

Electronic Supplementary Material for:

Quantifying the global legal trade in live CITES-listed raptors and owls for commercial purposes over a 40-year period

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ELECTRONIC SUPPLEMENTARY MATERIAL (ESM)

ESM 1 - Appendix A. CITES source categories with associated definitions. *The CITES Trade Database does not provide information regarding whether birds declared as “wild-caught” were derived from legal or illegal activities. For the purposes of this study it is assumed that these transactions comprise of both legal and illegal captures of wild birds that have been declared to CITES.

Specimen ‘Source’ category	Definition
A	Artificially propagated plants
C	CB animals
D	Appendix-I animals bred in captivity or Appendix-I plants artificially propagated for commercial purposes
F	Animals born in captivity including F1 and subsequent
I	Confiscated or seized specimens
O	Pre-Convention specimens
R	Specimens of animals reared in a controlled environment
U	Source unknown
W	Specimens taken from the wild*

ESM 2 - Appendix B. CITES Trade Purposes categories with associated definitions.

‘Trade Purpose’ category	Definition
B	Breeding in captivity or artificial propagation
E	Educational
G	Botanical garden
H	Hunting trophy
L	Law enforcement/judicial/forensic
M	Medical including biomedical research
N	Reintroduction or introduction into the wild
P	Personal possession
Q	Circus and travelling exhibitions
S	Scientific
T	Commercial
Z	Zoo

ESM 3 - Appendix C. CITES Importer and Exporter countries with total reported imported and exported individuals of raptors and owls. Percentage of total commercial trade in live raptors and owls per Importer/Exporter country included.

Importer	Total imported individuals	% Total imports	Exporter	Total exported individuals	% Total exports
Japan	28979	54.1	United Kingdom	16534	14.5
United Arab Emirates	4800	9.0	Germany	16169	14.2
Qatar	3654	6.8	Belgium	8773	7.7
Saudi Arabia	2090	3.9	Russia	6083	5.3
United States	1825	3.4	Spain	5703	5.0
Spain	1805	3.4	Canada	5612	4.9
Germany	1305	2.4	Guinea	5288	4.6
Kuwait	1247	2.3	The Netherlands	5242	4.6
Portugal	1049	2.0	Austria	4858	4.3
United Kingdom	866	1.6	United States	4663	4.1
The Netherlands	795	1.5	Czech Republic	4154	3.6
Switzerland	665	1.2	Peru	4016	3.5
Singapore	635	1.2	Denmark	2905	2.6
Austria	474	0.9	United Arab Emirates	2542	2.2
France	435	0.8	Uzbekistan	2150	1.9
Uzbekistan	429	0.8	Tanzania	2038	1.8
Canada	345	0.6	Kuwait	1618	1.4
Thailand	281	0.5	Cameroon	1352	1.2
Czech Republic	242	0.5	France	1189	1.0
South Africa	237	0.4	Congo (DRC)	981	0.9
Mexico	197	0.4	Switzerland	971	0.9
Bhutan	158	0.3	Pakistan	970	0.9
Italy	129	0.2	Ukraine	722	0.6
Belgium	117	0.2	Mexico	705	0.6
Denmark	111	0.2	Qatar	689	0.6
Kazakhstan	82	0.2	Togo	673	0.6
Hungary	64	0.1	Kazakhstan	651	0.6
Niger	59	0.1	Saudi Arabia	647	0.6
Ghana	56	0.1	Mongolia	603	0.5
Hong Kong	43	0.1	South Africa	417	0.4
Russia	39	0.1	Italy	358	0.3
Malaysia	33	0.1	Ghana	314	0.3
Jordan	32	0.1	Sudan	275	0.2
Malta	30	0.1	Poland	254	0.2
Brazil	28	0.1	Singapore	250	0.2
Mauritius	21	0.0	Hungary	218	0.2
Peru	21	0.0	Uganda	202	0.2
Turkey	20	0.0	Philippines	199	0.2
Argentina	19	0.0	China	197	0.2
Bulgaria	19	0.0	Paraguay	172	0.2
Ecuador	19	0.0	Israel	158	0.1
Iran	18	0.0	Guyana	145	0.1

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Serbia	17	0.0	Lebanon	128	0.1
Poland	14	0.0	Japan	126	0.1
Republic of Korea	13	0.0	Mali	121	0.1
Cyprus	11	0.0	Syria	120	0.1
Croatia	11	0.0	Portugal	116	0.1
Viet Name	10	0.0	Slovakia	113	0.1
Israel	9	0.0	Jordan	108	0.1
Norway	9	0.0	Thailand	93	0.1
Panama	8	0.0	Slovenia	91	0.1
Chile	7	0.0	Bahrain	83	0.1
Slovenia	7	0.0	Congo (DRC)	83	0.1
Ukraine	7	0.0	Ireland	83	0.1
Uruguay	4	0.0	Zimbabwe	78	0.1
Costa Rica	3	0.0	Egypt	75	0.1
Slovakia	3	0.0	Guatemala	65	0.1
Lithuania	2	0.0	Lao (PDR)	61	0.1
Morocco	2	0.0	Liberia	57	0.1
Namibia	2	0.0	Senegal	55	0.0
Libya	1	0.0	Kenya	51	0.0
Montenegro	1	0.0	Botswana	48	0.0
Romania	1	0.0	Bhutan	45	0.0
			Sierra Leone	37	0.0
			Myanmar	33	0.0
			Bolivia	28	0.0
			Morocco	27	0.0
			Benin	21	0.0
			Romania	20	0.0
			Côte d'Ivoire	19	0.0
			Madagascar	17	0.0
			Malaysia	17	0.0
			Iran	16	0.0
			Chad	15	0.0
			Estonia	14	0.0
			Greece	14	0.0
			Malta	14	0.0
			Serbia	12	0.0
			Viet Name	12	0.0
			Algeria	10	0.0
			Argentina	9	0.0
			Chile	8	0.0
			Finland	8	0.0
			Guinea-Bissau	7	0.0
			Honduras	7	0.0
			Indonesia	7	0.0
			Namibia	5	0.0
			Norway	5	0.0
			Suriname	4	0.0
			Bulgaria	3	0.0
			Brazil	3	0.0
			Cuba	3	0.0

			Georgia	3	0.0
			Oman	3	0.0
			Sweden	3	0.0
			Equatorial Guinea	2	0.0
			Libya	2	0.0
			Eritrea	1	0.0
			Republic of Korea	1	0.0
			Tunisia	1	0.0
			Venezuela	1	0.0
Total	53615	100	Total	113872	100

RETRACTED

ESM 4 - Appendix D. Raptor and owl exporter countries supplying the Japanese trade in live birds for commercial use.

Raptors			Owls		
Exporter	Exported individuals	% Exports to Japan	Exporter	Exported individuals	% Exports to Japan
United Kingdom	1566	14.5	United Kingdom	5333	24.1
United States	1115	10.3	Belgium	2868	13.0
Germany	1060	9.8	Russia	1896	8.6
Canada	790	7.3	Netherlands	1779	8.0
Mexico	701	6.5	Guinea	1455	6.6
Austria	552	5.1	Peru	1338	6.0
Belgium	506	4.7	Uzbekistan	1216	5.5
UAE	390	3.6	Canada	928	4.2
Guinea	383	3.6	Cameroon	784	3.5
Cameroon	350	3.2	Germany	708	3.2
Tanzania	337	3.1	Tanzania	560	2.5
Denmark	288	2.7	Switzerland	412	1.9
Mongolia	285	2.6	Pakistan	398	1.8
Netherlands	259	2.4	Togo	379	1.7
Uzbekistan	256	2.4	Paraguay	245	1.1
Pakistan	247	2.3	United States	230	1.0
Peru	233	2.2	Czech Republic	180	0.8
Kuwait	193	1.8	Spain	172	0.8
Russia	189	1.8	Austria	167	0.8
Qatar	175	1.6	Ukraine	166	0.8
Switzerland	148	1.4	Jordan	153	0.7
Czech Republic	146	1.4	Denmark	142	0.6
Spain	105	1.0	Egypt	122	0.6
Syria	100	0.9	Philippines	77	0.4
Ukraine	50	0.5	Congo (DRC)	76	0.3
Sudan	49	0.5	South Africa	61	0.3
South Africa	45	0.4	China	59	0.3
France	41	0.4	Lebanon	58	0.3
Togo	38	0.4	Mongolia	54	0.2
Kazakhstan	35	0.3	Chad	25	0.1
Hungary	30	0.3	Morocco	20	0.1
Mali	25	0.2	Ghana	16	0.1
Slovakia	24	0.2	Benin	13	0.1
Uganda	23	0.2	Mali	11	0.1
Senegal	14	0.1	Sudan	10	0.1
Sierra Leone	13	0.120	Saudi Arabia	7	0.032
Congo (DRC)	7	0.065	Bhutan	6	0.027
Japan	7	0.065	Hungary	6	0.027

Italy	5	0.046	Singapore	3	0.014
Ghana	4	0.037	UAE	2	0.009
Honduras	3	0.028	Mexico	2	0.009
Kenya	2	0.019	Uganda	2	0.009
Lao (PDR)	2	0.019	France	1	0.005
Philippines	2	0.019			
Poland	2	0.019			
Guyana	1	0.009			
Namibia	1	0.009			
Saudi Arabia	1	0.009			
Sweden	1	0.009			
Singapore	1	0.009			
Total	10800	100		22140	100

ESM 5 - Appendix E. Percentages of number of traded species within global IUCN Red List categories and population trends.

IUCN category	Wild-caught		Captive-bred	
	% Raptors	% Owls	% Raptors	% Owls
LC	67.1	64.6	92.3	94.1
NT	14.1	16.7	0	3.9
VU	5.9	9.4	3.9	2.0
EN	5.4	5.2	3.9	0
CR	7.6	4.2	0	0
Population trend				
Stable	37.0	25.0	51.9	58.8
Increasing	15.7	17.7	5.8	3.9
Decreasing	44.4	53.1	42.3	37.3
Unknown	2.8	4.2	0	0

ESM 6. Imported raptor species, number of imported individuals and percentage of total imported raptor individuals. Unknown species denoted by *.

Scientific name	Common name	Imported individuals	% Total imported individuals
<i>Falco hybrid</i> *		6180	18.7
<i>Falco rusticolus</i>	Gyr Falcon	3745	11.3
<i>Falco cherrug</i>	Saker Falcon	2464	7.5
<i>Accipiter gentilis</i>	Northern Goshawk	2269	6.9
<i>Falco peregrinus</i>	Peregrine Falcon	2329	7.0
<i>Falconiformes spp.</i> *		1850	5.6
<i>Parabuteo unicinctus</i>	Harris's Hawk	1181	3.6
<i>Falco sparverius</i>	American Kestrel	935	2.8
<i>Falco tinnunculus</i>	Common Kestrel	858	2.6
<i>Gyps africanus</i>	White-backed Vulture	822	2.5
<i>Necrosyrtes monachus</i>	Hooded Vulture	807	2.4
<i>Falco biarmicus</i>	Lanner Falcon	691	2.1
<i>Falco subbuteo</i>	Eurasian Hobby	519	1.6
<i>Accipiter nisus</i>	Eurasian Sparrowhawk	388	1.2
<i>Gypohierax angolensis</i>	Palm-nut Vulture	381	1.2
<i>Elanus caeruleus</i>	Black-winged Kite	363	1.1
<i>Stephanoaetus coronatus</i>	Crowned Eagle	360	1.1
<i>Falco spp.</i> *		354	1.1
<i>Falco vespertinus</i>	Red-footed Falcon	354	1.1
<i>Caracara plancus</i>	Southern Crested Caracara	297	0.9
<i>Sagittarius serpentarius</i>	Secretarybird	293	0.9
<i>Accipiter badius</i>	Shikra	286	0.9
<i>Aquila rapax</i>	Tawny Eagle	269	0.8
<i>Nisaetus nipalensis</i>	Mountain Hawk-Eagle	237	0.7
<i>Gyps rueppellii</i>	Rüppell's Vulture	232	0.7
<i>Microhierax caerulescens</i>	Collared Falconet	212	0.6
<i>Geranoaetus polyosoma</i>	Variable Hawk	211	0.6
<i>Terathopius ecaudatus</i>	Bateleur	210	0.6
<i>Falco femoralis</i>	Aplomado Falcon	203	0.6
	Chestnut-flanked		
<i>Accipiter castanilius</i>	Sparrowhawk	202	0.6
<i>Geranoaetus melanoleucus</i>	Black-chested Buzzard-Eagle	196	0.6
<i>Aquila chrysaetos</i>	Golden Eagle	166	0.5
<i>Falco alopex</i>	Fox Kestrel	165	0.5
<i>Aquila nipalensis</i>	Steppe Eagle	150	0.5
<i>Accipiter minullus</i>	Little Sparrowhawk	140	0.4
<i>Buteo jamaicensis</i>	Red-tailed Hawk	120	0.4
<i>Buteo buteo</i>	Common Hawk	113	0.3
<i>Trionocephus occipitalis</i>	White-headed Vulture	103	0.3
<i>Polihierax semitorquatus</i>	Pygmy Falcon	92	0.3

<i>Kaupifalco monogrammicus</i>	Lizard Buzzard	89	0.3
<i>Falco columbarius</i>	Merlin	76	0.2
<i>Polemaetus bellicosus</i>	Martial Eagle	74	0.2
<i>Accipiter novaehollandiae</i>	Grey Goshawk	71	0.2
<i>Haliaeetus vocifer</i>	African Fish Eagle	65	0.2
<i>Buteo albonotatus</i>	Zone-tailed Hawk	64	0.2
<i>Torgos tracheliotos</i>	Lappet-faced Vulture	63	0.2
<i>Buteo regalis</i>	Ferruginous Hawk	60	0.2
<i>Gyps fulvus</i>	Griffon Vulture	59	0.2
<i>Lophaetus occipitalis</i>	Long-crested Eagle	59	0.2
<i>Phalcoboenus megalopterus</i>	Mountain Caracara	58	0.2
<i>Aquila verreauxii</i>	Verreaux's Eagle	56	0.2
<i>Haliaeetus leucocephalus</i>	Bald Eagle	56	0.2
<i>Buteo platypterus</i>	Broad-winged Hawk	54	0.2
<i>Accipitridae spp.*</i>		53	0.2
<i>Microhierax fringillarius</i>	Black-thighed Falconet	51	0.2
<i>Macheiramphus alcinus</i>	Bat Hawk	49	0.1
<i>Buteo rufinus</i>	Long-legged Buzzard	48	0.1
<i>Aquila spilogaster</i>	African Hawk-Eagle	48	0.1
<i>Milvus migrans</i>	Black Kite	47	0.1
<i>Circus spp.*</i>		46	0.1
<i>Aegyptius monachus</i>	Cinereous Vulture	42	0.1
<i>Phalcoboenus australis</i>	Striated Caracara	41	0.1
<i>Buteo auguralis</i>	Red-necked Buzzard	40	0.1
<i>Accipiter erythropus</i>	Red-thighed Sparrowhawk	38	0.1
<i>Haliaeetus pelagicus</i>	Steller's Sea Eagle	36	0.1
<i>Spilornis cheela</i>	Crested Serpent Eagle	31	0.1
<i>Butastur rufipennis</i>	Grasshopper Eagle	28	0.1
<i>Gyps bengalensis</i>	White-rumped Vulture	28	0.1
<i>Accipiter melanoleucus</i>	Black Sparrowhawk	27	0.1
<i>Accipiter tachiro</i>	African Goshawk	27	0.1
<i>Buteo rufofuscus</i>	Jackal Buzzard	27	0.1
<i>Hieraaetus pennatus</i>	Booted Eagle	26	0.1
<i>Accipiter bicolor</i>	Bicolored Hawk	24	0.1
<i>Falconidae spp.*</i>		24	0.1
<i>Micronisus gabar</i>	Gabar Goshawk	24	0.1
<i>Haliaeetus albicilla</i>	White-tailed Eagle	23	0.1
<i>Hieraaetus wahlbergi</i>	Wahlberg's Eagle	23	0.1
<i>Neophron percnopterus</i>	Egyptian Vulture	23	0.1
<i>Falco mexicanus</i>	Prairie Falcon	22	0.1
<i>Accipiter cooperii</i>	Cooper's Hawk	21	0.1
<i>Falco punctatus</i>	Mauritius Kestrel	21	0.1
<i>Falco naumanni</i>	Lesser Kestrel	20	0.1
<i>Nisaetus alboniger</i>	Blyth's Hawk-Eagle	19	0.1

<i>Aquila</i> spp.*		18	0.1
<i>Falco chicquera</i>	Red-necked Falcon	18	0.1
<i>Falco novaeseelandiae</i>	New Zealand Falcon	18	0.1
<i>Falco ardosiaceus</i>	Grey Kestrel	16	0.0
<i>Spizaetus ornatus</i>	Ornate Hawk-Eagle	16	0.0
<i>Gypaetus barbatus</i>	Bearded Vulture	15	0.0
<i>Milvago chimachima</i>	Yellow-headed Caracara	15	0.0
<i>Polyboroides typus</i>	African Harrier-Hawk	15	0.0
<i>Accipiter trivirgatus</i>	Crested Goshawk	14	0.0
<i>Aquila fasciata</i>	Bonelli's Eagle	14	0.0
<i>Gyps himalayensis</i>	Himalayan Vulture	14	0.0
<i>Polyboroides radiatus</i>	Madagascan Harrier-Hawk	14	0.0
<i>Nisaetus cirrhatus</i>	Changeable Hawk-Eagle	14	0.0
<i>Falco rufigularis</i>	Bat Falcon	11	0.0
<i>Vultur gryphus</i>	Andean Condor	11	0.0
<i>Aquila heliaca</i>	Eastern Imperial Eagle	10	0.0
<i>Herpetotheres cachinnans</i>	Laughing Falcon	10	0.0
<i>Buteo</i> spp.*		8	0.0
<i>Falco jugger</i>	Lagger Falcon	7	0.0
<i>Falco pelegrinoides</i>	Barbary Falcon	7	0.0
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle	7	0.0
<i>Falco rupicoloides</i>	Greater Kestrel	6	0.0
<i>Harpia harpyja</i>	Harpy Eagle	6	0.0
<i>Milvus milvus</i>	Red Kite	6	0.0
<i>Pandion haliaetus</i>	Western Osprey	6	0.0
<i>Urotriorchis macrourus</i>	Long-tailed Hawk	6	0.0
<i>Accipiter princeps</i>	New Britain Goshawk	5	0.0
<i>Aquila hybrid*</i>		5	0.0
<i>Buteo augur</i>	Red-necked Buzzard	5	0.0
<i>Circus cyaneus</i>	Hen Harrier	5	0.0
<i>Circus pygargus</i>	Montagu's Harrier	5	0.0
<i>Melierax poliopterus</i>	Eastern Chanting Goshawk	5	0.0
<i>Accipiter collaris</i>	Semicollared Hawk	4	0.0
<i>Accipiter poliogaster</i>	Grey-bellied Hawk	4	0.0
<i>Circus aeruginosus</i>	Western Marsh Harrier	4	0.0
<i>Circus macrourus</i>	Pallid Harrier	4	0.0
<i>Falco cuvierii</i>	African Hobby	4	0.0
<i>Haliastur indus</i>	Brahminy Kite	4	0.0
<i>Hieraaetus ayresii</i>	Ayres's Hawk-Eagle	4	0.0
<i>Morphnus guianensis</i>	Crested Eagle	4	0.0
<i>Pernis ptilorhynchus</i>	Crested Honey Buzzard	4	0.0
<i>Circaetus cinereus</i>	Brown Snake Eagle	3	0.0
<i>Gampsonyx</i> spp.*		3	0.0
<i>Pernis apivorus</i>	European Honey Buzzard	3	0.0

<i>Sarcogyps calvus</i>	Red-headed Vulture	3	0.0
<i>Sarcoramphus papa</i>	King Vulture	3	0.0
<i>Accipiter superciliosus</i>	Tiny Hawk	2	0.0
<i>Butastur teesa</i>	White-eyed Buzzard	2	0.0
<i>Buteo swainsoni</i>	Swainson's Hawk	2	0.0
<i>Circaetus gallicus</i>	Short-toed Snake Eagle	2	0.0
<i>Falco amurensis</i>	Amur Falcon	2	0.0
<i>Falco fasciinucha</i>	Taita Falcon	2	0.0
<i>Gyps coprotheres</i>	Cape Vulture	2	0.0
<i>Haliaeetus leucoryphus</i>	Palla's Fish Eagle	2	0.0
<i>Hieraaetus spp.*</i>		2	0.0
<i>Ictinaetus malaiensis</i>	Black Eagle	2	0.0
<i>Micrastur plumbeus</i>	Plumbeous Forest Falcon	2	0.0
<i>Accipiter gularis</i>	Japanese Sparrowhawk	1	0.0
	Rufous-breasted		
<i>Accipiter rufiventris</i>	Sparrowhawk	1	0.0
<i>Aquila audax</i>	Wedge-tailed Eagle	1	0.0
<i>Clanga clanga</i>	Greater Spotted Eagle	1	0.0
<i>Buteo nitidus</i>	Grey-lined Hawk	1	0.0
<i>Geranoaetus albicaudatus</i>	White-tailed Hawk	1	0.0
<i>Rupornis magnirostris</i>	Roadside Hawk	1	0.0
<i>Buteogallus aequinoctialis</i>	Rufous Crab Hawk	1	0.0
<i>Buteogallus urubitinga</i>	Great Black Hawk	1	0.0
<i>Caracara cheriway</i>	Crested Caracara	1	0.0
<i>Falco deiroleucus</i>	Orange-breasted Falcon	1	0.0
<i>Geranospiza caerulescens</i>	Crane Hawk	1	0.0
<i>Gyps spp.*</i>		1	0.0
<i>Haliaeetus spp.*</i>		1	0.0
<i>Pseudastur albicollis</i>	White Hawk	1	0.0
<i>Melierax metabates</i>	Dark Chanting Goshawk	1	0.0
<i>Phalcoboenus albogularis</i>	White-throated Caracara	1	0.0
<i>Nisaetus lanceolatus</i>	Sulawesi Hawk-Eagle	1	0.0
<i>Spizaetus tyrannus</i>	Black Hawk-Eagle	1	0.0
<i>Spizaetus melanoleucus</i>	Black-and-white Hawk-Eagle	1	0.0
Total		147	33053
			100

ESM 7. Exported raptor species, number of exported individuals and percentage of total exported raptor individuals. Unknown species denoted by *.

Scientific name	Common name	Exported individuals	% Total exported individuals
<i>Falco hybrid</i> *		29495	33.6
<i>Falco rusticolus</i>	Gyr Falcon	15907	18.1
<i>Falco cherrug</i>	Saker Falcon	14081	16.0
<i>Falco peregrinus</i>	Peregrine Falcon	5374	6.1
<i>Accipiter gentilis</i>	Northern Goshawk	3694	4.2
<i>Parabuteo unicinctus</i>	Harris's Hawk	1532	1.7
<i>Falco sparverius</i>	American Kestrel	1172	1.3
<i>Falco tinnunculus</i>	Common Kestrel	1086	1.2
<i>Necrosyrtes monachus</i>	Hooded Vulture	1036	1.2
<i>Gyps africanus</i>	White-backed Vulture	905	1.0
<i>Aquila rapax</i>	Tawny Eagle	853	1.0
<i>Gypohierax angolensis</i>	Palm-nut Vulture	702	0.8
<i>Falco subbuteo</i>	Eurasian Hobby	656	0.7
<i>Accipiter nisus</i>	Eurasian Sparrowhawk	628	0.7
<i>Gyps rueppellii</i>	Rüppell's Vulture	620	0.7
<i>Trigonoceps occipitalis</i>	White-headed Vulture	620	0.7
<i>Terathopius ecaudatus</i>	Bateleur	618	0.7
<i>Falco biarmicus</i>	Lanner Falcon	617	0.7
<i>Sagittarius serpentarius</i>	Secretarybird	426	0.5
<i>Falco vespertinus</i>	Red-footed Falcon	380	0.4
<i>Falco femoralis</i>	Aplomado Falcon	333	0.4
<i>Caracara plancus</i>	Southern Crested Caracara	317	0.4
<i>Elanus caeruleus</i>	Black-winged Kite	302	0.3
<i>Falco spp.</i> *		294	0.3
<i>Geranoaetus polyosoma</i>	Variable Hawk	286	0.3
<i>Accipiter badius</i>	Shikra	283	0.3
<i>Geranoaetus melanoleucus</i>	Black-chested Buzzard-Eagle	259	0.3
<i>Torgos tracheliotos</i>	Lappet-faced Vulture	240	0.3
<i>Stephanoaetus coronatus</i>	Crowned Eagle	236	0.3
<i>Falco columbarius</i>	Merlin	232	0.3
<i>Aquila chrysaetos</i>	Golden Eagle	204	0.2
<i>Kaupifalco monogrammicus</i>	Lizard Buzzard	202	0.2
<i>Falconidae spp.</i> *		200	0.2
<i>Polemaetus bellicosus</i>	Martial Eagle	190	0.2
<i>Accipiter melanoleucus</i>	Black Sparrowhawk	184	0.2
<i>Haliaeetus vocifer</i>	African Fish Eagle	183	0.2
<i>Neophron percnopterus</i>	Egyptian Vulture	182	0.2
<i>Buteo jamaicensis</i>	Red-tailed Hawk	177	0.2
<i>Lophaetus occipitalis</i>	Long-crested Eagle	174	0.2

<i>Accipiter minullus</i>	Little Sparrowhawk	164	0.2
<i>Buteo buteo</i>	Common Buzzard	130	0.1
<i>Microhierax caerulescens</i>	Collared Falconet	122	0.1
<i>Aquila spilogaster</i>	African Hawk-Eagle	113	0.1
<i>Nisaetus nipalensis</i>	Mountain Hawk-Eagle	111	0.1
<i>Buteo rufinus</i>	Long-legged Buzzard	100	0.1
<i>Buteo albonotatus</i>	Zone-tailed Hawk	99	0.1
<i>Phalcooenus megalopterus</i>	Mountain Caracara	85	0.1
<i>Hieraaetus wahlbergi</i>	Wahlberg's Eagle	82	0.1
<i>Milvus migrans</i>	Black Kite	81	0.1
<i>Aquila verreauxii</i>	Verreaux's Eagle	78	0.1
<i>Polihierax semitorquatus</i>	Pygmy Falcon	75	0.1
<i>Aquila fasciata</i>	Bonelli's Eagle	73	0.1
<i>Buteo platypterus</i>	Broad-winged Hawk	67	0.1
<i>Haliaeetus leucocephalus</i>	Bald Eagle	63	0.1
<i>Vultur gryphus</i>	Andean Condor	61	0.1
<i>Buteo regalis</i>	Ferruginous Hawk	60	0.1
Falconiformes spp.*		48	0.1
<i>Haliaeetus pelagicus</i>	Stellar's Sea Eagle	47	0.1
<i>Polyboroides typus</i>	African Harrier-Hawk	47	0.1
<i>Falco mexicanus</i>	Prairie Falcon	41	0.0
<i>Accipiter tachiro</i>	African Goshawk	39	0.0
<i>Falco ardosiaceus</i>	Grey Kestrel	36	0.0
<i>Aquila nipalensis</i>	Steppe Eagle	35	0.0
<i>Buteo auguralis</i>	Red-necked Buzzard	34	0.0
<i>Gyps fulvus</i>	Griffon Vulture	33	0.0
<i>Aegyptius monachus</i>	Cinereous Vulture	32	0.0
<i>Falco cuvierii</i>	African Hobby	32	0.0
<i>Gyps bengalensis</i>	White-rumped Vulture	32	0.0
<i>Micronisus gabar</i>	Gabar Goshawk	32	0.0
<i>Phalcooenus australis</i>	Striated Caracara	30	0.0
<i>Butastur rufipennis</i>	Grasshopper Buzzard	28	0.0
<i>Hieraaetus pennatus</i>	Booted Eagle	28	0.0
<i>Milvago chimachima</i>	Yellow-headed Caracara	28	0.0
<i>Falco chicquera</i>	Red-necked Falcon	27	0.0
<i>Accipiter cooperii</i>	Cooper's Hawk	26	0.0
<i>Falco jugger</i>	Laggar Falcon	26	0.0
<i>Accipiter brevipes</i>	Levant Sparrowhawk	25	0.0
<i>Accipiter bicolor</i>	Bicolored Hawk	24	0.0
<i>Spizaetus ornatus</i>	Ornate Hawk-Eagle	23	0.0
<i>Accipiter erythropus</i>	Red-thighed Sparrowhawk	22	0.0
<i>Buteo rufofuscus</i>	Jackal Buzzard	22	0.0
<i>Sarcoramphus papa</i>	King Vulture	22	0.0
<i>Falco rufigularis</i>	Bat Falcon	21	0.0

<i>Milvus milvus</i>	Red Kite	21	0.0
<i>Accipiter toussenelii</i>	Red-chested Goshawk	20	0.0
<i>Buteo lagopus</i>	Rough-legged Buzzard	20	0.0
<i>Haliaeetus albicilla</i>	White-tailed Eagle	20	0.0
<i>Polyboroides radiatus</i>	Madagascan Harrier-Hawk	20	0.0
<i>Accipiter hybrid*</i>		19	0.0
<i>Urotriorchis macrourus</i>	Long-tailed Hawk	19	0.0
<i>Circaetus gallicus</i>	Short-toed Snake Eagle	18	0.0
<i>Falco alopex</i>	Fox Kestrel	18	0.0
<i>Hieraaetus ayresii</i>	Ayres's Hawk-Eagle	18	0.0
<i>Gypaetus barbatus</i>	Bearded Vulture	17	0.0
<i>Falco naumanni</i>	Lesser Kestrel	16	0.0
<i>Melierax poliopterus</i>	Eastern Chanting Goshawk	16	0.0
<i>Aquila africana</i>	Cassin's Hawk-Eagle	14	0.0
<i>Rupornis magnirostris</i>	Roadside Hawk	14	0.0
<i>Accipiter spp.*</i>		13	0.0
<i>Circaetus cinereus</i>	Brown Snake Eagle	13	0.0
<i>Haliastur indus</i>	Brahminy Kite	12	0.0
<i>Spizaetus tyrannus</i>	Black Hawk-Eagle	12	0.0
<i>Falco rupicoloides</i>	Greater Kestrel	11	0.0
<i>Melierax metabates</i>	Dark Chanting Goshawk	11	0.0
<i>Aviceda cuculoides</i>	African Cuckoo-Hawk	10	0.0
<i>Chelictinia riocourii</i>	Scissor-tailed Kite	10	0.0
<i>Henicopernis infuscatus</i>	Black Honey Buzzard	10	0.0
<i>Spilornis cheela</i>	Crested Serpent Eagle	10	0.0
<i>Accipitridae spp.*</i>		9	0.0
<i>Pandion haliaetus</i>	Western Osprey	9	0.0
<i>Aquila heliaca</i>	Eastern Imperial Eagle	8	0.0
<i>Gyps himalayensis</i>	Himalayan Vulture	8	0.0
<i>Nisaetus alboniger</i>	Blyth's Hawk-Eagle	8	0.0
<i>Aquila spp.*</i>		7	0.0
<i>Phalcoboenus albogularis</i>	White-throated Caracara	7	0.0
<i>Aquila hybrid*</i>		6	0.0
<i>Buteo hybrid*</i>		6	0.0
<i>Buteo spp.*</i>		6	0.0
<i>Falco novaeseelandiae</i>	New Zealand Falcon	6	0.0
<i>Gyps coprotheres</i>	Cape Vulture	6	0.0
<i>Microhierax erythrogenys</i>	Philippine Falconet	6	0.0
<i>Nisaetus cirrhatus</i>	Changeable Hawk-Eagle	6	0.0
<i>Buteo oreophilus</i>	Mountain Buzzard	5	0.0
<i>Chondrohierax uncinatus</i>	Hook-billed Kite	5	0.0
<i>Accipiter striatus</i>	Sharp-shinned Hawk	4	0.0
<i>Accipiter trivirgatus</i>	Crested Goshawk	4	0.0
<i>Falco punctatus</i>	Mauritius Kestrel	4	0.0

<i>Haliaeetus leucoryphus</i>	Palla's Fish Eagle	4	0.0
<i>Accipiter ovampensis</i>	Ovambo Sparrowhawk	3	0.0
<i>Accipiter superciliosus</i>	Tiny Hawk	3	0.0
<i>Clanga clanga</i>	Greater Spotted Eagle	3	0.0
<i>Circus aeruginosus</i>	Western Marsh Harrier	3	0.0
<i>Circus cinereus</i>	Cinereous Harrier	3	0.0
<i>Falco eleonora</i>	Eleonora's Falcon	3	0.0
<i>Aquila audax</i>	Wedge-tailed Eagle	2	0.0
<i>Buteo augur</i>	Augur Buzzard	2	0.0
<i>Buteogallus urubitinga</i>	Great Black Hawk	2	0.0
	Southern Banded Snake		
<i>Circaetus fasciolatus</i>	Eagle	2	0.0
<i>Circus macrourus</i>	Pallid Harrier	2	0.0
<i>Circus melanoleucos</i>	Pied Harrier	2	0.0
<i>Circus pygargus</i>	Montagu's Harrier	2	0.0
<i>Falco concolor</i>	Sooty Falcon	2	0.0
<i>Falco deiroleucus</i>	Orange-breasted Falcon	2	0.0
<i>Gyps hybrid*</i>		2	0.0
<i>Melierax canorus</i>	Pale Chanting Goshawk	2	0.0
<i>Pernis ptilorhynchus</i>	Crested Honey Buzzard	2	0.0
<i>Spizaetus melanoleucus</i>	Black-and-white Hawk-Eagle	2	0.0
<i>Accipiter francesiae</i>	France's Sparrowhawk	1	0.0
	Rufous-breasted		
<i>Accipiter rufiventris</i>	Sparrowhawk	1	0.0
<i>Aquila adalberti</i>	Spanish Imperial Eagle	1	0.0
<i>Caracara cheriway</i>	Northern Crested Caracara	1	0.0
<i>Circaetus spectabilis</i>	Congo Serpent Eagle	1	0.0
<i>Falco dickinsoni</i>	Dickinson's Kestrel	1	0.0
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle	1	0.0
<i>Harpia harpyja</i>	Harpy Eagle	1	0.0
<i>Hieraaetus spp.*</i>		1	0.0
<i>Ictinaetus malaiensis</i>	Black Eagle	1	0.0
<i>Micrastur semitorquatus</i>	Collared Forest Falcon	1	0.0
<i>Morphnus guianensis</i>	Crested Eagle	1	0.0
Total		146	87846
			100

ESM 8. Imported owl species, number of imported individuals and percentage of total imported owl individuals. Unknown species denoted by *.

Scientific name	Common name	Imported individuals	% Total imported individuals
<i>Otus scops</i>	Eurasian Scops Owl	3256	15.8
<i>Ptilopsis leucotis</i>	Northern White-faced Owl	3153	15.3
<i>Athene noctua</i>	Little Owl	2334	11.4
<i>Tyto alba</i>	Western Barn Owl	1333	6.5
<i>Otus brucei</i>	Pallid Scops Owl	1229	6.0
<i>Athene cunicularia</i>	Burrowing Owl	1121	5.5
<i>Glaucidium brasilianum</i>	Ferruginous Pygmy Owl	875	4.3
<i>Bubo scandiacus</i>	Snowy Owl	798	3.9
<i>Bubo bubo</i>	Eurasian Eagle Owl	756	3.7
<i>Asio otus</i>	Long-eared Owl	652	3.2
<i>Megascops choliba</i>	Tropical Screech Owl	430	2.1
<i>Bubo africanus</i>	Spotted Eagle Owl	424	2.1
<i>Glaucidium perlatum</i>	Pearl-spotted Owlet	402	2.0
<i>Strix aluco</i>	Tawny Owl	327	1.6
<i>Bubo virginianus</i>	Great Horned Owl	300	1.5
<i>Otus bakkamoena</i>	Indian Scops Owl	268	1.3
<i>Strix woodfordii</i>	African Wood Owl	263	1.3
<i>Strix nebulosa</i>	Great Grey Owl	243	1.2
Strigiformes spp.*		217	1.1
<i>Strix rufipes</i>	Rufous-legged Owl	199	1.0
<i>Strix uralensis</i>	Ural Owl	185	0.9
<i>Megascops kennicottii</i>	Western Screech Owl	163	0.8
<i>Pulsatrix perspicillata</i>	Spectacled Owl	161	0.8
<i>Pseudoscops clamator</i>	Striped Owl	147	0.7
<i>Surnia ulula</i>	Northern Hawk Owl	123	0.6
<i>Strix virgata</i>	Mottled Owl	118	0.6
<i>Asio flammeus</i>	Short-eared Owl	113	0.5
<i>Bubo lacteus</i>	Verreaux's Eagle Owl	92	0.4
<i>Strix leptogrammica</i>	Brown Wood Owl	85	0.4
<i>Megascops guatemalae</i>	Middle American Screech Owl	76	0.4
<i>Ninox novaeseelandiae</i>	Morepork	60	0.3
<i>Aegolius funereus</i>	Boreal Owl	58	0.3
<i>Tyto glaucops</i>	Ashy-faced Owl	48	0.2
<i>Bubo poensis</i>	Fraser's Eagle Owl	44	0.2
<i>Asio capensis</i>	Marsh Owl	37	0.2
<i>Scotopelia peli</i>	Pel's Fishing Owl	35	0.2
<i>Glaucidium brodiei</i>	Collared Owlet	30	0.1
<i>Glaucidium cuculoides</i>	Asian Barred Owlet	30	0.1
<i>Bubo cinerascens</i>	Greyish Eagle Owl	27	0.1

<i>Strix huhula</i>	Black-banded Owl	27	0.1
<i>Glaucidium capense</i>	African Barred Owlet	27	0.1
<i>Megascops roboratus</i>	West Peruvian Screech Owl	26	0.1
<i>Megascops watsonii</i>	Tawny-bellied Screech Owl	25	0.1
<i>Ptilopsis granti</i>	Southern White-faced Owl	25	0.1
<i>Athene brama</i>	Spotted Owlet	24	0.1
<i>Glaucidium passerinum</i>	Eurasian Pygmy Owl	23	0.1
<i>Strix hylophila</i>	Rusty-barred Owl	20	0.1
<i>Strix seloputo</i>	Spotted Wood Owl	18	0.1
<i>Ketupa zeylonensis</i>	Brown Fish Owl	16	0.1
<i>Ketupa ketupu</i>	Buffy Fish Owl	15	0.1
<i>Ninox boobook</i>	Australian Boobook	15	0.1
<i>Strix chacoensis</i>	Chaco Owl	15	0.1
<i>Bubo capensis</i>	Cape Eagle Owl	13	0.1
<i>Tytonidae spp.*</i>		8	0.0
<i>Bubo ascalaphus</i>	Pharaoh Eagle Owl	7	0.0
<i>Lophotrix cristata</i>	Crested Owl	7	0.0
<i>Bubo bengalensis</i>	Indian Eagle Owl	6	0.0
<i>Phodilus badius</i>	Oriental Bay Owl	6	0.0
<i>Pulsatrix melanota</i>	Band-bellied Owl	6	0.0
<i>Tyto capensis</i>	African Grass Owl	5	0.0
<i>Scotopelia bouvieri</i>	Vermiculated Fishing Owl	3	0.0
<i>Bubo nipalensis</i>	Spot-bellied Eagle Owl	2	0.0
<i>Bubo spp.*</i>		2	0.0
<i>Otus ireneae</i>	Sokoke Scops Owl	2	0.0
<i>Strigidae spp.*</i>		2	0.0
<i>Bubo coromandus</i>	Dusky Eagle Owl	1	0.0
<i>Glaucidium jardinii</i>	Andean Pygmy Owl	1	0.0
<i>Ninox philippensis</i>	Luzon Hawk Owl	1	0.0
<i>Ninox scutulata</i>	Brown Hawk Owl	1	0.0
<i>Strix varia</i>	Barred Owl	1	0.0
Total		66	20562
			100.0

ESM 9. Exported owl species, number of exported individuals and percentage of total exported owl individuals. Unknown species denoted by *.

Scientific name	Common name	Exported individuals	% Total exported individuals
<i>Ptilopsis leucotis</i>	Northern White-Faced Owl	5517	21.2
<i>Otus scops</i>	Eurasian Scops Owl	3971	15.3
<i>Athene noctua</i>	Little Owl	2717	10.4
<i>Otus brucei</i>	Pallid Scops Owl	1654	6.4
<i>Athene cunicularia</i>	Burrowing Owl	1302	5.0
<i>Glaucidium brasilianum</i>	Ferruginous Pygmy Owl	1270	4.9
<i>Tyto alba</i>	Western Barn Owl	1249	4.8
<i>Asio otus</i>	Long-eared Owl	813	3.1
<i>Bubo scandiacus</i>	Snowy Owl	752	2.9
<i>Bubo bubo</i>	Eurasian Eagle Owl	745	2.9
<i>Strix aluco</i>	Tawny Owl	489	1.9
<i>Megascops choliba</i>	Tropical Screech Owl	420	1.6
<i>Bubo africanus</i>	Spotted Eagle Owl	375	1.4
<i>Bubo virginianus</i>	Great Horned Owl	326	1.3
<i>Asio flammeus</i>	Short Eared Owl	323	1.2
<i>Strix woodfordii</i>	African Wood Owl	312	1.2
<i>Strix nebulosa</i>	Great Grey Owl	307	1.2
<i>Otus bakkamoena</i>	Indian Scops Owl	265	1.0
<i>Strix uralensis</i>	Ural Owl	253	1.0
<i>Glaucidium perlatum</i>	Pearl-spotted Owlet	226	0.9
<i>Pulsatrix perspicillata</i>	Spectacled Owl	204	0.8
<i>Pseudoscops clamator</i>	Striped Owl	179	0.7
<i>Megascops kennicottii</i>	Western Screech Owl	178	0.7
<i>Bubo lacteus</i>	Verreaux's Eagle Owl	170	0.7
<i>Strix rufipes</i>	Rufous-legged Owl	168	0.6
<i>Surnia ulula</i>	Northern Hawk Owl	150	0.6
<i>Aegolius funereus</i>	Boreal Owl	123	0.5
<i>Asio capensis</i>	Marsh Owl	112	0.4
<i>Strix virgata</i>	Mottled Owl	101	0.4
<i>Scotopelia peli</i>	Pel's Fishing Owl	94	0.4
<i>Scotopelia bouvieri</i>	Vermiculated Fishing Owl	92	0.4
<i>Strix leptogrammica</i>	Brown Wood Owl	86	0.3
<i>Glaucidium brodiei</i>	Collared Owlet	80	0.3
<i>Bubo bengalensis</i>	Indian Eagle Owl	74	0.3
	West Peruvian Screech Owl		
<i>Megascops roboratus</i>	Owl	69	0.3
<i>Ninox novaeseelandiae</i>	Morepork	66	0.3
	Tawny-bellied Screech Owl		
<i>Megascops watsonii</i>	Owl	66	0.3
<i>Bubo poensis</i>	Fraser's Eagle Owl	64	0.2

<i>Pulsatrix melanota</i>	Band-bellied Owl	64	0.2
<i>Glaucidium passerinum</i>	Eurasian Pygmy Owl	59	0.2
<i>Glaucidium peruanum</i>	Pacific Pygmy Owl	50	0.2
<i>Tyto glaucops</i>	Ashy-faced Owl	46	0.2
<i>Glaucidium cuculoides</i>	Asian Barred Owlet	42	0.2
<i>Bubo capensis</i>	Cape Eagle Owl	38	0.1
<i>Glaucidium capense</i>	African Barred Owlet	30	0.1
<i>Bubo cinerascens</i>	Greyish Eagle Owl	29	0.1
<i>Athene brama</i>	Spotted Owlet	23	0.1
<i>Strix huhula</i>	Black-banded Owl	21	0.1
<i>Asio abyssinicus</i>	Abssinian Owl	20	0.1
<i>Bubo ascalaphus</i>	Pharaoh Eagle Owl	20	0.1
Strigiformes spp.*		20	0.1
<i>Tyto capensis</i>	African Grass Owl	20	0.1
<i>Ninox boobook</i>	Australian Boobook	19	0.1
<i>Ketupa ketupu</i>	Buffy Fish Owl	16	0.1
<i>Strix chacoensis</i>	Chaco Owl	16	0.1
<i>Strix hylophila</i>	Rusty-barred Owl	16	0.1
<i>Ptilopsis granti</i>	Southern White-faced Owl	15	0.1
<i>Glaucidium jardinii</i>	Andean Pygmy Owl	12	0.0
<i>Strix seloputo</i>	Spotted Wood Owl	11	0.0
<i>Bubo blakistoni</i>	Blakiston's Fish Owl	10	0.0
<i>Glaucidium tephronotum</i>	Red-chested Owlet	10	0.0
<i>Ketupa zeylonensis</i>	Brown Fish Owl	10	0.0
<i>Otus ireneae</i>	Sokoike Scops Owl	10	0.0
<i>Otus</i> spp.*		10	0.0
<i>Strix varia</i>	Barred Owl	6	0.0
<i>Tytonidae</i> spp.*		6	0.0
<i>Otus sagittatus</i>	White-fronted Scops Owl	4	0.0
<i>Phodilus badius</i>	Oriental Bay Owl	4	0.0
<i>Aegolius acadicus</i>	Northern Saw-whet Owl	3	0.0
<i>Psiloscoops flammeolus</i>	Flammulated Owl	2	0.0
<i>Otus megalotis</i>	Philippine Scops Owl	2	0.0
<i>Otus rutilus</i>	Rainforest Scops Owl	2	0.0
<i>Tyto</i> spp.*		2	0.0
<i>Bubo hybrid</i> *		1	0.0
<i>Bubo nipalensis</i>	Spot-bellied Eagle Owl	1	0.0
<i>Ninox theomacha</i>	Papuan Boobook	1	0.0
<i>Megascops asio</i>	Eastern Screech Owl	1	0.0
<i>Megascops barbarus</i>	Bearded Screech Owl	1	0.0
Total		73	26035
			100.0