

## Ecography

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Appendix 1. The database on 23 African protected areas: IUCN category, area size (km<sup>2</sup>), mean annual rainfall (1980–1999), soil nutrient availability and the biomasses of medium-sized ungulates and their predators (kg km<sup>-2</sup>). See Material and methods for the references.

Protected area	Country	IUCN	Area (km <sup>2</sup> )	SNA	Rainfall (mm)	Mesoherbivores (kg km <sup>-2</sup> )	Zebra (kg km <sup>-2</sup> )	Wildebeest (kg km <sup>-2</sup> )	Buffalo (kg km <sup>-2</sup> )	Lion (kg km <sup>-2</sup> )	Hyena (kg km <sup>-2</sup> )
Amboseli	Kenya	II	392	high	350	2523.62	769.80	933.67	562.04	4.85	no data
Etosha	Namibia	II	22270	low	354	206.49	96.53	18.67	0.00	0.98	2.43
Hluhluwe-Umfolozi	South Africa	II	965	medium	650	3846.57	660.81	312.95	1809.30	11.81	22.56
Hwange	Zimbabwe	II	14651	low	549	228.61	49.18	5.84	122.68	2.15	3.21
Katavi	Tanzania	II	13000	medium	1055	2489.89	270.70	0.00	2054.82	3.80	7.39
Kruger	South Africa	II	21682	low	697	1158.00	326.79	78.14	488.31	9.50	7.09
Lake Manyara	Tanzania	II	110	high	895	7497.98	217.84	204.41	6799.68	no data	no data
Lake Mbuoro	Uganda	II	1563	low	1021	667.27	254.97	0.00	207.29	no data	no data
Lake Nakuru	Kenya	II	139	high	928	6129.71	80.22	0.00	2082.30	20.50	no data
Luambe	Zambia	II	320	medium	900	8652.72	241.00	16.88	8301.56	no data	no data
Makgadikgadi-NxaiPan	Botswana	II	20000	low	329	411.32	326.42	52.35	0.00	0.30	no data
Mana Pools	Zimbabwe	II	2162	medium	706	562.05	36.08	0.00	441.63	2.08	no data
Mikumi	Tanzania	II	3215	medium	750	613.94	51.01	44.78	438.05	no data	no data
Nairobi	Kenya	II	117	high	920	5156.54	1766.15	2262.74	535.38	17.86	10.79
Ngorongoro Crater	Tanzania	VI	250	high	915	12399.42	2599.43	6187.65	3304.41	41.80	70.45
North Luangwa	Zambia	II	4636	medium	1028	1973.22	470.46	174.72	830.46	3.80	no data
Okavango	Botswana	II (partly)	20844	low	450	1317.29	145.03	86.67	780.58	1.28	0.21
Ruaha	Tanzania	II	42344	low	663	456.10	109.21	0.00	293.41	7.60	no data
Selous	Tanzania	IV	43626	medium	760	1725.97	67.26	129.62	1367.51	6.53	13.12
Serengeti	Tanzania	II	25000	high	855	8910.48	1302.01	6020.63	874.68	11.65	8.09
South Luangwa	Zambia	II	9050	medium	846	712.07	135.81	8.20	496.46	3.80	no data
Tarangire	Tanzania	II	2600	high	721	3972.31	547.61	1092.84	2120.12	no data	no data
Tsavu	Kenya	II	40572	low	553	353.79	69.01	0.00	199.33	1.02	no data

Appendix 2. Species body weights.

Species	Scientific name	Feeding type	Region	Female BW	Pop BW	Source
Blue wildebeest	<i>Connochaetes taurinus</i>	G	East Africa	163	122	Sachs 1967
Blue wildebeest	<i>Connochaetes taurinus</i>	G	Southern Africa	180	135	Attwell 1982
Bohor reedbuck	<i>Redunca redunca</i>	G		41	31	Kingdon 1982
Buffalo	<i>Syncerus caffer</i>	G	East Africa	576	432	Sinclair 1977
Buffalo	<i>Syncerus caffer</i>	G	Southern Africa	513	385	Pienaar 1969
Bushbuck	<i>Tragelaphus scriptus</i>	BMF		33	25	Kingdon 1982
Eland	<i>Taurotragus oryx</i>	BMF		300	225	Sachs 1967
Gemsbok/Oryx	<i>Oryx gazella</i>	G		210	158	Skinner and Smithers 1990
Gerenuk	<i>Litocranius walleri</i>	BMF		31	23	Kingdon 1982 (in Estes 1991)
Grant's gazelle	<i>Gazella granti</i>	BMF		42	32	Sachs 1967
Greater kudu	<i>Tragelaphus strepsiceros</i>	BMF		157	118	Wilson 1970
Hartebeest	<i>Alcelaphus buselaphus</i>	G	East Africa	126	95	Sachs 1967
Hartebeest	<i>Alcelaphus buselaphus</i>	G	Southern Africa	120	90	Smithers 1971
Impala	<i>Aepycerus melampus</i>	BMF	East Africa	42	32	Sachs 1967
Impala	<i>Aepycerus melampus</i>	BMF	Southern Africa	41	31	Smithers and Wilson 1979
Kob	<i>Kobus kob</i>	G		63	47	Kingdon 1982
Lechwe	<i>Kobus leche</i>	G		74	56	Skinner and Smithers 1990
Lesser kudu	<i>Tragelaphus imberbis</i>	BMF		58	44	Kingdon 1982
Lichtenstein's hartebeest	<i>Sigmoceros lichtensteinii</i>	G		166	125	Wilson 1966
Mountain reedbuck	<i>Redunca fulvorufula</i>	G		29	21	Skinner 1980
Nyala	<i>Tragelaphus angasi</i>	BMF		62	46	Tello and van Gelder 1975
Oribi	<i>Ourebia ourebi</i>	BMF		14	11	Viljoen 1982
Plains zebra	<i>Equus quagga</i>	G	Southern Africa	322	241	Smuts 1975
Plains zebra	<i>Equus quagga</i>	G	East Africa	219	164	Sachs 1967
Puku	<i>Kobus vardonii</i>	G		61	46	Rosser 1987
Roan antelope	<i>Hippotragus equinus</i>	G		260	195	Kingdon 1982 (in Estes 1991)
Sable antelope	<i>Hippotragus niger</i>	G		220	165	Kingdon 1982 (in Estes 1991)
Sitatunga	<i>Tragelaphus spekei</i>	BMF		54	41	Kingdon 1982
Southern reedbuck	<i>Redunca arundinum</i>	G		38	29	Smithers and Wilson 1979
Springbok	<i>Antidorcas marsupialis</i>	BMF		37	28	Smithers 1971
Thomson's gazelle	<i>Gazella thomsoni</i>	BMF		16	12	Sachs 1967
Topi	<i>Damaliscus lunatus</i>	G		109	81	Sachs 1967
Tsessebe	<i>Damaliscus lunatus</i>	G		126	95	Child et al. 1972
Warthog	<i>Phacochoerus aethiopicus</i>	BMF	East Africa	53	40	Sachs 1967
Warthog	<i>Phacochoerus aethiopicus</i>	BMF	Southern Africa	57	42	Mason 1985
Waterbuck	<i>Kobus ellipsiprymnus</i>	G		175	132	Sachs 1967
Lion	<i>Panthera leo</i>	C	East Africa	126	95	Pusey and Packer 1987 (in Estes 1991)
Lion	<i>Panthera leo</i>	C	Southern Africa	126	95	Smuts 1982
Spotted hyena	<i>Crocuta crocuta</i>	C	East Africa	68	41	Kruuk 1972
Spotted hyena	<i>Crocuta crocuta</i>	C	Southern Africa	55	51	Henschel 1986

Feeding type: G = grazer; BMF = browser and mixed-feeder; C = carnivore.

Female BW = mean body weight of adult females.

Pop BW = population body weight = 3/4 of female BW.

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