	0.77	0.66	0.87
eland	0.80	0.70	0.89
nyala	0.91	0.85	0.96
bushbuck	0.92	0.84	0.97
kudu	0.82	0.75	0.91
bushpig	0.54	0.21	0.80

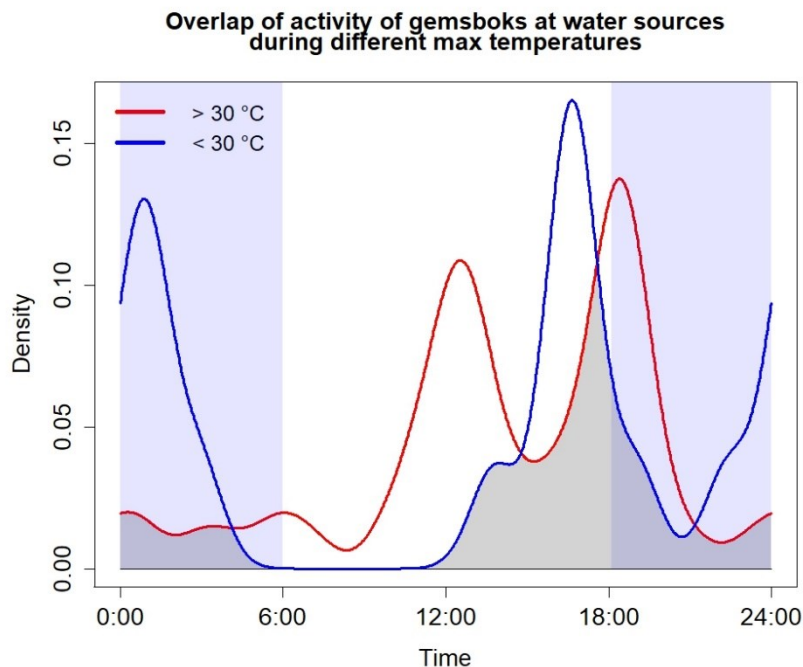


Figure S5: Plot of overlap of activity of gemsboks at water sources during different maximum daily temperatures.

Table S7: Overlap estimates of activities of all pairs of species of ungulates at water sources with corrected 95% confidence intervals. Overlap larger than 0.75 marked boldly, overlap lower than 0.25 marked boldly and in red. Values rounded up to two decimals.

Species 1	Species 2	Overlap estimate	Upper 95% CI (basic0)	Lower 95% CI (basic0)
wildebeest	impala	0.48	0.44	0.52
blesbok	impala	0.91	0.88	0.94
blesbok	wildebeest	0.46	0.41	0.51
zebra	impala	0.59	0.54	0.63
zebra	wildebeest	0.82	0.78	0.86
zebra	blesbok	0.59	0.54	0.64
giraffe	impala	0.85	0.83	0.88
giraffe	wildebeest	0.48	0.45	0.52
giraffe	blesbok	0.91	0.88	0.94
giraffe	zebra	0.62	0.57	0.66
waterbuck	impala	0.64	0.62	0.67
waterbuck	wildebeest	0.79	0.76	0.83
waterbuck	blesbok	0.64	0.61	0.68
waterbuck	zebra	0.90	0.86	0.93
waterbuck	giraffe	0.67	0.64	0.69
gemsbok	impala	0.74	0.66	0.81
gemsbok	wildebeest	0.65	0.54	0.74
gemsbok	blesbok	0.75	0.66	0.83
gemsbok	zebra	0.75	0.65	0.86
gemsbok	giraffe	0.75	0.66	0.83
gemsbok	waterbuck	0.82	0.74	0.89
warthog	impala	0.73	0.70	0.76
warthog	wildebeest	0.26	0.23	0.30
warthog	blesbok	0.76	0.72	0.81
warthog	zebra	0.40	0.36	0.45
warthog	giraffe	0.77	0.74	0.79
warthog	waterbuck	0.45	0.42	0.48
warthog	gemsbok	0.55	0.45	0.66
steenbok	impala	0.82	0.76	0.88
steenbok	wildebeest	0.52	0.44	0.61
steenbok	blesbok	0.81	0.73	0.88
steenbok	zebra	0.63	0.55	0.70

steenbok	giraffe	0.81	0.73	0.88
steenbok	waterbuck	0.65	0.57	0.72
steenbok	gemsbok	0.69	0.60	0.77
steenbok	warthog	0.63	0.54	0.71
duiker	impala	0.45	0.40	0.49
duiker	wildebeest	0.70	0.64	0.75
duiker	blesbok	0.42	0.37	0.46
duiker	zebra	0.66	0.62	0.71
duiker	giraffe	0.46	0.42	0.50
duiker	waterbuck	0.62	0.56	0.68
duiker	gemsbok	0.48	0.39	0.57
duiker	warthog	0.24	0.20	0.28
duiker	steenbok	0.54	0.45	0.63
eland	impala	0.50	0.44	0.57
eland	wildebeest	0.82	0.76	0.87
eland	blesbok	0.50	0.44	0.58
eland	zebra	0.82	0.76	0.88
eland	giraffe	0.50	0.44	0.57
eland	waterbuck	0.79	0.74	0.86
eland	gemsbok	0.69	0.58	0.78
eland	warthog	0.28	0.22	0.34
eland	steenbok	0.55	0.43	0.64
eland	duiker	0.61	0.52	0.68
nyala	impala	0.89	0.86	0.92
nyala	wildebeest	0.41	0.37	0.45
nyala	blesbok	0.89	0.85	0.92
nyala	zebra	0.52	0.48	0.57
nyala	giraffe	0.87	0.84	0.90
nyala	waterbuck	0.57	0.53	0.59
nyala	gemsbok	0.67	0.58	0.76
nyala	warthog	0.76	0.72	0.80
nyala	steenbok	0.80	0.73	0.87
nyala	duiker	0.45	0.41	0.50
nyala	eland	0.42	0.36	0.48
bushbuck	impala	0.87	0.83	0.90
bushbuck	wildebeest	0.45	0.40	0.49
bushbuck	blesbok	0.82	0.78	0.87
bushbuck	zebra	0.55	0.51	0.60
bushbuck	giraffe	0.84	0.79	0.88
bushbuck	waterbuck	0.59	0.55	0.62
bushbuck	gemsbok	0.65	0.56	0.74

bushbuck	warthog	0.72	0.67	0.76
bushbuck	steenbok	0.81	0.71	0.88
bushbuck	duiker	0.52	0.47	0.56
bushbuck	eland	0.44	0.37	0.49
bushbuck	nyala	0.90	0.85	0.94
kudu	impala	0.82	0.80	0.85
kudu	wildebeest	0.61	0.57	0.65
kudu	blesbok	0.85	0.81	0.90
kudu	zebra	0.74	0.69	0.78
kudu	giraffe	0.85	0.81	0.89
kudu	waterbuck	0.79	0.76	0.83
kudu	gemsbok	0.82	0.74	0.89
kudu	warthog	0.62	0.58	0.67
kudu	steenbok	0.80	0.71	0.87
kudu	duiker	0.54	0.48	0.59
kudu	eland	0.65	0.59	0.71
kudu	nyala	0.77	0.73	0.81
kudu	bushbuck	0.75	0.70	0.79
bushpig	impala	0.15	0.07	0.23
bushpig	wildebeest	0.59	0.47	0.70
bushpig	blesbok	0.16	0.08	0.23
bushpig	zebra	0.56	0.46	0.65
bushpig	giraffe	0.21	0.15	0.28
bushpig	waterbuck	0.49	0.46	0.52
bushpig	gemsbok	0.34	0.26	0.41
bushpig	warthog	0.04	-0.01	0.08
bushpig	steenbok	0.22	0.14	0.30
bushpig	duiker	0.50	0.44	0.55
bushpig	eland	0.50	0.44	0.56
bushpig	nyala	0.10	0.06	0.15
bushpig	bushbuck	0.15	0.06	0.23
bushpig	kudu	0.31	0.23	0.39

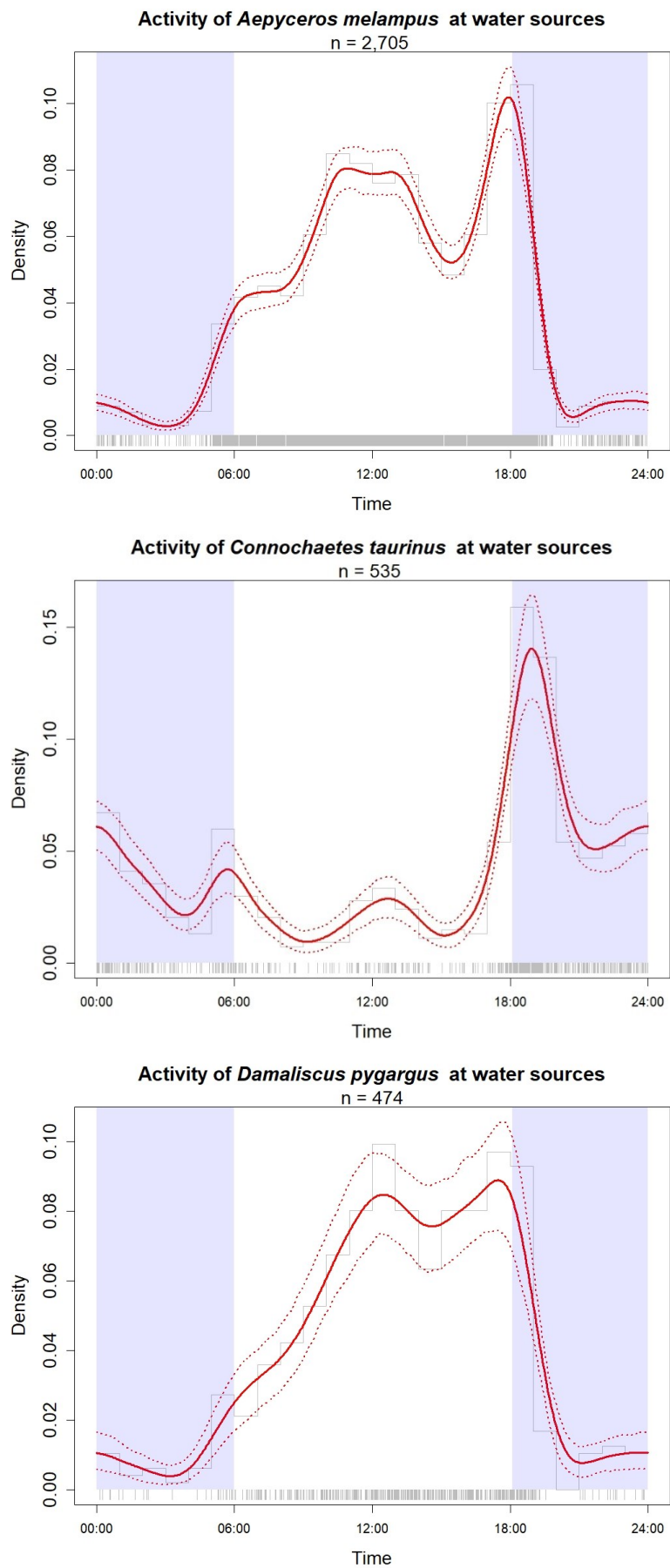


Figure S1a: Plots of activity of impalas, wildebeests, and blesboks (top to down order) at all water sources in the Mogalakwena River Reserve during the whole study season (27th September 2021 to 2nd December 2022).

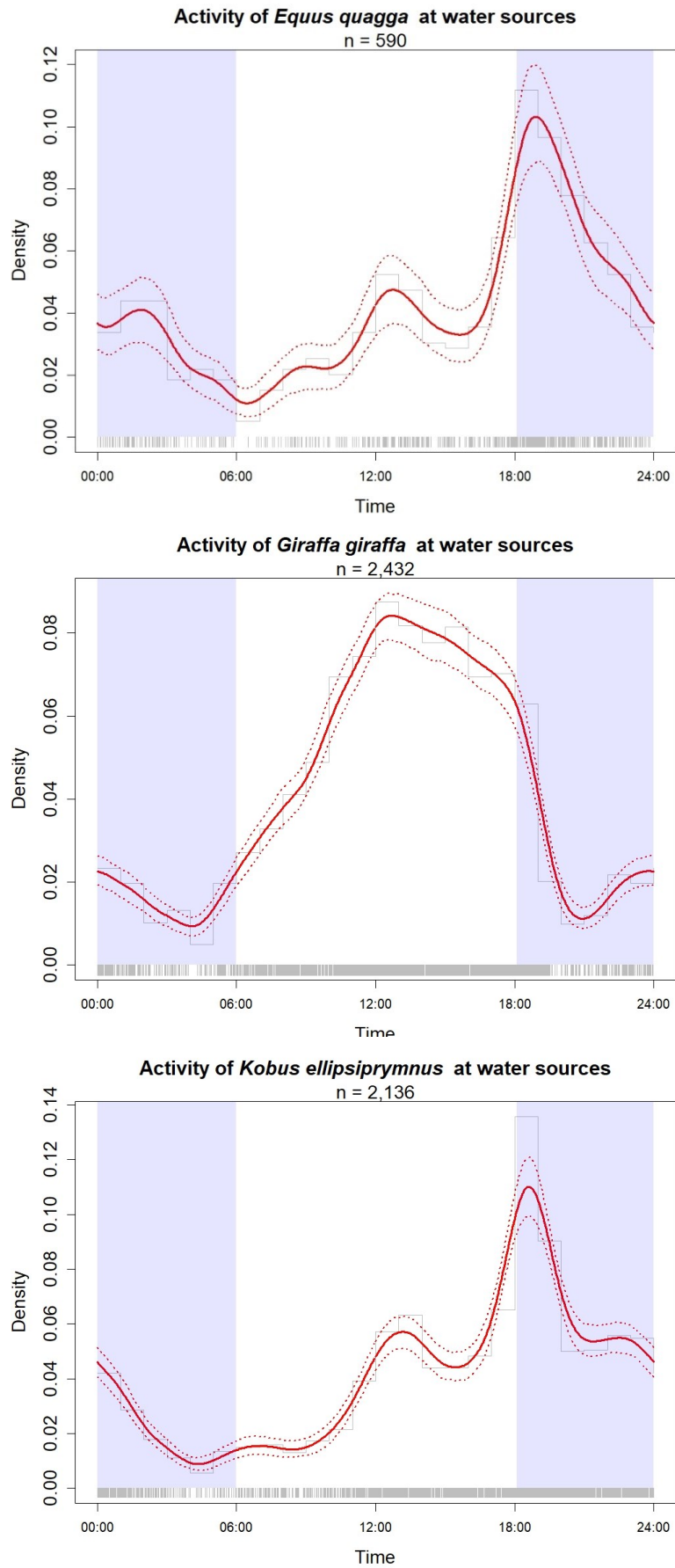


Figure S1b: Plots of activity of zebras, giraffes, and waterbucks (top to down order) at all water sources in the Mogalakwena River Reserve during the whole study season (27th September 2021 to 2nd December 2022).

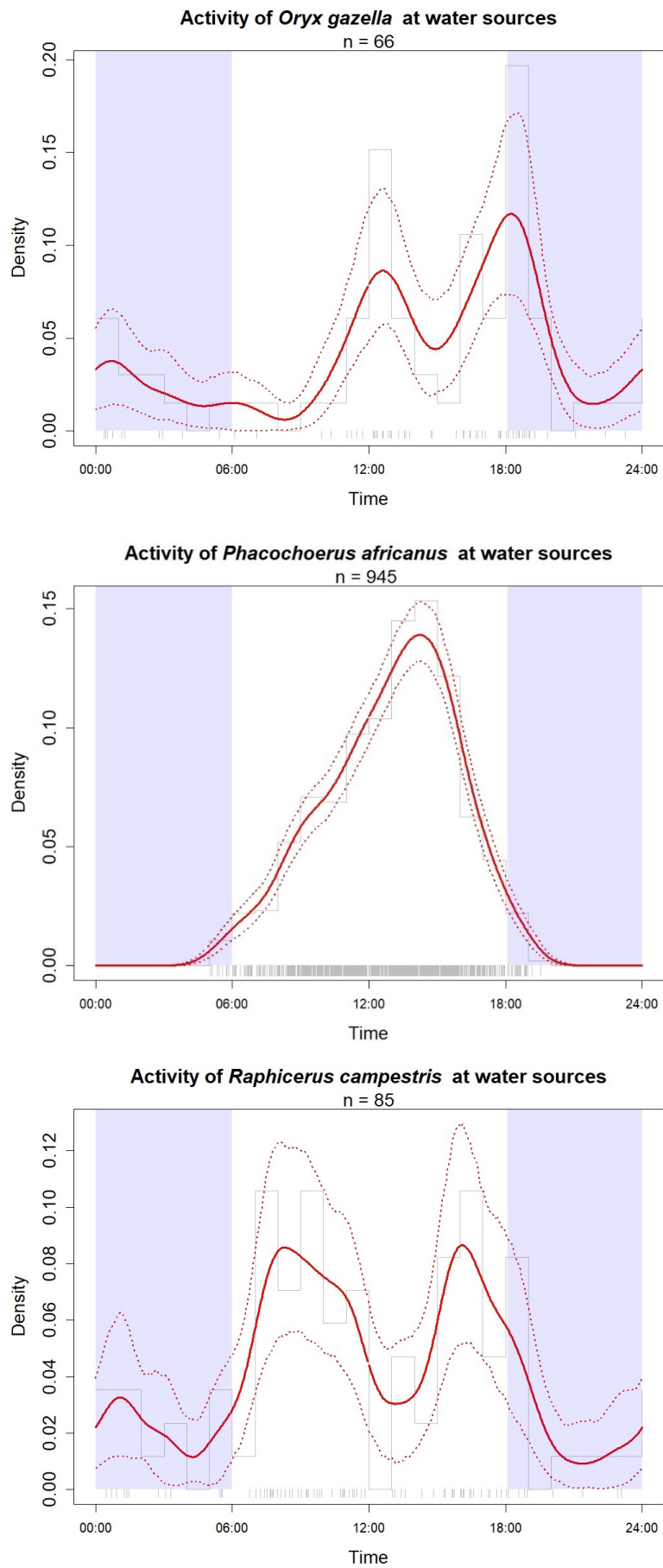


Figure S1c: Plots of activity of gemsboks, warthogs, and steenboks (top to down order) at all water sources in the Mogalakwena River Reserve during the whole study season (27th September 2021 to 2nd December 2022).

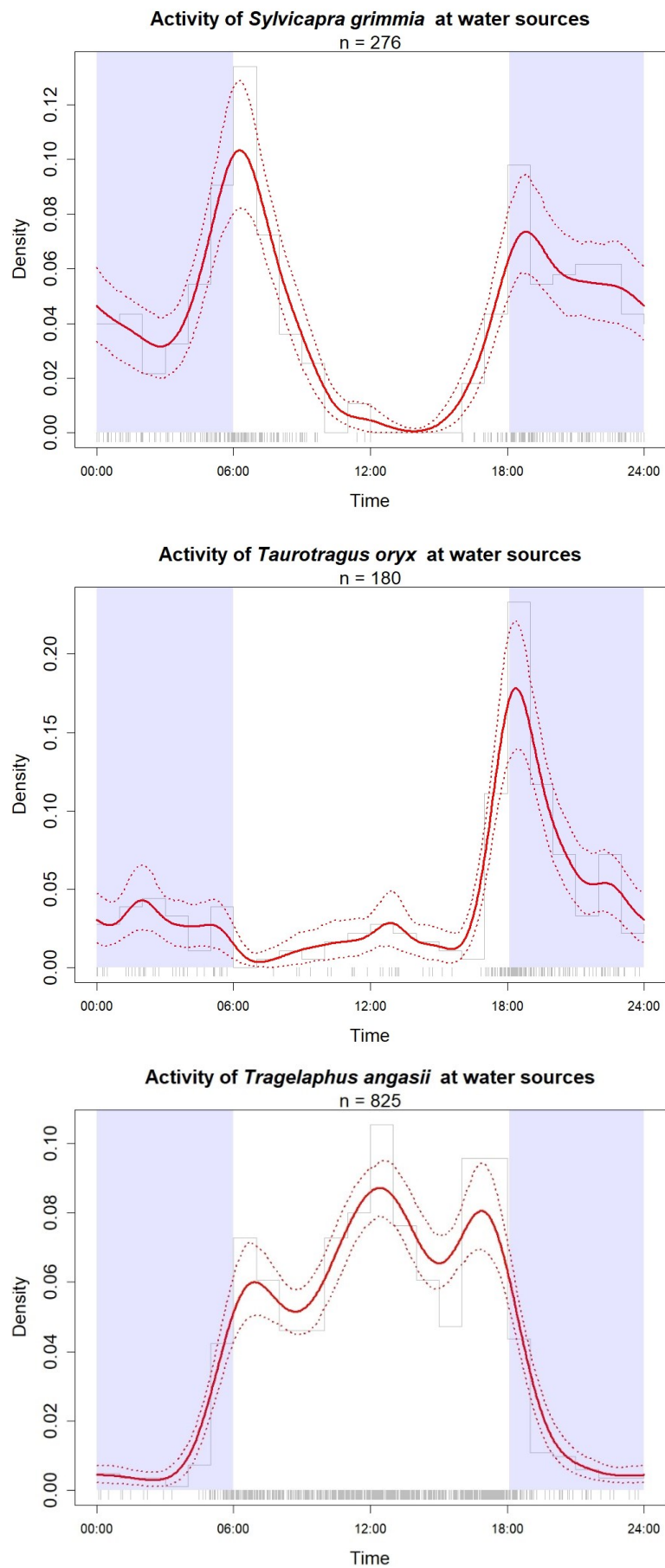


Figure S1d: Plots of activity of duikers, elands, and nyalas (top to down order) at all water sources in the Mogalakwena River Reserve during the whole study season (27th September 2021 to 2nd December 2022).

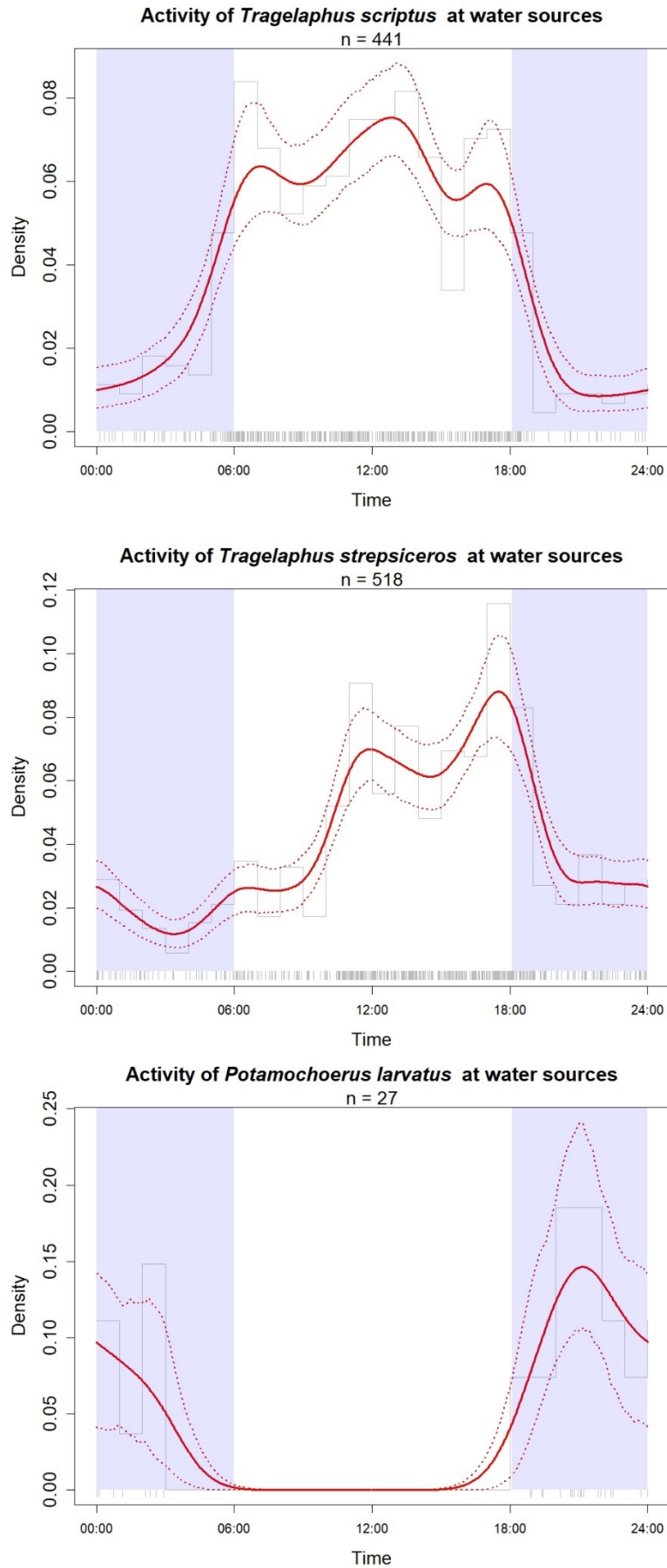


Figure S1e: Plots of activity of bushbucks, kudus, and bushpigs (top to down order) at all water sources in the Mogalakwena River Reserve during the whole study season (27th September 2021 to 2nd December 2022).