



RAPTORS
MOU

6.4 Pilot site network analysis

Vicky Jones & Ben Jobson
BirdLife International/ TAG

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Background



- Activity 2, Task 2.5 of the TAG workplan from MOS2 was to “Advise on gaps in current information on key breeding areas, stopovers, refuelling, bottleneck, other congregational and non-breeding sites along raptor flyways, and: a) make recommendations on how these might be filled; and, b) advise on appropriate approaches for the conservation and management of critical areas.”
- As TAG4/Doc. 6.4 outlines our approach - a pilot analysis for a small set of Annex 1 species to test an approach that could later be applied to all Annex 1 species if deemed useful; at TAG3 we agreed a list of pilot species and showed how we would assess congregatory behaviour (Annex 2 of UNEP/CMS/Raptors/TAG3/Doc.4.2b)
- For each pilot species overlaid Table 3 sites on the species distribution map, identify major gaps and use information on the species congregatory behaviour to assess whether those gaps were genuine or explained by the species behaviour in that season
- Re: the ‘conservation and management of critical areas we have tested some approaches to looking at protection of site networks for pilot species
- Site-based conservation approaches might not be the most effective way to support the species in non-congregatory parts of the annual cycle.



Methods



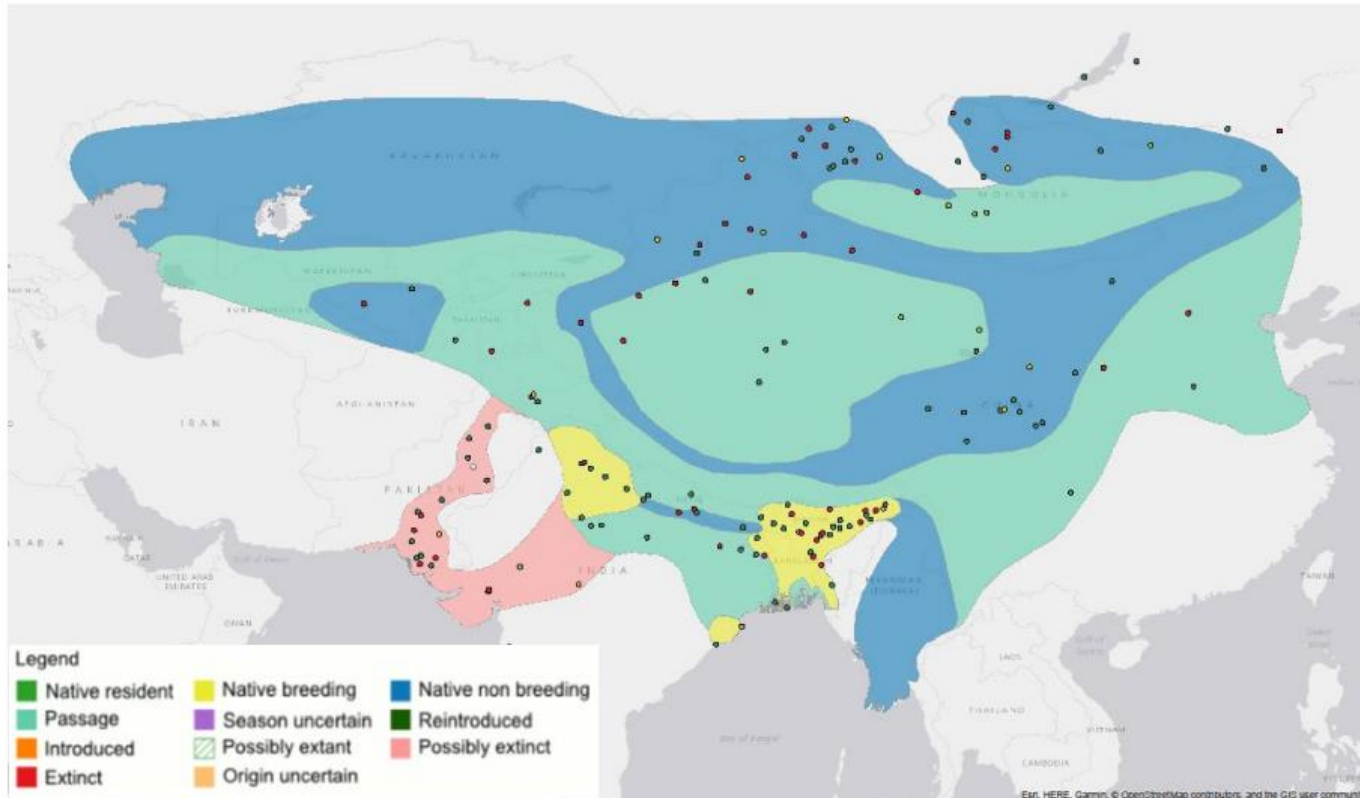
- Pilot spp with differing ecologies & migratory strategies : Rüppell's Vulture, Lappet-faced Vulture, Egyptian Vulture, Cinereous Vulture, Steppe Eagle, Wahlberg's Eagle, Mountain Hawk-eagle, Pallas's Fish-eagle, Grasshopper Buzzard, Amur Falcon and Lanner Falcon
- Basis for analysis was the draft Table 3 site list as shared at TAG3
- BirdLife species distribution maps displayed showing full range of annual life cycle stages were plotted for each pilot study species which had sites on draft Table 3
- Table 3 sites for the pilot species were overlaid onto these maps and any sites with geographic overlap of >50% with another site (e.g., SPA sites overlapping with IBA sites) were removed and considered to be functionally identical in terms of their contribution to the site network for species in that location
- Point locations of draft Table 3 sites falling inside each part of the species' ranges were tabulated, as well as those falling outside of their current range maps
- Brief summary of findings was prepared for each pilot study species, outlining the comprehensiveness of draft Table 3 sites across their geographic range

TAG3/Doc 4.2b Annex 2

Congregatory?	Breeding Aggregatory Behaviour	Passage Aggregatory Behaviour	Non-breeding aggregatory behaviour	Aggregatory behaviour comment	Source?	Maximum known congregation	Notes
Rarely congregatory	D	D/C	D	A solitary breeder, with pair bond maintained throughout migratory period also. Migrations occur via bottlenecks, meaning occasional loose groupings form. Agostini et al describe 77 flocks of average size 3.5 recorded at Apuane Alps during an autumn migration, and Munoz et al report on a rare record of communal roosting, up to 139 during spring migration near Strait of Gibraltar, and linked to adverse weather. Mellone et al work on non-breeding summer staging areas shows dispersive nature, but to different areas to wintering or breeding grounds.	Ferguson-Lees and Christie 2001 'Raptors of the World.'; Agostini, N., Baghino, L., Panuccio, M. & Premuda, G. 2002. A conservative strategy in migrating Short-toed Eagles; Munoz et al 2010 First record of a communal roost of Short-toed Eagles <i>Circaetus gallicus</i> ; Mellone et al 2011 Summer staging areas of non-breeding Short-toed Snake Eagles <i>Circaetus gallicus</i> ;	139	
Congregatory year-round	C	N/A	C	Highly gregarious, breeding colonies of 10-100, up to 1000 pairs. Roosts, soars and feeds communally. Forages 150-200km, and moves in response to drought and rains. Possibility of yearly movements to Spain of juveniles and immatures, associated with Griffon Vultures (Ramirez et al 2011).	Ferguson-Lees and Christie 2001 'Raptors of the World.'; HBW; Ramirez et al, 2011 'Spring movements of Rüppell's Vulture <i>Gyps rueppellii</i> across the Strait of Gibraltar'	2000	Also occurs in Europe possible. See papers on juveniles in Sp
Dispersive	C	D/C?	D	Normally forms loose breeding colonies, in Spain largest are 336, 287 and 165 pairs (Moreno-Opo et al). Much of popn is resident and sedentary, but small irregular bottlenecks at Bosphorus and Eilat (F-L and Christie). Groups may form at food sources - Moreno-Opo et al report average numbers attending placed carcasses in Spain as 23.	Ferguson-Lees and Christie 2001 'Raptors of the World.'; Moreno-Opo et al 2010 Factors influencing the presence of the cinereous vulture <i>Aegypius monachus</i> at carcasses: food preferences and implications for the management of supplementary feeding sites;		
Not congregatory	D	D	D	Usually solitary, and pairs breed singly, often in acacia trees. Immatures are dispersive. May occasionally see few at a food source, if common location or watering hole, may have 25-50.	Ferguson-Lees and Christie, 2001 'Raptors of the World'		
Not congregatory	D	D	D	Like other hawk-eagles, is either solitary or in a pair. Typically sedentary, some altitudinal migration.	Ferguson-Lees and Christie 2001 'Raptors of the World.';		

Example for Pallas's Fish-eagle

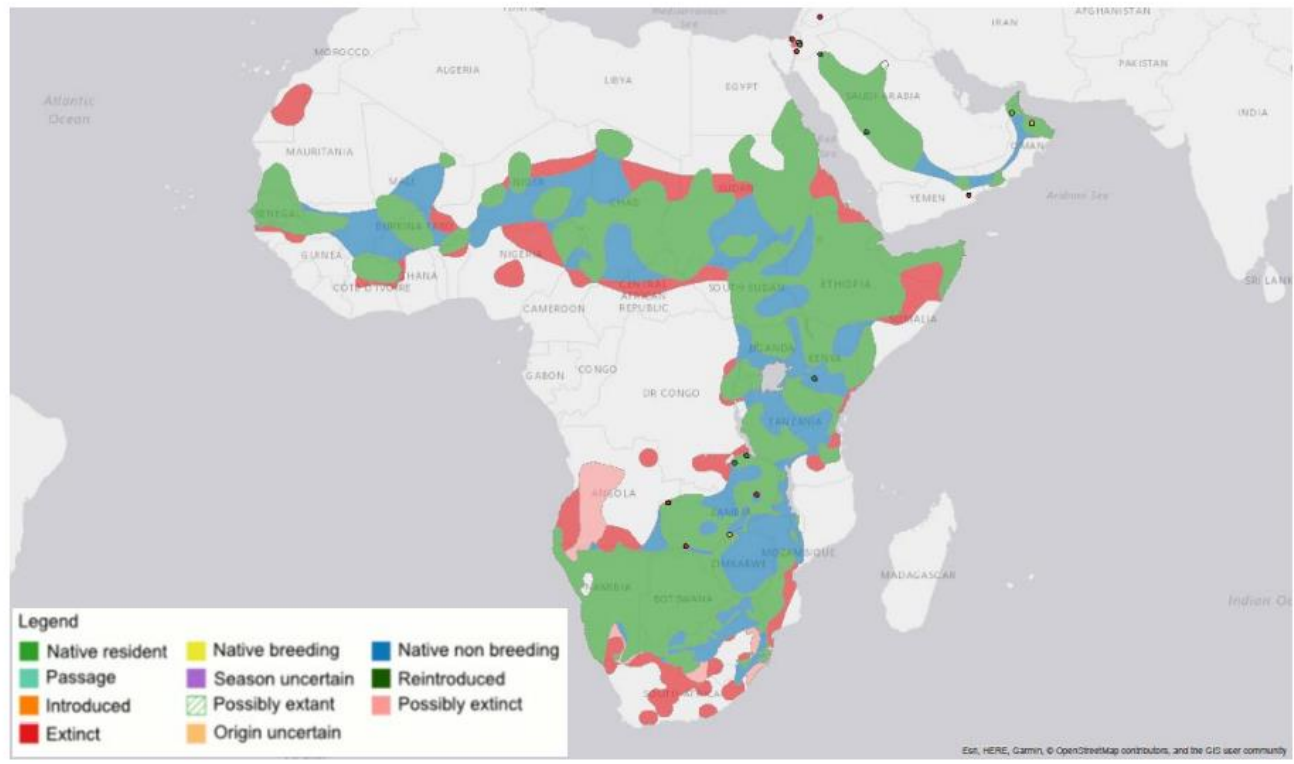
Pallas's Fish-eagle (Endangered)



- Reasonable representation of sites for this species on (proposed) Table 3, though gaps in west of range
- Sites in an area where the species is now possibly extinct, so need more recent monitoring to confirm

Example for Lappet-faced Vulture

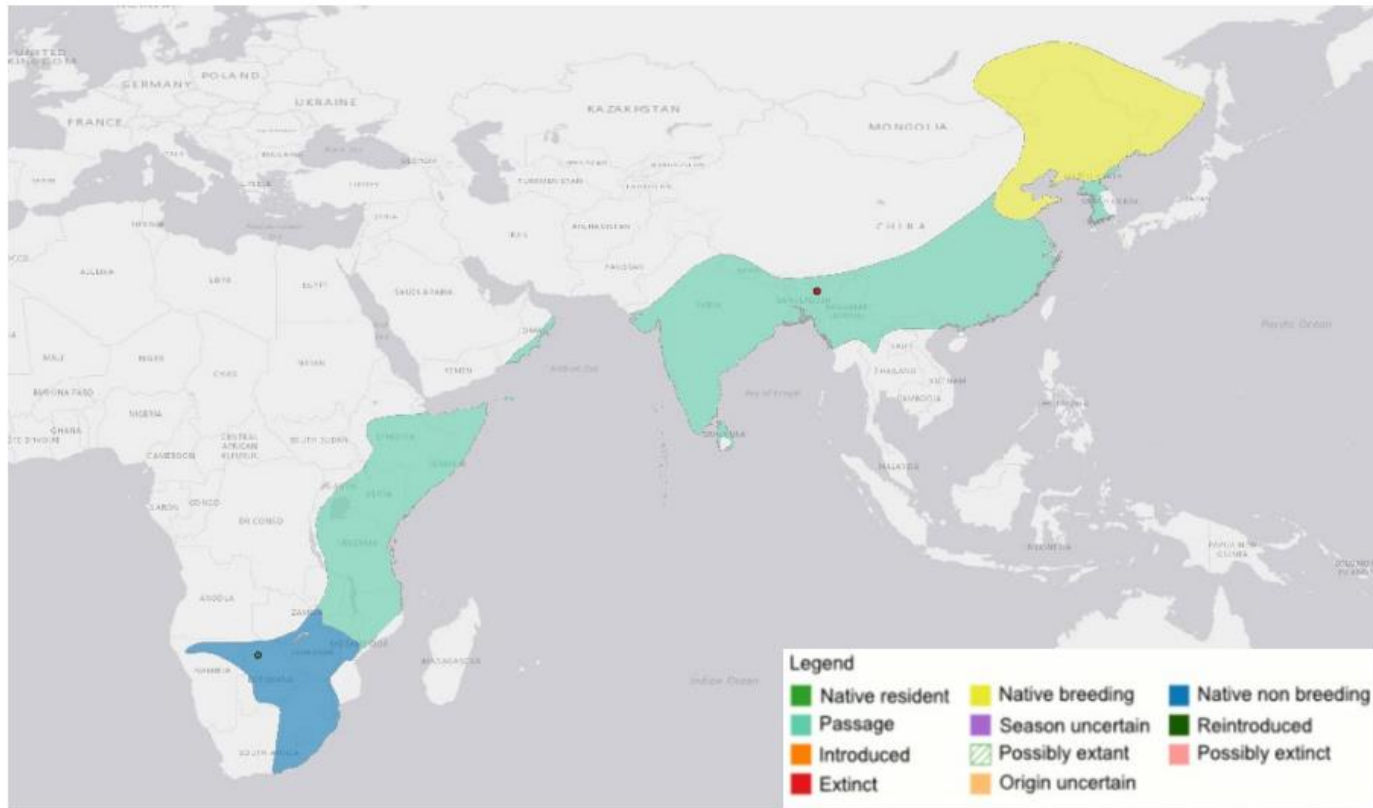
Lappet-faced Vulture (Endangered)



- Poor coverage on (proposed) Table 3
- Some historic breeding sites where the species may no longer occur
- This species is now Endangered so thresholds for international importance lower than previously, ID of qualifying sites possible elsewhere in range

Example for Amur Falcon

Amur Falcon (Least Concern)



- Very poor coverage on (proposed) Table 3
- Congregatory throughout year, particularly on passage so genuine gaps here
- Sites of international importance for this species need to be identified

Doc 6.4 Annex A



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Current number of Table 3 sites (IBAs) falling within different polygons of the BirdLife species range map

Species	Red List Status	Potential threshold for international importance	Native Breeding	Native Non Breeding	Passage	Native Resident	Extinct	Possibly Extinct	Reintroduced	Total no. IBAs outside BL Range Maps	% IBAs outside BL Range Maps
Pallas's Fish-eagle	EN	5 pairs/ 15 individuals	39	52	33	n/a	n/a	20	n/a	11	7.10
Amur Falcon	LC	≥1% of population present on a regular or predictable basis	0	1	1	n/a	n/a	n/a	n/a	n/a	n/a
Lanner falcon	LC	≥1% of population present on a regular or predictable basis	n/a	6	n/a	25	n/a	n/a	n/a	14	31.11
Egyptian Vulture	EN	5 pairs/ 15 individuals	118	13	67	30	1	n/a	n/a	19	7.66
Lappet-faced Vulture	EN	5 pairs/ 15 individuals	n/a	2	n/a	10	n/a	n/a	n/a	6	33.33
Ruppell's Vulture	CR	5 pairs/ 15 individuals	n/a	2	n/a	4	n/a	n/a	n/a	0	0.00
Steppe Eagle	EN	5 pairs/ 15 individuals	9	1	4	n/a	n/a	n/a	n/a	5	26.32
Cinereous Vulture	NT	10 pairs/ 30 individuals	2	31	2	68	3	n/a	2	8	6.90
Grasshopper Buzzard	LC	≥1% of population present on a regular or predictable basis	0	0	n/a	n/a	n/a	n/a	n/a	0	0
Mountain Hawk Eagle	NT*	10 pairs/ 30 individuals	n/a	n/a	n/a	0	n/a	n/a	n/a	0	0
Wahlberg's Eagle	LC	≥1% of population present on a regular or predictable basis	0	0	n/a	0	n/a	n/a	n/a	0	0

Genuine gap where sites of international importance could be identified for this species in this season
 Where congregatory information is lacking from the literature
 Where sufficient sites exist across the species range to not constitute a total gap
 Lack of sites justified by species ecology in this season

Doc 6.4 Annex A cont...

Current number of Table 3 sites (IBAs) falling within different polygons of the BirdLife species range map (cont.)								
Species	Red List Status	Seasonal occurrence of species at IBA for sites falling outside current range map	Total	Maximum Congregation	Provisional 1% of global population threshold	Provisional Global Population Size Min (2021)	Provisional Global Population Size Max (2021)	Provisional Global Population size mean (2021)
Pallas's Fish-eagle	EN	Breeding (4) Resident (3) Unknown (1)	155	Not congregatory	17.495	1000	2499	1749.5
Amur Falcon	LC	n/a	2	10,000 + (Passage)	4335	200000	667,000	433500
Lanner falcon	LC	Resident (7) Breeding (6) Winter (1)	45	~20 (HBW, Native Resident)	3685	67000	670,000	368500
Egyptian Vulture	EN	Breeding (4) Passage (2) Winter (2) Redisent (1) Non-breeding (1)	248	1,171 (Native Resident- India)	242	12,400	36,000	24200
Lappet-faced Vulture	EN	Non-breeding (4) Resident (1) Winter (1)	18	?	65	6500	6,500	6500
Ruppell's Vulture	CR	n/a	6	2000 (Native Resident)	220	22000	22,000	22000
Steppe Eagle	EN	Breeding (4) Unknown (1)	19	310 (Native Non Breeding)	625	50,000	75,000	62500
Cinereous Vulture	NT	Passage (2) Winter (2) Resident (2) Breeding (1) Non-breeding (1)	116	?	198	16,800	22,800	19800
Grasshopper Buzzard	LC	n/a	0	Not congregatory	349.995	20,000	49,999	34999.5
Mountain Hawk Eagle	NT*	n/a	0	Not congregatory	39.5	1200	6,700	3950
Wahlberg's Eagle	LC	n/a	0	1000 (HBW, On passage through Native Resident areas)	3685	67000	670,000	368500

Pilot species with no sites on Table 3

- 3 of 11 pilot spp (Grasshopper Buzzard, Mountain Hawk-eagle and Wahlberg's Eagle) had no sites at all on draft Table 3
- Worth noting that beyond the pilot species, there are 28 other Annex 1 species which do not have sites of international importance identified for them in draft Table 3

Actions for TAG4 consideration

- The approach could help TAG advise on which Annex 1 species have significant and genuine gaps in the network of internationally important sites in draft Table 3
- Further discussion needed on what kind of recommendations could flow from such an analysis with the aim of increasing the comprehensiveness of the Table 3 site network for Annex 1 species
- For different Annex 1 species, could try to identify which geographic areas are most important for targeting gap-filling surveys
- Need for more recent info on some of the Table 3 sites
- **TAG is requested to consider whether this approach is worth expanding to cover all Annex 1 species and whether a short paper should be produced for MOS3**