

Trade volumes and characteristics of threatened raptors sold for fetish and bushmeat in West and Central Africa

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TABLE S1 Markets in West and Central Africa where raptor carcasses were recorded, with the month and year when the survey was conducted, and the number of stands per market. Blank cells indicate the number of stands was not recorded.

Market	Month	Year	No. of stands
Benin			
Bohicon	June	2002	
Cotonou	June	2002	
Malanville	June	2002	
Ouidah	June	2002	
Parakou	June	2002	
Bohicon	May	2007	
Cotonou	May	2007	
Parakou	May	2007	
Bohicon	Mar.	2008	40
Cotonou	Mar.	2008	50
Porto Novo	Mar.	2008	6
Abomey	Feb.	2009	15
Bohicon	Feb.	2009	30
Cotonou	Feb.	2009	50
Ouidah	Feb.	2009	5
Parakou	Feb.	2009	12
Porto Novo	Feb.	2009	4
Abomey	Sep.	2010	8
Bohicon	Sep.	2010	10
Cotonou	Sep.	2010	25
Ouidah	Sep.	2010	2
Parakou	Sep.	2010	15

Porto Novo	Sep.	2010	7
Abomey	Sep.	2011	8
Bohicon	Sep.	2011	10
Cotonou	Sep.	2011	25
Ouidah	Sep.	2011	3
Parakou	Sep.	2011	10
Porto Novo	Mar.	2011	7
Abomey	May	2013	10
Bohicon	May	2013	12
Cotonou	May	2013	30
Ouidah	May	2013	3
Parakou	May	2013	10
Porto Novo	May	2013	6

Burkina Faso

Bobo	June	2002	
Ouagadougou	June	2002	
Bobo	May	2007	
Fada-Ngourma	May	2007	
Ouagadougou	May	2007	
Ouagadougou	Feb.	2009	50
Bobo	Sep.	2010	5
Kaya	Sep.	2010	5
Ouagadougou	Sep.	2010	15
Kaya	Sep.	2011	3
Ouagadougou	Sep.	2011	12

Cameroon

Iloani ¹	Aug.?Jan.	2002	
Manyemen ¹	Aug.–Jan.	2002	
Yabassi ¹	Aug.–Jan.	2002	
Garoua	Feb.	2010	2

Maroua	Feb.	2010	3
Garoua	Feb.	2011	2
Maroua	Feb.	2011	3
Garoua	Mar.	2012	2
Maroua	Mar.	2012	3
DRC			
Kinshasa	Nov.	2008	
Equatorial Guinea			
Bata ²	Oct.	1990	
Malabo ³	Mar.–Oct.	1996	
Bata ⁴	May–June	2010	
Gabon			
Gamba ⁵	Jan.–Dec.	1997	
Makokou ⁶	Jan.–Dec.	2002	
Makokou ⁷	Jan.–Dec.	2004	
Okandja ⁷	Jan.–Dec.	2004	
Oyem ⁷	Jan.–Dec.	2000–2002/2004	
Libreville ⁷	Jan.–Dec.	2000–2004	
Lambaréné ⁷	Mar.–Oct.	2003–2004	
Ghana			
Accra	June	2002	
Sekondi-Takoradi	June	2002	
Ivory Coast			
Abidjan	June	2002	
Mali			
Bamako	May	2007	
Mopti	May	2007	
Segou	May	2007	
Bamako	Sep.	2010	25
Koutiala	Sep.	2010	4
Niger			
Dosso	June	2002	

Niamey	June	2002
Nigeria		
Abeokuta	Aug.–Sep.	1999
Akwanga	Aug.–Sep.	1999
Calabar	Aug.–Sep.	1999
Epe	Aug.–Sep.	1999
Ibadan	Aug.–Sep.	1999
Ife	Aug.–Sep.	1999
Ikom	Aug.–Sep.	1999
Ikot-Ekpene	Aug.–Sep.	1999
Ilesha	Aug.–Sep.	1999
Ilorin	Aug.–Sep.	1999
Jebba	Aug.–Sep.	1999
Jos	Aug.–Sep.	1999
Kaduna	Aug.–Sep.	1999
Kano	Aug.–Sep.	1999
Lafia	Aug.–Sep.	1999
Lagos	Aug.–Sep.	1999
Ljebu-Ode	Aug.–Sep.	1999
Makurdi	Aug.–Sep.	1999
Onitsha	Aug.–Sep.	1999
Ore	Aug.–Sep.	1999
Oshogbo	Aug.–Sep.	1999
Port Harcourt	Aug.–Sep.	1999
Abeokuta	Apr.	2001
Gashua	Apr.	2001
Hadejia	Apr.	2001
Kano	Apr.	2001
Lagos	Apr.	2001

Ljebu-Ode	Apr.	2001	
Nguru	Apr.	2001	
Sagamu	Apr.	2001	
Abeokuta	Mar.	2008	15
Agbor	Mar.	2008	5
Akure	Mar.	2008	15
Benin City	Mar.	2008	30
Ibadan	Mar.	2008	75
Ilesha	Mar.	2008	12
Ilorin	Mar.	2008	80
Kabba	Mar.	2008	1
Ljebu-Ode	Mar.	2008	15
Okene	Mar.	2008	20
Onitsha	Mar.	2008	40
Oshogbo	Mar.	2008	5
Sagamu	Mar.	2008	4
Uromi	Mar.	2008	3
Togo			
Lome	June	2002	

¹Fa et al. (2006); unpubl.data

²Juste et al. (1995)

³Albrechtsen et al. (2007)

⁴Gill (2010)

⁵Thibault & Blaney (2003)

⁶Okouyi Okouyi (2006)

⁷K. Abernethy (unpubl. data)

TABLE S2 Total number of raptor carcasses recorded during 1990–2013 at bushmeat and fetish markets in Benin (BE), Burkina Faso (BF), Democratic Republic of Congo (DRC), Ghana (GH), Ivory Coast (IC), Mali (MA), Niger (NG), Nigeria (NIG), Togo (TO), Equatorial Guinea (EG), Gabon (GA), and Cameroon (CA) West and Central Africa.

Species	Red List status	BE	BF	DRC	GH	IC	MA	NG	NIG	TO	EG	GA	CA	Total (%)
Black kite <i>Milvus migrans</i>	LC	439	10	0	1	1	3	2	128	16	0	0	0	600 (22.68)
Hooded vulture <i>Necrosyrtes monachus</i>	EN	181	33	0	7	2	7	11	201	10	0	0	24	476 (17.99)
Shikra <i>Accipiter badius</i>	LC	142	13	0	0	0	0	0	50	0	0	0	0	205 (7.75)
Palm-nut vulture <i>Gypohierax angolensis</i>	LC	17	0	0	0	0	0	0	85	0	18	21	15	156 (5.90)
Black-winged kite <i>Elanus caeruleus</i>	LC	99	2	0	0	0	0	0	45	9	0	0	0	155 (5.86)
Lizard buzzard <i>Kaupifalco monogrammicus</i>	LC	50	5	0	0	1	1	0	35	4	0	0	0	96 (3.63)
Eurasian marsh harrier <i>Circus aeruginosus</i>	LC	45	3	0	0	0	4	0	33	4	0	0	0	89 (3.36)
Rüppell's vulture <i>Gyps rueppellii</i>	EN	10	8	0	0	0	7	1	56	0	0	0	0	82 (3.10)
Red-necked buzzard <i>Buteo auguralis</i>	LC	12	16	0	1	2	2	0	30	1	0	0	0	64 (2.42)
Grasshopper buzzard <i>Butastur rufipennis</i>	LC	39	6	0	0	0	4	1	13	0	0	0	0	63 (2.38)
White-backed vulture <i>Gyps africanus</i>	EN	6	5	0	0	0	4	0	42	0	0	0	1	58 (2.19)

Gabar goshawk <i>Micronisus gabar</i>	LC	23	8	0	2	1	0	0	17	0	0	0	0	51 (1.93)
Common kestrel <i>Falco tinnunculus</i>	LC	21	0	0	1	0	0	0	26	1	0	0	0	49 (1.85)
Lanner falcon <i>Falco biarmicus</i>	LC	6	15	0	0	2	2	14	8	0	0	0	0	47 (1.78)
Gymnogene <i>Polyboroides typus</i>	LC	24	3	0	0	1	0	0	17	1	0	0	0	46 (1.74)
Dark chanting goshawk <i>Melierax metabates</i>	LC	5	18	0	0	8	0	1	10	0	0	0	0	42 (1.59)
African goshawk <i>Accipiter tachiro</i>	LC	15	3	0	0	0	0	0	19	2	2	0	0	41 (1.55)
Lapped-faced vulture <i>Torgos tracheliotos</i>	VU	2	2	0	0	0	2	0	26	0	0	0	0	32 (1.21)
Long-crested eagle <i>Lophaetus occipitalis</i>	LC	14	1	0	0	0	0	0	16	0	0	0	0	31 (1.17)
Crowned eagle <i>Stephanoaetus coronatus</i>	NT	5	0	1	0	0	0	0	14	2	1	2	0	25 (0.94)
African cuckoo hawk <i>Aviceda cuculoides</i>	LC	21	0	0	0	0	0	0	2	1	0	0	0	24 (0.91)
African fish eagle <i>Haliaeetus vocifer</i>	LC	0	0	0	0	0	0	0	2	0	0	17	0	19 (0.72)
Tawny eagle <i>Aquila rapax</i>	LC	1	4	0	0	1	9	1	2	0	0	0	0	18 (0.68)
Western banded snake eagle <i>Circaetus cinerascens</i>	LC	10	0	0	0	0	0	0	7	0	0	0	0	17 (0.64)
Red-necked falcon <i>Falco ruficollis</i>	LC	0	4	0	3	0	0	1	8	0	0	0	0	16 (0.60)
African hobby <i>Falco cuvierii</i>	LC	8	2	0	0	0	0	0	4	0	0	0	0	14 (0.53)

Bateleur <i>Terathopius ecaudatus</i>	NT	3	6	0	0	0	0	3	1	0	0	0	0	13 (0.49)
Short-toed snake eagle <i>Circaetus gallicus</i> /Beaudouin's snake eagle <i>Circaetus beaudouini</i> *	LC/VU	0	9	0	0	0	0	0	0	4	0	0	0	13 (0.49)
Red-thighed sparrowhawk <i>Accipiter erythropus</i>	LC	5	1	0	0	0	0	0	0	6	0	0	0	12 (0.45)
Brown snake eagle <i>Circaetus cinereus</i>	LC	2	2	0	0	0	0	0	1	4	1	0	0	10 (0.38)
White-headed vulture <i>Trigonoceps occipitalis</i>	VU	0	0	0	0	0	0	1	0	7	1	0	0	9 (0.34)
Montagu's harrier <i>Circus pygargus</i>	LC	1	1	0	0	0	0	0	0	6	0	0	0	8 (0.30)
Wahlberg's eagle <i>Aquila wahlbergi</i>	LC	0	1	0	0	0	0	0	1	6	0	0	0	8 (0.30)
Ovambo sparrowhawk <i>Accipiter ovampensis</i>	LC	4	1	0	0	0	0	1	0	0	0	0	0	6 (0.23)
Grey kestrel <i>Falco ardosiaceus</i>	LC	3	1	0	0	0	0	1	0	1	0	0	0	6 (0.23)
African hawk eagle <i>Aquila spilogaster</i>	LC	1	1	0	0	0	0	1	0	3	0	0	0	6 (0.23)
Chestnut-flanked sparrowhawk <i>Accipiter castanilius</i>	LC	3	0	0	0	0	0	0	0	2	0	0	0	5 (0.19)
Booted eagle <i>Hieraaetus pennatus</i>	LC	2	0	0	0	0	1	0	0	1	0	0	0	4 (0.15)
Swallow-tailed kite <i>Chelictinia riocourii</i>	LC	0	0	0	0	0	0	0	0	4	0	0	0	4 (0.15)
Egyptian vulture <i>Neophron percnopterus</i>	EN	2	0	0	0	0	0	0	0	1	0	0	0	3 (0.11)

Pallid harrier <i>Circus macrourus</i>	NT	0	0	0	0	0	0	0	0	3	0	0	0	0	3 (0.11)
Congo serpent eagle <i>Dryotriorchis spectabilis</i>	LC	0	0	0	0	0	0	0	0	3	0	0	0	0	3 (0.11)
Peregrine falcon <i>Falco peregrinus</i>	LC	0	0	0	0	0	1	0	1	0	0	0	0	0	2 (0.08)
Secretarybird <i>Sagittarius serpentarius</i>	VU	0	0	0	0	0	0	0	0	2	0	0	0	0	2 (0.08)
Martial eagle <i>Polemaetus bellicosus</i>	VU	0	0	0	0	0	0	0	0	2	0	0	0	0	2 (0.08)
Eurasian hobby <i>Falco subbuteo</i>	LC	0	0	0	0	0	0	0	0	2	0	0	0	0	2 (0.08)
Cassin's hawk eagle <i>Aquila africana</i>	LC	1	0	0	0	0	0	0	0	1	0	0	0	0	2 (0.08)
Bat hawk <i>Macheiramphus alcinus</i>	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	2 (0.08)
Black sparrowhawk <i>Accipiter melanoleucus</i>	LC	1	0	0	0	0	0	0	0	1	0	0	0	0	2 (0.08)
Osprey <i>Pandion haliaetus</i>	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.04)
European honey buzzard <i>Pernis apivorus</i>	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.04)
Barbary falcon <i>Falco pelegrinoides</i>	LC	0	0	0	0	0	0	0	0	1	0	0	0	0	1 (0.04)
<i>Total</i>		1,225	186	1	15	20	53	35	957	53	21	40	40		2,646

*Count includes both *Circaetus gallicus* and *C. beaudouini*

TABLE S3 Estimated total number of raptors traded per year in West Africa, based on extrapolation of mean carcass counts per market stand during 2008–2013 in Benin (BE), Nigeria (NI), Burkina Faso (BF) and Mali (ML) (Supplementary Table S1), with an estimated 960 market stands in Nigeria, 200 stands in Benin and 100 stands in the remainder of West Africa (WA; based on extrapolated data from BF and ML), and for turn-over rates of two (e.g. BE:2) and three birds per stand per year (BE:3).

Species	Carcasses per stand per year			Carcasses per country/region per year						Total no. of carcasses per year	
	BE	NI	BF & ML	BE:2	NI:2	WA:2	BE:3	NI:3	WA:3	Based on 2 birds per stand	Based on 3 birds per stand
Hooded vulture	0.312	0.419	0.230	125	804	46	187	1,206	69	975	1,462
Black kite	0.829	0.272	0.093	331	522	19	497	783	28	872	1,308
Palm-nut vulture	0.050	0.175	0.000	20	336	0	30	504	0	356	534
Shikra	0.250	0.075	0.082	100	144	16	150	216	25	260	390
Black-winged kite	0.172	0.069	0.000	69	132	0	103	198	0	201	301
Eurasian marsh harrier	0.078	0.081	0.019	31	156	4	47	234	6	191	287
Rüppell's vulture	0.027	0.084	0.075	11	162	15	16	243	23	188	282
White-backed vulture	0.015	0.072	0.049	6	138	10	9	207	15	154	231
Lapped-faced vulture	0.004	0.072	0.017	2	138	3	2	207	5	143	214
Lizard buzzard	0.076	0.028	0.050	30	54	10	46	81	15	94	142
Common kestrel	0.042	0.034	0.000	17	66	0	25	99	0	83	124

Grasshopper buzzard	0.068	0.013	0.037	27	24	7	41	36	11	59	88
Gabar goshawk	0.038	0.016	0.022	15	30	4	23	45	7	49	74
Gymnogene	0.056	0.009	0.032	22	18	6	33	27	10	47	70
Red-necked buzzard	0.012	0.013	0.073	5	24	15	7	36	22	43	65
Crowned eagle	0.010	0.019	0.000	4	36	0	6	54	0	40	60
Dark chanting goshawk	0.000	0.013	0.057	0	24	11	0	36	17	35	53
Long-crested eagle	0.036	0.009	0.010	14	18	2	22	27	3	34	52
Montagu's harrier	0.002	0.016	0.005	1	30	1	1	45	2	32	48
Lanner falcon	0.015	0.003	0.095	6	6	19	9	9	29	31	46
Red-necked falcon	0.000	0.013	0.010	0	24	2	0	36	3	26	39
Tawny eagle	0.003	0.003	0.088	1	6	18	2	9	26	25	37
African cuckoo hawk	0.047	0.003	0.000	19	6	0	28	9	0	25	37
White-headed vulture	0.000	0.013	0.000	0	24	0	0	36	0	24	36
African hawk eagle	0.002	0.009	0.017	1	18	3	1	27	5	22	33
African goshawk	0.020	0.006	0.005	8	12	1	12	18	2	21	31
Western banded snake eagle	0.020	0.006	0.000	8	12	0	12	18	0	20	30
African hobby	0.018	0.003	0.015	7	6	3	11	9	5	16	24

Brown snake eagle	0.002	0.006	0.005	1	12	1	1	18	2	14	21
Chestnut-flanked sparrowhawk	0.003	0.006	0.000	1	12	0	2	18	0	13	20
Red-thighed sparrowhawk	0.013	0.003	0.005	5	6	1	8	9	2	12	18
Martial eagle	0.000	0.006	0.000	0	12	0	0	18	0	12	18
Secretarybird	0.000	0.006	0.000	0	12	0	0	18	0	12	18
Congo serpent eagle	0.000	0.006	0.000	0	12	0	0	18	0	12	18
Short-toed/Beaudouin's snake eagle	0.000	0.006	0.000	0	12	0	0	18	0	12	18
Wahlberg's eagle	0.000	0.006	0.000	0	12	0	0	18	0	12	18
Black sparrowhawk	0.003	0.003	0.000	1	6	0	2	9	0	7	11
Booted eagle	0.003	0.003	0.000	1	6	0	2	9	0	7	11
Bateleur	0.009	0.000	0.017	4	0	3	5	0	5	7	10
Pallid harrier	0.000	0.003	0.000	0	6	0	0	9	0	6	9
Swallow-tailed kite	0.000	0.003	0.000	0	6	0	0	9	0	6	9
Ovambo sparrowhawk	0.008	0.000	0.014	3	0	3	5	0	4	6	9
Grey kestrel	0.006	0.000	0.014	2	0	3	3	0	4	5	8
Egyptian vulture	0.004	0.000	0.000	2	0	0	3	0	0	2	3

European honey buzzard	0.003	0.000	0.000	1	0	0	2	0	0	1	2
Cassin's hawk eagle	0.002	0.000	0.000	1	0	0	1	0	0	1	1
Osprey	0.002	0.000	0.000	1	0	0	1	0	0	1	1
<i>Total</i>	2.3	1.6	1.1	903	3,084	226	1,355	4,626	345	4,214	6,321
