**Supplementary Material**

Defining the key wintering habitats in the Sahel for declining African-Eurasian migrants using expert assessment

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**Contents**

Appendix S1. List of species included in this this study with the scores allocated to them at the workshop.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Species | Dependent on the Sahel? | Trend 1970-1990 (Declining -1; Stable/increasing 0) | Trend 1990-2000 (Declining -1; Stable/increasing 0) | Trend 1960-2005 (Declining -1; Stable/increasing 0) | Trend in obligate Sahelian spp: 1970\_1990 | Trend in obligate Sahelian spp: 1990\_2000 | Rocky Outcrops | Villages | Farmland | Grassland | Farm/Shrubs | Grass/Shrubs | Shrubland | Farmland/trees | Grassland/Trees | Shrubland/Trees | Open woodland | Wet woodland | Irrigated Farmland | Wet grassland | Fringing vegetation | Emergent vegetation | Open Water | Total |
| Common Quail *Coturnix cotur*nix | 1 | -1 | 0 | -1 | -1 | 0 | 0 | 0 | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 19 |
| White Stork *Ciconia ciconia* | 1 | -1 | 0 | 0 | -1 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 3 | 27 |
| Black Kite *Milvus migrans* | 0 | -1 | -1 | -1 | . | . | 1 | 3 | 3 | 2 | 3 | 2 | 1 | 3 | 2 | 1 | 1 | 3 | 2 | 3 | 1 | 2 | 3 | 36 |
| Booted Eagle *Aquila pennata* | 0 | 0 | 0 | 0 | . | . | 2 | 0 | 2 | 0 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 26 |
| Egyptian Vulture *Neophron percnopterus* | 0 | -1 | -1 | -1 | . | . | 1 | 2 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| Short-toed Eagle *Circaetus gallicus* | 1 | 0 | -1 | -1 | 0 | -1 | 2 | 0 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 24 |
| Eurasian Marsh Harrier *Circus aeruginosus* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 31 |
| Pallid Harrier *Circus macrourus* | 1 | -1 | -1 | -1 | -1 | -1 | 1 | 0 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 23 |
| Montagu's Harrier *Circus pygargus* | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 3 | 3 | 1 | 2 | 3 | 1 | 1 | 1 | 3 | 2 | 2 | 0 | 0 | 26 |
| Osprey *Pandion haliaetus* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 6 |
| Lesser Kestrel *Falco naumanni* | 1 | -1 | -1 | -1 | -1 | -1 | 1 | 0 | 2 | 3 | 3 | 3 | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 21 |
| Eurasian Hobby *Falco subbuteo* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 3 | 2 | 2 | 2 | 22 |
| Stone-curlew *Burhinus oedicnemus* | 0 | -1 | -1 | -1 | . | . | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| European Turtle Dove *Streptopelia turtur* | 1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 0 | 2 | 0 | 1 | 33 |
| Great Spotted Cuckoo *Clamator glandarius* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 15 |
| Common Cuckoo *Cuculus canorus* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 14 |
| Eurasian Scops Owl *Otus scops* | 0 | -1 | 0 | -1 | . | . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 16 |
| European Nightjar *Caprimulgus europaeus* | 0 | 0 | -1 | -1 | . | . | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 17 |
| Red-necked Nightjar *Caprimulgus ruficollis* | 0 | 0 | 0 | 0 | . | . | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 17 |
| Common Swift *Apus apus* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Pallid Swift *Apus pallidus* | 0 | 0 | 0 | 0 | . | . | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| European Bee-eater *Merops apiaster* | 0 | -1 | 0 | 0 | . | . | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 17 |
| Hoopoe *Upupa epops* | 1 | 0 | -1 | -1 | 0 | -1 | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 21 |
| Eurasian Wryneck *Jynx torquilla* | 0 | -1 | -1 | -1 | . | . | 0 | 0 | 2 | 0 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 24 |
| Greater Short-toed Lark *Calandrella brachydactyla* | 1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 19 |
| Sand Martin *Riparia riparia* | 1 | -1 | 0 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 15 |
| Barn Swallow *Hirundo rustica* | 0 | -1 | -1 | -1 | . | . | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 26 |
| Red-rumped Swallow *Cecropis daurica* | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 28 |
| House Martin *Delichon urbicum* | 0 | 0 | -1 | -1 | . | . | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 3 | 25 |
| Tawny Pipit *Anthus campestris* | 1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 2 | 3 | 2 | 3 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| Tree Pipit *Anthus trivialis* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 18 |
| Red-throated Pipit *Anthus cervinus* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 0 | 2 | 10 |
| Yellow Wagtail *Motacilla flava* | 1 | 0 | -1 | -1 | 0 | -1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 3 | 3 | 3 | 3 | 3 | 26 |
| Rufous-tailed Scrub Robin *Cercotrichas galactotes* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 17 |
| Common Nightingale *Luscinia megarhynchos* | 0 | 0 | 0 | 0 | . | . | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 11 |
| Bluethroat *Luscinia svecica* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 12 |
| Common Redstart *Phoenicurus phoenicurus* | 1 | -1 | 0 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 12 |
| Whinchat *Saxicola rubetra* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 2 | 1 | 3 | 2 | 2 | 3 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 20 |
| Isabelline Wheatear *Oenanthe isabellina* | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Northern Wheatear *Oenanthe oenanthe* | 1 | 0 | -1 | -1 | 0 | -1 | 1 | 0 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| Black-eared Wheatear *Oenanthe hispanica* | 1 | -1 | -1 | -1 | -1 | -1 | 1 | 0 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| Rufous-tailed Rock Thrush *Monticola saxatilis* | 0 | -1 | -1 | -1 | . | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Common Grasshopper Warbler *Locustella naevia* | 1 | 0 | -1 | -1 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 0 | 11 |
| Savi's Warbler *Locustella luscinioides* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 0 | 10 |
| Aquatic Warbler *Acrocephalus paludicola* | 1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 6 |
| Sedge Warbler *Acrocephalus schoenobaenus* | 0 | 0 | 0 | 0 | . | . | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 0 | 13 |
| Eurasian Reed Warbler *Acrocephalus scirpaceus* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 3 | 0 | 10 |
| Great Reed Warbler *Acrocephalus arundinaceus* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 0 | 10 |
| Western Olivaceous Warbler *Hippolais opaca* | 1 | -1 | 0 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 12 |
| Icterine Warbler *Hippolais icterina* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 6 |
| Melodious Warbler *Hippolais polyglotta* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 1 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 19 |
| Blackcap *Sylvia atricapilla* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 6 |
| Garden Warbler *Sylvia borin* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 2 | 2 | 3 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 18 |
| Lesser Whitethroat *Sylvia curruca* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Orphean Warbler *Sylvia hortensis* | 1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 0 | 0 | 2 | 0 | 0 | 18 |
| Common Whitethroat *Sylvia communis* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 0 | 0 | 2 | 0 | 0 | 20 |
| Spectacled Warbler *Sylvia conspicillata* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 6 |
| Subalpine Warbler *Sylvia cantillans* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 3 | 2 | 3 | 3 | 3 | 1 | 0 | 3 | 2 | 0 | 25 |
| Sardinian Warbler *Sylvia melanocephala* | 0 | 0 | 0 | 0 | . | . | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 16 |
| Western Bonelli's Warbler *Phylloscopus bonelli* | 1 | 0 | -1 | -1 | 0 | -1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 3 | 0 | 0 | 2 | 0 | 0 | 17 |
| Common Chiffchaff *Phylloscopus collybita* | 0 | 0 | 0 | 0 | . | . | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 3 | 2 | 0 | 17 |
| Iberian Chiffchaff *Phylloscopus ibericus* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 3 | 2 | 0 | 17 |
| Willow Warbler *Phylloscopus trochilus* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 1 | 1 | 0 | 23 |
| Spotted Flycatcher *Muscicapa striata* | 0 | -1 | -1 | -1 | . | . | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 20 |
| Pied Flycatcher *Ficedula hypoleuca* | 0 | 0 | -1 | -1 | . | . | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 12 |
| Eurasian Golden Oriole *Oriolus oriolus* | 0 | 0 | -1 | -1 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 6 |
| Woodchat Shrike *Lanius senator* | 1 | -1 | -1 | -1 | -1 | -1 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| Ortolan Bunting *Emberiza hortulana* | 0 | -1 | -1 | -1 | . | . | 0 | 0 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |