

BUCEROS

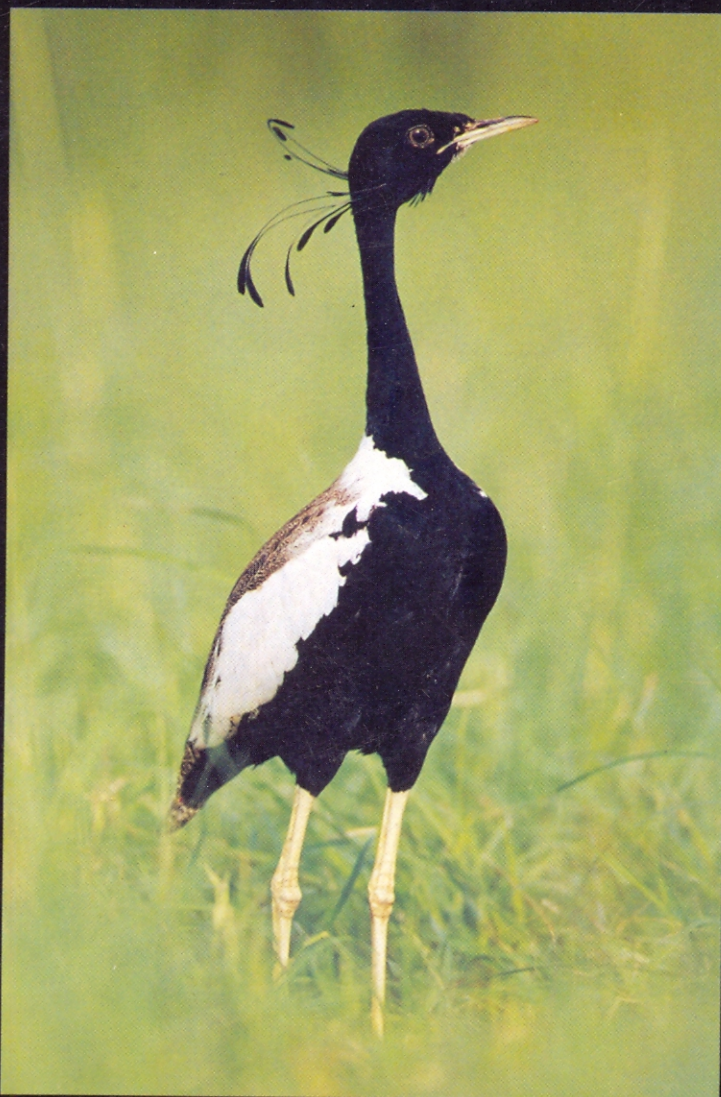
ENVIS Newsletter: Avian Ecology & Inland Wetlands

Vol 7, No. 1 & 2, 2002

Threatened Birds of India

Compiled and edited by
M. Zafar-ul Islam and Asad R. Rahmani

(From Threatened Birds of Asia)



Bombay Natural  History Society

INTRODUCTION

Taking into account newly identified species, two rediscovered species and changes in status, the new assessment shows there are 323 threatened species out of the total of 2,700 bird species in Asia in 2001, compared to 340 in 1994, 287 in 1988, and 51 in 1981. Now the total is a shocking 12% of all bird species in Asia. All 323 threatened species are at risk of extinction from human activities, particularly habitat loss or degradation resulting from unsustainable and often illegal logging, and land or wetland clearance for agriculture or exotic timber plantations.

Altogether 130 species in India are of conservation concern. As many as 8 Indian bird species are listed as Critically Endangered, including the Forest Owlet (*Heteroglaux blewitti*) - recently rediscovered - which have only an estimated 50% chance of survival over the next decade without concerted conservation action. A further 10 are Endangered and 57 Vulnerable. Another 52 Near Threatened species are close to qualifying as Threatened and one is Conservation Dependent. For two Data Deficient species there are inadequate data to make an assessment, but these too may be at risk.

79 species of birds in India are threatened with extinction, with 8 listed as critical. Out of these the Pink-headed Duck *Rhodonessa caryophyllacea* is probably extinct, BNHS scientists have found no evidence of its survival despite various field expeditions. Studies are underway by BNHS scientists on the Forest Owlet, which was rediscovered after 117 years and the Jerdon's Courser *Rhinoptilus bitorquatus* which was rediscovered after 86 years by BNHS scientists. These along with the Himalayan Quail *Ophrysia superciliosa* are endemic to India and have very small breeding ranges. The numbers of Siberian Cranes *Grus leucogeranus* that visit their wintering grounds in India has come down to two! Attempts have been made by BNHS with the help of the International Crane Foundation to reintroduce Siberian Cranes. The White-backed Vulture *Gyps bengalensis*, the Long-billed Vulture *Gyps indicus*, and Slender-billed Vulture *Gyps tenuirostris* have been recently listed because they have suffered an extremely rapid population decline, probably as a result of some viral disease. The BNHS has initiated a world-wide effort to try and identify and remedy this decline.

According to recent assessment by the BirdLife International and BNHS, 99% percent of the globally threatened species are at risk from human activities such as agriculture, logging, hunting, trapping and industry. The assessment also shows that tropical moist forests are particularly important for 70% of threatened forest species.

Wetlands are crucial for the survival of 20% of threatened species, including the Spot-billed Pelican (*Pelecanus philippensis*). Many large waterbirds such as the Siberian Crane (*Grus leucogeranus*) are already very close to extinction because of disturbance, hunting or conversion of their habitat.

The assessment identifies the practical actions required to save species from extinction which include: establishing new protected areas, extending existing protected areas, new legislation, increased awareness and advocacy and the implementation of Species Action Plans for those occurring across national boundaries. It provides sound data and policy advice on which the Government can base more effective conservation actions. In particular, it highlights the critical need for a strong, co-operative network of Asian and international conservation organizations - including, of course, BirdLife International - that are able to focus on saving the region's threatened birds and the habitats and ecosystems upon which they depend.

For a high proportion of threatened bird species, specially for those with restricted ranges and strict habitat requirements, effective site protection and management is the key measure for their survival. The Bombay Natural History Society is working on these species through its Important Bird Areas Programme, and around 350 Important Bird Areas in India have been identified using globally agreed criteria. The BNHS will also develop a programme for their conservation through its Indian Bird Conservation Network, a network of ornithologists, conservationists, NGOs and forest officials. This Network was established two years ago and already has 450 partners, all working for the cause of bird conservation in India.

In this publication the species account is given according to their distribution in different regions and habitats. Names in bold letters in the following tables indicate the restricted range species in India. The list of the bird species is given below:

SPECIES	Common Name	Breeding /Non-breeding	
Forest and Woodland Threatened Species			
1	<i>Spilornis minimus</i>	Nicobar Serpent-eagle	B
2	<i>Accipiter butleri</i>	Nicobar Sparrowhawk	B
3	<i>Gyps bengalensis</i>	White-backed Vulture	B
4	<i>Gyps indicus</i>	Long-billed Vulture	B
5	<i>Gyps tenuirostris</i>	Slender-billed Vulture	B
5	<i>Megapodius nicobariensis</i>	Nicobar Megapode	B
6	<i>Arborophila mandellii</i>	Red-breasted Hill Partridge	B
7	<i>Tragopan melanocephalus</i>	Western Tragopan	B
8	<i>Tragopan blythii</i>	Blyth's Tragopan	B
9	<i>Lophophorus sclateri</i>	Sclater's Monal	B
10	<i>Catreus wallichi</i>	Cheer Pheasant	B
11	<i>Syrnaticus humiae</i>	Mrs. Hume's Pheasant	B
12	<i>Pavo muticus</i>	Green Peafowl	B
13	<i>Columba eversmanni</i>	Eastern Stock Pigeon	N
14	<i>Columba elphinstonii</i>	Nilgiri Wood-pigeon	B
15	<i>Columba punicea</i>	Purple Wood Pigeon	B
16	<i>Heteroglaux blewitti</i>	Forest Owlet	B
17	<i>Aceros nipalensis</i>	Rufous-necked Hornbill	B
18	<i>Aceros narcondami</i>	Narcondam Hornbill	B
19	<i>Hypsipetes nicobariensis</i>	Nicobar Bulbul	B
20	<i>Turdus feae</i>	Grey-sided Thrush	N
21	<i>Brachypteryx hyperythra</i>	Rusty-bellied Shortwing	B
22	<i>Brachypteryx major</i>	White-bellied Shortwing	B
23	<i>Garrulax cachimans</i>	Nilgiri Laughingthrush	B
24	<i>Spelaornis badeigularis</i>	Mishmi Wren-babbler	B
25	<i>Spelaornis longicaudatus</i>	Tawny-breasted Wren-babbler	B
26	<i>Stachyris oglei</i>	Austen's Babbler	B
27	<i>Turdoides longirostris</i>	Slender-billed Babbler	B
28	<i>Ficedula subrubra</i>	Kashmir Flycatcher	B
29	<i>Sitta formosa</i>	Beautiful Nuthatch	B
Grassland Threatened species			
1	<i>Aquila heliaca</i>	Eastern Imperial Eagle	N
2	<i>Falco naumanni</i>	Lesser Kestrel	N
3	<i>Francolinus gularis</i>	Swamp Francolin	B
4	<i>Perdica manipurensis</i>	Manipur Bush-quail	B
5	<i>Ophrysia superciliosa</i>	Himalayan Quail	B
6	<i>Ardeotis nigriceps</i>	Great Indian Bustard	B
7	<i>Houbaropsis bengalensis</i>	Bengal Florican	B
8	<i>Sypheotides indica</i>	Lesser Florican	B
9	<i>Vanellus gregarius</i>	Sociable Lapwing	N
10	<i>Saxicola insignis</i>	Hodgson's Bushchat	N
11	<i>Prinia cinereocapilla</i>	Grey-crowned Prinia	B
12	<i>Chaetornis striatus</i>	Bristled Grass-warbler	B
13	<i>Schoenicola platyura</i>	Broad-tailed Grassbird	B
14	<i>Ploceus megarhynchus</i>	Finn's Weaver	B

SPECIES	Common Name	Breeding /Non-breeding	
Desert threatened Species			
1	<i>Saxicola macrorhyncha</i>	Stoliczka's Bushchat	B
Rocky Areas (including cliffs) threatened Species			
1	<i>Apus acuticauda</i>	Khasi Hills Swift	B
Scrub Threatened Species			
1	<i>Rhinoptilus bitorquatus</i>	Jerdon's Courser	B
2	<i>Pycnonotus xantholaemus</i>	Yellow-throated Bulbul	B
3	<i>Parus nuchalis</i>	Pied Tit	B
4	<i>Amandava formosa</i>	Green Munia	B
Wetlands (including littoral habitat) Threatened Species			
1	<i>Pelecanus crispus</i>	Dalmatian Pelican	N
2	<i>Pelecanus philippensis</i>	Spot-billed Pelican	B
3	<i>Ardea insignis</i>	White-bellied Heron	B
4	<i>Ciconia boyciana</i>	Oriental Stork	N
5	<i>Leptoptilos javanicus</i>	Lesser Adjutant	B
6	<i>Leptoptilos dubius</i>	Greater Adjutant	B
7	<i>Oxyura leucocephala</i>	White-headed Duck	N
8	<i>Anser erythropus</i>	Lesser White-fronted Goose	N
9	<i>Cairina scutulata</i>	White-winged Duck	B
10	<i>Anas formosa</i>	Baikal Teal	N
11	<i>Marmaronetta angustirostris</i>	Marbled Teal	N
12	<i>Rhodonessa caryophyllacea</i>	Pink-headed Duck	B
13	<i>Aythya baeri</i>	Baer's Pochard	N
14	<i>Haliaeetus leucoryphus</i>	Pallas's fish-eagle	B
15	<i>Aquila clanga</i>	Greater Spotted Eagle	B
16	<i>Grus leucogeranus</i>	Siberian Crane	N
17	<i>Grus monacha</i>	Hooded Crane	N
18	<i>Grus nigricollis</i>	Black-necked Crane	B
19	<i>Grus antigone</i>	Sarus Crane	B
21	<i>Rallina canningi</i>	Andaman Crake	B
22	<i>Heliopais personata</i>	Masked Finfoot	B
23	<i>Gallinago nemoricola</i>	Wood Snipe	B
24	<i>Tringa guttifer</i>	Spotted Greenshank	N
25	<i>Eurynorhynchus pygmeus</i>	Spoon-billed Sandpiper	N
26	<i>Rynchops albicollis</i>	Indian Skimmer	B
27	<i>Pellorneum palustre</i>	Marsh Babbler	B
28	<i>Chrysomma altirostre</i>	Jerdon's Babbler	B
29	<i>Paradoxornis flavirostris</i>	Black-breasted Parrotbill	B

■ ■ ■

Extraction of data

We have taken most of the information from the 'Threatened Birds of Asia' of BirdLife International published in 2001 in two volumes with 3038 pages. For detailed account of species with maps including recent and historical records and references, kindly see the 'Threatened Birds of Asia'. The BirdLife International has given us permission to extract the data from 'Threatened Birds of Asia' for the ENVIS newsletter. We have done a little bit of editing and added the Important Bird Area sites for each species.

Contributors

Contributors from India for the 'Threatened Birds of Asia' are numerous but the principal compilers and data contributors are the Bombay Natural History Society (BirdLife Partner Designate) and the Sálim Ali Centre for Ornithology and Natural History; S. Subramanya (who is one of the editors), L. Vijayan and V. S. Vijayan; S. Balachandran, R. Bhargava, P. C. Bhattacharjee, S. Bhupathy, A. Chaudhury, P. Gole, S. A. Hussain, R. Kaul, U. Lachungpa, R. Naoroji, S. Pandey, A. Pittie, V. Prakash, A. Rahmani, P. Saikia, R. Sankaran, P. Singh, R. Sugathan and Zafar-ul Islam. The book was edited by A. V. Andreev, S. Chan, M. J. Crosby, S. Subramanya and J. A. Tobias. The Chief Editor is Dr. Nigel Collar.

References

We have quoted reference from 'Threatened Birds of Asia' but in a different style. We have also quoted a few more references, especially personal communications. All personal contributions have been itemized as *per. comm.*, and information quoted from correspondence itemized as "*in litt.*" (i.e. in letters) are stored in the BirdLife International library. We have tried to update some of the species account from the IBA database and added sites and references.

IBA programme and the Indian Bird Conservation Network

The BirdLife International and its UK partner - the Royal Society for the Protection of Birds (RSPB) and the partner designate in India - the Bombay Natural History Society (BNHS), are three premier organizations which have come together to establish the Indian Bird Conservation Network (IBCN) which includes NGOs and individuals who want to contribute towards bird conservation in India. One of the aims of the Network is to identify and protect Important Bird Areas (IBAs)

throughout the country. The Indian IBA Programme was launched by the BNHS in March 1999.

IBA procedure to evaluate conservation

The IBA procedure uses birds to select key sites for conservation. IBAs are sites of global biodiversity conservation importance that are chosen using internationally agreed, objective and scientifically defensible criteria (BirdLife International, undated). IBAs are selected either because they hold bird species that are threatened with extinction (A1 criterion), have highly restricted distributions (A2 criterion), or are characteristic of a particular biome (A3 criterion). Sites holding exceptionally large numbers of congregatory birds (A4 criteria) could also qualify.

Aims and objectives of the IBA Programme

The aim of the Indian IBA Programme is to identify, document and protect a network of sites which covers all the habitats and species, particularly those which are under the greatest threat.

The objectives of the IBA Programme include:

- To form a sound basis for the development of national conservation strategies, including protected areas programme;
- To highlight sites which are threatened or inadequately protected;
- To help build national and regional networks of ornithologists and conservationists through Indian Bird Conservation Network;
- To guide the work of national NGOs;
- To influence global conventions, e.g., Biodiversity, Ramsar convention;
- To influence regional migratory bird agreements.
- Publish inventory on Indian IBAs

Conservation and IBAs

The protected areas are not sufficient to conserve our biodiversity. Unfortunately, assessing biodiversity is difficult, expensive and extremely time-consuming (e.g. Lawton *et al.* 1998). By the time we obtain adequate information, it will be too late to make use of it. Many protected areas face serious conservation problems despite their status. Also very few of India's protected areas were chosen to conserve birds as such. The IBA approach is one of the ways to conserve bird species through protection of important sites.

Most of the Red Data Book species are distributed across the Indian sub-continent, with 17 migratory species and 57 resident species in India. Migratory species face severe threat from hunting and loss of habitat. To protect species that cross one or more borders, where conservation deficiencies in one country will affect the measures undertaken by other countries. The Indian IBA program with the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) will try to facilitate international agreements between countries for the protection and

management of migratory species that have an unfavorable conservation status and would benefit from international co-operation.

IBA Programme and National Biodiversity Strategy and Action Plan (NBSAP)

Since 2000, the National Biodiversity Strategy and Action Plan (NBSAP) is being prepared by Kalpavriksh, an NGO. The IBA objectives and all the identified prioritized sites have been included in the NBSAP.



Publications of Globally Threatened Species by BirdLife International from 1963 to 2001

BirdLife International was earlier called the International Council for Bird Preservation (ICBP)

In 1963, International Red Data Books were conceived by the late Sir Peter Scott as “a register of threatened wildlife that includes definitions of degrees of threat”.

1) 1980: the first bird **‘RED DATA BOOK’** published by the International Council for Bird Preservation (ICBP).

2) 1988: **‘BIRDS TO WATCH - 1’** (Red Data Book) The ICBP World Checklist of Threatened Birds published by the International Council for Bird Preservation (ICBP).

[It lists 1,029 species as threatened but only brief supporting information is provided.]

3) 1994: **‘BIRDS TO WATCH -2’**, The World List of Threatened Birds by N. J. Collar, M. J. Crosby and A. J. Stattersfield published by BirdLife International.

[The second global checklist of threatened birds, covers 1,111 species. Birds are the first taxonomic group to be evaluated comprehensively using new, more objective IUCN Red list criteria for assessing extinction risk.]

Threatened species in India: Critical = 4, Endangered = 9, Vulnerable = 58, Data Deficient = 1, Near Threatened = 99.

4) In 2000, **‘THREATENED BIRDS OF THE WORLD’** published by BirdLife International.

[The third global checklist of threatened birds, Threatened birds of the world covers 1,186 threatened species in detail with each species mapped and illustrated. Near Threatened birds are documented for the first time.]

Threatened species in India: Critical=7, Endangered=10, Vulnerable=57, Conservation Dependent=1, Near Threatened=52, Data Deficient =2.

5) 2001: **‘THREATENED BIRDS OF ASIA’** - The BirdLife International Red Data Book is published by BirdLife International.

Threatened species in India: Possibly Extinct: 2, Critical = 5, Endangered = 10, Vulnerable = 57, Conservation Dependent = 1, Near Threatened = 52, Data Deficient = 2

BirdLife International

BirdLife International is a Partnership of non-governmental conservation organisations with a special focus on birds which, together, are the leading authority on the status of birds, their habitats and the issues and problems affecting bird life. BirdLife International works in more than 100 countries and promotes sustainable living as a means of conserving birds, and all other forms of biodiversity.

BirdLife's principal objectives focus on four main areas of activity—research, advocacy and policy, field action and network building. These combine to create a coherent programme of actions identified on the basis of regional and international priorities, and detailed in BirdLife's strategy document, *BirdLife 2000*.

BirdLife has a unique reputation for its demonstrated ability to take action on its own research recommendations. However, recognising that it does not have the capacity or jurisdiction to act effectively on all its research, it is an essential element of BirdLife's role to disseminate its findings and recommendations to other organisations, agencies and governments, to influence their conservation actions. The publication of the Asia Red Data Book, the output of years of careful research into the threatened birds of the Asian region, is a crucial step in the dissemination of this research to decision-makers throughout Asia, in the hope and expectation that they will take those actions necessary to save some of the planet's most threatened biodiversity.

For more information, please contact: BirdLife International, Wellbrook Court, Girton Road, Cambridge CB3 0NA, UK. Tel: +44 (0) 1223 277318 Fax: +44 (0) 1223 277200 Email: birdlife@birdlife.org.uk Internet: www.birdlife.net

The Royal Society for the Protection of Birds

RSPB is Europe's largest wildlife conservation charity. It is a membership-based organisation with 1,042,000 members. It leads the way in the effective conservation of birds and makes a positive contribution to a better environment. RSPB's vision, as the UK Partner in BirdLife International, is to maintain the numbers, diversity and geographic distribution of the world's most important sites, species and habitats. RSPB had an annual expenditure budget of US\$ 73.4 million in 2000/2001 and employs 947 full time staff and 263 part-time/contract staff.

In the UK, RSPB achieves its objectives through the conservation of habitats and species, either by owning and managing land or by influencing land use practices and governmental policies in order to benefit wildlife and the wider countryside.

Internationally, RSPB contributes technical, training and financial support to bird conservation organisations across the world as part of the BirdLife International global partnership. Internationally, RSPB focuses on identifying and conserving key habitats and species, working with other BirdLife Partners to set conservation priorities. The RSPB works with BirdLife Partners to influence decision makers, including international agencies, governments, businesses and donors. Threats to the world's biodiversity, to wetlands, to migratory species, and issues such as climate change are tackled through our work on international conventions. Individually developed country programmes allow RSPB to provide targeted financial and technical assistance when available. RSPB works as the main supporting partner to BirdLife Partners in 8 European countries, 10 African countries and 3 Asian countries (including India). RSPB also supports the BirdLife network in the Middle East, Asia, and the Americas and we are active in the UK Overseas Territories. (www.rspb.org.uk)

**What you can do for long term conservation of birds,
their habitat and biodiversity**

- Be informed on wildlife and conservation issues in your area
- Do not buy wild birds as pets, they are expensive and very difficult to keep
- Do not buy products made from endangered or threatened wildlife
- Report to the Wildlife Department and send a copy to BNHS, if you see any one killing wildlife
- Find out what species in your area are endangered or threatened and write to the Important Bird Area (IBA) department of BNHS
- Join a conservation group in your area, contact BNHS/IBCN for addresses



ZAFAR-UL-ISLAM

Bird Census Training Workshop in Gorumara National Park for IBCN members

Description on the new IUCN Red List categories and criteria

In late 1994, new criteria for the identification and categorisation of threatened species were adopted by IUCN (IUCN SSC 1994). BirdLife International played an integral role in the development of these criteria over several years, and in the course of 1993–1994, used them to determine the species in *Birds to watch 2* (Collar *et al.* 1994). An outline of the criteria is given in the Introduction to *Birds to watch 2* along with a review of certain phenomena associated with them. In the process of their official ratification, however, the criteria were very slightly altered from the working set that BirdLife had been using. We present below a brief account of these criteria, but warn that anyone seriously planning to use them needs to refer to the official booklet (IUCN SSC 1994) or to the following web site: [http://iucn.org/themes/ssc/site indx.htm](http://iucn.org/themes/ssc/site%20indx.htm) The following categories and criteria are reproduced almost wholly *verbatim* from IUCN SSC (1994). Several definitions needed to interpret the criteria are appended.

Critically Endangered (CR): A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the following

criteria (A to E):

A – population reduction in the form of either:

(1) an observed, estimated, inferred or suspected reduction of at least 80% over the last 10 years or 3 generations, whichever is the longer, based on (and specifying) any of:

(a) direct observation; (b) an index of abundance appropriate for the taxon; (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat; (d) actual or potential levels of exploitation; (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites;

(2) a reduction of at least 80% projected or suspected to be met within the next 10 years or 3 generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above;

B – extent of occurrence estimated to be less than 100 sq. km or area of occupancy estimated to be less than 10 sq. km, and estimates indicating any two of:

(1) severely fragmented or known to exist at only a single location;

(2) continuing decline, observed, inferred or projected, in any of: (a) extent of occurrence; (b) area of

occupancy; (c) area, extent and/or quality of habitat; (d) number of locations or subpopulations; (e) number of mature individuals;

(3) extreme fluctuations in any of: (a) extent of occurrence; (b) area of occupancy; (c) number of locations or subpopulations; (d) number of mature individuals;

C – population estimated to number less than 250 mature individuals and either:

(1) an estimated continuing decline of at least 25% within 3 years or one generation, whichever is longer, or

(2) a continuing decline, observed, projected or inferred, in numbers of mature individuals and population structure in the form of either: (a) severely fragmented (i.e. no subpopulation estimated to contain more than 50 mature individuals); or (b) all individuals in a single subpopulation;

D – population estimated to number less than 50 mature individuals;

E – quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or 3 generations, whichever is the longer.

Endangered (EN): A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the following criteria (A to E):

A – population reduction in the form of either:

(1) an observed, estimated, inferred or suspected reduction of at least 50% over the last 10 years or 3 generations, whichever is the longer, based on (and specifying) any of: (a) direct observation; (b) an index of abundance appropriate for the taxon; (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat; (d) actual or potential levels of exploitation; (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites;

(2) a reduction of at least 50%, projected or suspected to be met within the next 10 years or 3 generations, whichever is the longer, based on (and specifying) any of (b), (c), (d), or (e) above;

B – extent of occurrence estimated to be less than 5,000 sq. km or area of occupancy estimated to be less than 500 sq. km, and estimates indicating any two of:

(1) severely fragmented or known to exist at no more than five locations;

(2) continuing decline, inferred, observed or

projected, in any of: (a) extent of occurrence; (b) area of occupancy; (c) area, extent and/or quality of habitat; (d) number of locations or subpopulations; (e) number of mature individuals; (3) extreme fluctuations in any of: (a) extent of occurrence; (b) area of occupancy; (c) number of locations or subpopulations; (d) number of mature individuals;

C – population estimated to number less than 2,500 mature individuals and either:

(1) an estimated continuing decline of at least 20% within 5 years or 2 generations, whichever is longer, or

(2) a continuing decline, observed, projected or inferred, in numbers of mature individuals and population structure in the form of either: (a) severely fragmented (i.e. no subpopulation estimated to contain more than 250 mature individuals); (b) all individuals in a single subpopulation;

D – population estimated to number less than 250 mature individuals;

E – quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or 5 generations, whichever is the longer.

Vulnerable (VU): A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future, as defined by any of the following criteria (A to E):

A – population reduction in the form of either:

(1) an observed, estimated, inferred or suspected reduction of at least 20% over the last 10 years or 3 generations, whichever is the longer, based on (and specifying) any of: (a) direct observation; (b) an index of abundance appropriate for the taxon; (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat; (d) actual or potential levels of exploitation; (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites;

(2) a reduction of at least 20%, projected or suspected to be met within the next 10 years or 3 generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above;

B – extent of occurrence estimated to be less than 20,000 sq. km or area of occupancy estimated to be less than 2,000 km², and estimates indicating any two of:

(1) severely fragmented or known to exist at no more than ten locations;

(2) continuing decline, inferred, observed or

projected, in any of: (a) extent of occurrence; (b) area of occupancy; (c) area, extent and/or quality of habitat; (d) number of locations or subpopulations; (e) number of mature individuals;

(3) extreme fluctuations in any of: (a) extent of occurrence; (b) area of occupancy; (c) number of locations or subpopulations; (d) number of mature individuals;

C – population estimated to number less than 10,000 mature individuals and either:

(1) an estimated continuing decline of at least 10% within 10 years or 3 generations, whichever is longer, or

(2) a continuing decline, observed, projected or inferred, in numbers of mature individuals and population structure in the form of either: (a) severely fragmented (i.e. no subpopulation estimated to contain more than 1,000 mature individuals); (b) all individuals in a single subpopulation;

D – population very small or restricted in the form of either of:

(1) population estimated to number less than 1,000 mature individuals;

(2) population characterised by acute restriction in its area of occupancy (typically less than 100 km²) or in the number of locations (typically less than 5);

E – quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

Lower Risk (LR): A taxon is Lower Risk when it has been evaluated but does not satisfy the criteria for any of the categories Critically Endangered, Endangered or Vulnerable. Taxa included in the Lower Risk category can be separated into three subcategories: 1. *Conservation Dependent (CD)*: taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years; 2. *Near Threatened (NT)*: taxa which do not qualify as Conservation Dependent, but which are close to qualifying as Vulnerable; 3. *Least Concern (LC)*: taxa which do not qualify as Conservation Dependent or Near Threatened.

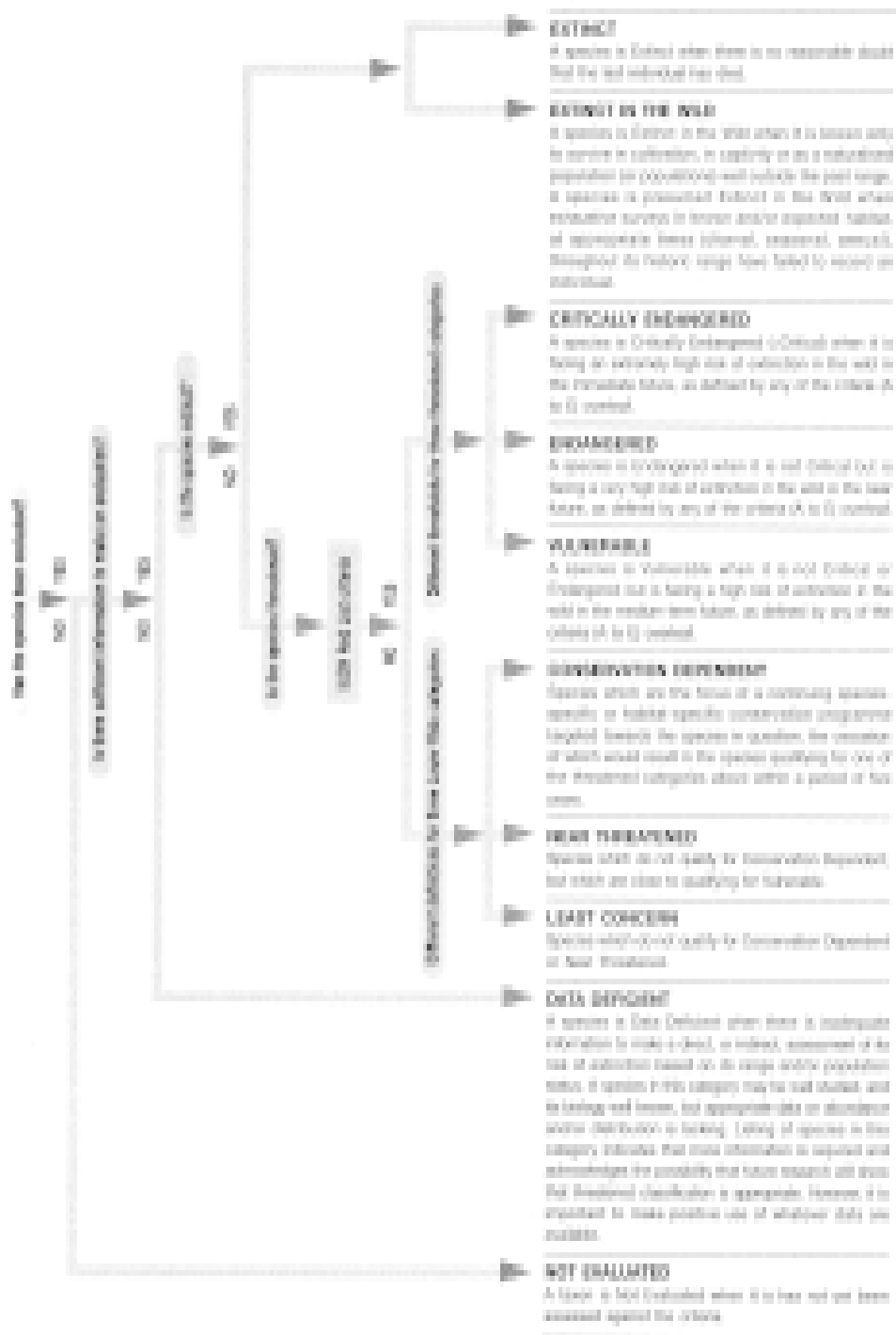
Data Deficient (DD): A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this

category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat or of Lower Risk. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and threatened status. If the range of a taxon is suspected to be relatively circumscribed, and if a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

Not Evaluated (NE): A taxon is Not Evaluated when it has not yet been assessed against the criteria.

Those applying the new IUCN criteria are expected to consider the situation as carefully as possible. Clearly there are very few cases in which the exact number of birds alive is known.

Dendrogram shows the decision-making process by which a species's status is categorised, and also shows the relationship between the 10 possible options of IUCN's Red List categories. For each category, there is a definition (next to the appropriate two-letter code) and for the three threatened categories (Critical, Endangered and Vulnerable) there are additional criteria (see table).



Type of criteria	Main criteria	Sub-criteria	Qualifiers	Codes	
A RAPID POPULATION REDUCTION	Reduction >80% in 10 years or 3 generations (CR) involving either 1 or 2:	1. Decline which has happened (observed, estimated, inferred or suspected) based on a-e opposite:	a. Direct observation b. Index of abundance c. Decline in Extent of Occurrence, Area of Occupancy, and/or quality of habitat d. Actual or potential levels of exploitation e. Effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites	A1a	
	Decline >50% in 10 years or 3 generations (EN) involving either 1 or 2:			A1b A1c A1d A1e	
	Decline >20% in 10 years or 3 generations (VU) involving either 1 or 2:	2. Decline likely in near future (projected or suspected) based on b-e opposite:	b. As b above c. As c above d. As d above e. As e above	A2b A2c A2d A2e	
	B SMALL RANGE AND FRAGMENTED, DECLINING OR FLUCTUATING	Extent of Occurrence estimated <100 km ² (CR) with any two of 1, 2 or 3:	1. Severe fragmentation or At 1 location (CR) At <6 locations (EN) At <11 locations (VU)	None	B1
		Extent of Occurrence estimated <5,000 km ² (EN) with any two of 1, 2 or 3:			
		Extent of Occurrence estimated <20,000 km ² (VU) with any two of 1, 2 or 3:	B2b B2c B2d B2e		
Area of Occupancy estimated <10 km ² (CR) with any two of 1, 2 or 3:		a. Extent of Occurrence b. Area of Occupancy c. Number of locations or subpopulations d. Number of mature individuals	B3a B3b B3c B3d		
Area of Occupancy estimated <500 km ² (EN) with any two of 1, 2 or 3:			Population <250 mature individuals (CR) and either 1 or 2 Population <2,500 mature individuals (EN) and either 1 or 2 Population <10,000 mature individuals (VU) and either 1 or 2	None	C1
Area of Occupancy estimated <2,000 km ² (VU) with any two of 1, 2 or 3:	2. Continuing decline in numbers of mature individuals and population structure (observed, projected or inferred) in form of either a or b opposite: a. Severe fragmentation: all subpopulations <50 (CR) Severe fragmentation: all subpopulations <250 (EN) Severe fragmentation: all subpopulations <1,000 (VU) b. All individuals in a single subpopulation	C2a C2b			
D1 VERY SMALL POPULATION	Population <50 mature individuals (CR)	None	None	D1	
	Population <250 mature individuals (EN) Population <1,000 mature individuals (VU)				
D2 VERY SMALL RANGE	Typically, Area of Occupancy <100 km ² or <5 locations (VU only)	None	None	D2	
E QUANTITATIVE ANALYSIS*	Probability of extinction in the wild is >50% in 10 years or 3 generations (CR). Probability of extinction in the wild is >20% in 20 years or 5 generations (EN) Probability of extinction in the wild is >10% in 100 years (VU)	None	None	E	

PINK-HEADED DUCK *Rhodonessa caryophyllacea* **Critical D1**

This duck is probably extinct, but until the last known areas of its former range are surveyed this cannot be confirmed. Any remaining population is likely to be tiny. It therefore qualifies as Critical.

Distribution: The Pink-headed Duck is a mysterious and, sadly, almost certainly extinct species. The majority of records are from India, with a much smaller number from Myanmar and a handful from Bhutan, Bangladesh and Nepal. Although stragglers have been recorded in the Punjab and southern India, most records are from India's north-eastern states and northern Myanmar¹.

Population: Accounts of the abundance of the Pink-headed Duck by people who knew it at first hand are variable. Blyth² noting it as present in "India generally", called it "not common in L. [Lower] Bengal", while Jerdon described it as "most common in parts of Bengal". Hume and Jerdon³ described the Pink-headed Duck as commonest in parts of "Bengal" but found at times throughout northern India, rarely in the north-western provinces, and still more rarely in the central

and southern parts. Now probably no bird survives in the wild.

Threats: This Pink-headed Duck was probably uncommon long before it was first discovered for science, and appears to have succumbed to a combination of habitat loss and hunting pressure¹.

Conservation measures: The species has been protected by Indian law against capture, killing or egg collection since 1956, and it is legally protected under the Wildlife Act (1994) in Myanmar. It is listed in Appendix I of CITES.

References: 1. BirdLife International 2001; 2. Blyth 1849–1852; 3. Jerdon 1862–1864.

**HIMALAYAN QUAIL** *Ophrysia superciliosa* **Critical D1**

The threat status of this enigmatic quail is extremely difficult to judge due to the paucity of information. If not extinct, its population is likely to be tiny, and inference therefore points to Critical status.

Distribution: The Himalayan Quail—a distinctive small gamebird occupying a monotypic genus—is known only from two areas in the lower Western Himalayan ranges in Uttaranchal. These lie between 1,650 and 2,100 m and are separated by a distance of c.180 km, although the range of the species is likely to have been much broader. Its current distribution is unknown. Between 1945 and 1950 there were apparently reliable reports of the species being shot in east Kumaon near Lohaghat village and from the Dailekh district of Nepal¹, and there is another putative sighting near Suwakholi in the Mussoorie hills where coveys of birds² were encountered on two occasions in September 1984. In Uttaranchal it was reported from Mussoorie in 1836, 5 km to the north-west, between Badraj and Banog, and at Jerepani, eastern slopes of Sherkadanda, and in 1876 in Naini Tal at 2,100 m, the last confirmed record.

Population: Only about a dozen specimens are known³, all collected between 1836 and 1876. It is appropriate to continue to assume that one or more very small populations still survive in some remote area in the lower or middle Himalayan range.

Threats: The Himalayan Quail is one of four threatened members of the suite of 11 bird species that are entirely restricted to the "Western Himalayas Endemic Bird Area". Threats and conservation measures are profiled⁴. Increased human population both around Mussoorie (c.20,000 people in 1987⁵) and Naini Tal (c.28,000 people in 1987⁵) appears to have severely degraded the habitat in these areas.

Conservation measures: The Himalayan Quail has been considered something of a mystery for many years. Despite

calls for action and the resultant surveys, the species remains as enigmatic as it was at the beginning of the twentieth century. Searches by WWF-India and independent observers in the Mussoorie and Naini Tal areas have also drawn a blank. Nevertheless, the World Pheasant Association (WPA), IBCN Partners in collaboration with Bombay Natural History Society, launched a recent rediscovery programme for this species. Neither of the

historical sites for this species receives any protection⁶.

References: 1. Ripley 1952; 2. Negi (1992); 3. Rieger and Walzthöny 1990; 4. Stattersfield *et al.* (1998); 5. Crowther *et al.* 1987; 6. McGowan *et al.* 1999

Himalayan Quail in IBAs

Uttaranchal: 1. Badraj, 2. Banog, 3. Jharipani Sanctuary
All these are probable sites for this bird.



WHITE-BACKED VULTURE *Gyps bengalensis* Critical A1c,e; A2c,e

This species has been upgraded to Critical because it has suffered an extremely rapid population decline, particularly across the Indian subcontinent, probably as a result of disease compounded by poisoning, pesticide use and changes in the processing of dead livestock.

CRITICALLY ENDANGERED

Distribution: The White-backed Vulture occurs from south-east Iran, south-east Afghanistan, east Pakistan, India, Nepal, Bhutan, Bangladesh and Myanmar. It was formerly widely distributed in South-East Asia, but it is now almost extinct in this region, although relict populations survive in a few remote areas. This species is widely distributed in India, from the Himalayas west to Srinagar (J&K), east to Arunachal Pradesh, Assam and the north-east hill states, south to the southern Western Ghats in Kerala and Tamil Nadu.

Population: The general abundance, until recently, of this species and other vultures in India compared to other countries in its range has been attributed to the human population's traditional avoidance of eating beef, so cattle carcasses are abandoned and scavenged by vultures and other species¹. However, in the late 1990s population declines and disease symptoms were noted throughout India, from Rajasthan in the west to Assam in the east, south to at least Maharashtra, Karnataka and Andhra Pradesh; in the southern states of Kerala and Tamil Nadu, decline from historically smaller populations may have occurred prior to the recent crashes, probably as a result of a combination of other threats.

Main threats: In the Indian subcontinent a number of threats have contributed to population declines. However, the recent catastrophic crashes in vulture populations are most plausibly (though not provenly) explained by an as yet unidentified infectious disease factor or agent.

Conservation measures: Given the very recent nature of the crisis in this species, conservation efforts have only recently begun. Following the results of research at Keoladeo National Park, the BNHS issued a "Vulture Alert" to the scientific community and to international conservation organisations in November 1998 to raise awareness of the population crashes^{2,3}. In February 2000, a second meeting was held, and evidence was presented that suggested that an infectious disease, probably viral, was responsible³. In June 2000, the Peregrine Fund initiated an emergency "Asian Vulture Conservation Program" to determine the factors behind the population crash and to implement appropriate actions, focusing on India, Nepal and Pakistan^{4,5}. In September 2000 BNHS convened a seminar with international participants to review the current situation and to develop action plans for population monitoring, captive breeding for facilitating disease investigation, and for identification of the virus responsible³.

References: 1. Rahmani 1998; 2. Rahmani and Prakash 2000a; 3. Rahmani and Prakash 2000b 4. M. A. Virani *in litt.* 2001; 5. BirdLife International 2001.

White-backed Vulture in some of the IBAs

Haryana: 1. Kalesar WLS, 2. Sultanpur WLS; **Uttar Pradesh:** Dudwa NP, **Uttaranchal:** 1. Rajaji NP, 2. Corbett NP; **Rajasthan:** 1. Keoladeo NP, 2. Ranthambore NP, 3. Sariska WLS; **Gujarat:** Gir NP; **Madhya Pradesh:** 1. Bandhavgarh NP, 2. Kanha NP, 3. Pench NP; **Maharashtra:** 1. Jaikwadi dam, 2. Tadoba Tiger

Reserve; **Karnataka:** Nagarhole NP; **Kerala:** 1. Periyar WLS, 2. Wynaad WLS; **Tamil Nadu:** 1. Mudumalai WLS, 2. Nilgiris; **Orissa:** Bhitarkanika WLS; **West Bengal:** 1. Buxa WLS, 2. Jalpaiguri; **Arunachal**

Pradesh: Mehao; **Assam:** 1. Dibru Saikhowa NP, 2. Kaziranga NP, 3. Chakrasila WLS, 4. Deepar Beel WLS, 5. Orang NP, 6. Hahkhati RF, 6. Kumsong RF, 7. Koabari Dolni, 8. Misamari beel, 9. Pobitora WLS.



Long-billed Vulture *Gyps indicus* Critical A1c,e; A2c,e Vulnerable C1

This newly recognised species is classified as Critical because it has suffered an extremely rapid population decline as a result of epidemic disease, compounded by poisoning, pesticide use and changes in the processing of dead livestock.

Distribution: The Long-billed Vulture breeds in south-east Pakistan (where it is rare) and peninsular India south of the Gangetic plain, north to Delhi, east through Madhya Pradesh, south to the Nilgiris, and occasionally further south¹⁻⁶; Considerable confusion over the taxonomy and identification of *Gyps* vultures has occurred, making it difficult to be sure of claims for this species. However, it appears to be allopatric or parapatric with Slender-billed Vulture *G. tenuirostris*⁷. The regions where the two species' ranges abut (or potentially do so) are: Haryana, Delhi, north-eastern Rajasthan, northern Madhya Pradesh, northern Orissa, southern Uttar Pradesh, and southern Bihar.

Population: This species was regarded as rarer than the White-backed Vulture in the Indian peninsula⁸. Surveys from 1970 to 1986 "at selected localities throughout the [Indian] region" found The Indian Vulture to be "much less common than reported earlier"; mistaken identification of immature White-rumped Vultures as this species (and presumably also Slender-billed Vulture) was implicated^{9,10}. Northern and central India surveys in April–June 2000 found local extinctions of all *Gyps* vultures including this species in protected areas at Corbett (Uttar Pradesh); Gir and Little Rann of Kutch (Gujarat), and Keoladeo National Park in Rajasthan^{11,12}, and symptoms of disease (head-drooping behaviour) were noted.

Main threats: The weight of evidence suggests that the catastrophic population declines suffered by this species are likely to have been caused by a disease factor, presumed to be a virus. An exception may be that the nesting sites on cliffs favoured by this species are less likely to be susceptible to disturbance or destruction than nest-sites in trees as used by White-backed and indeed Slender-billed Vultures.

Conservation measures: This species breeds in a number of protected areas across the region, but perhaps in fewer than the White-rumped Vulture owing to the more restricted distribution of cliffs and rocky habitat.

References: 1. Ali and Ripley 1978–1999; 2. Brown and Amadon 1968; 3. Roberts 1991–1992; 4. del Hoyo *et al.* 1994; 5. Alström 1997; 6. Grimmett *et al.* 1998; 7. P. C. Rasmussen and S. J. Parry *in litt.* 2000; 8. Satheesan 1988; 9. Grubh 1983; 10. Grubh 1986; 11. Rahmani and Prakash 2000a; 12. Rahmani and Prakash 2000b.

Long-billed Vulture in IBAs

Rajasthan: 1. Keoladeo NP, 2. Sariska WLS, 3. Sambhar lake; **Gujarat:** 1. Gir WLS, 2. Banni grassland; **Madhya Pradesh:** 1. Bandhavgarh NP, 2. Kanha NP; **Karnataka:** Nagarhole NP; **Kerala:** 1. Periyar WLS, 2. Wynaad WLS; **Tamil Nadu:** 1. Kodaikanal, 2. Mudumalai WLS, 3. Palni hills



Slender-Billed Vulture *Gyps tenuirostris* Critical A1c,e; A2c,e

This newly recognized species is classified as Critical because it has suffered an extremely rapid population decline, particularly across the Indian subcontinent, as a result of epidemic disease, compounded by poisoning, pesticide use and changes in the processing of dead livestock.

Distribution: The Slender-billed Vulture is found in India north of, and including, the Gangetic plain, west to at least Himachal Pradesh and Haryana, south to southern West

Bengal (and possibly northern Orissa), east through the plains of Assam, and through southern Nepal, north and central Bangladesh, and Myanmar (except the north). It

once occurred in South-East Asia, but it is now thought to be extinct in Thailand and Malaysia, and the only recent records are from Cambodia and southern Laos¹⁻⁸.

Population

As with White-rumped and Indian Vultures, the Slender-billed Vulture was once common. In South-East Asia populations declined through the latter half of the nineteenth century and the first half of the twentieth century, and are now probably very small and restricted in distribution. In India and Nepal, the species was common until very recently, with sharp population declines in the last few years⁹.

Main threat: In the Indian subcontinent the weight of evidence suggests that the catastrophic population

declines suffered by this species are likely to have been caused by a disease factor, presumed to be a virus.

Conservation measures: See the relevant account for White-backed Vulture and Indian Vulture.

References: 1. Ali and Ripley 1978–1999; 2. Brown and Amadon 1968; 3. King *et al.* 1975; 4. Sarker and Sarker 1985; 5. del Hoyo *et al.* 1994; 6. Alström 1997; 7. Grimmett *et al.* 1998; 8. Satheesan 2000; 9. Satheesan 1999.

Slender-billed Vulture in the IBAs

Uttar Pradesh: Dudwa NP; **Uttaranchal:** 1. Corbett NP, 2. Rajaji NP; **West Bengal:** 1. Buxa WLS, 2. Jaldapara WLS, 3. Jalpaiguri; **Assam:** 1. Dibru Saikhowa NP, 2. Kaziranga NP, 3. Nameri NP.



SIBERIAN CRANE *Grus leucogeranus* Critical A2c,d,e

This species qualifies as Critical because it is expected to undergo an extremely rapid decline in the near future, primarily as a result of the destruction and degradation of wetlands in its passage and wintering grounds. The wintering site, holding 95% of the population, is threatened by hydrological changes caused by the Three Gorges Dam.

Distribution The Siberian Crane has three separate populations, all of which nest in northern Russia. The relatively large eastern (“Yakutia/China”) population breeds in Yakutia and winters in eastern China, the tiny central (“Ob’/India”) population breeds in the Ob’ valley in Western Siberia and winters in north-west India, and the tiny western (“Tyumen’/Iran”) population also breeds in Western Siberia but winters in Iran¹.

The central population breeds in Western Siberia (for which details are given below), and is presumed to migrate across Russia, Kazakhstan, Uzbekistan, Turkmenistan, Afghanistan and Pakistan to spend the winter in India². In Afghanistan, Ab-i-Istada lake is an important stopover site on spring migration, and almost certainly in autumn in some years, as there is a record of three birds in December 1970. The Siberian Crane was formerly a widespread winter visitor to northern India, straggling east to Bihar and south to Madhya Pradesh, but it was always mainly faithful to particular wintering sites, of which the most famous were Keoladeo National Park (Bharatpur) in Rajasthan and Payagpur *jheel* in Uttar Pradesh³. Only Keoladeo remains as a known site for the species, and even there it now only occurs intermittently; 9–10 birds were recorded on the presumed

breeding ground of the central population in the mid-1990s².

Population The global population was recently estimated at 2,900–3,000 birds², including about 2,900–3,000 wintering in China (mainly at Poyang Hu lake), nine in Iran and two in India^{4,8}.

Main threats: The key threat is wetland loss and degradation at staging areas and wintering sites through agricultural development, the development of oilfields and increased human utilization.

Conservation measures: The satellite-tracking project has helped to initiate a network for the conservation of cranes in North-East Asia⁵. A GEF programme is being developed by the International Crane Foundation, in consultation with the Secretariat of the Convention on Migratory Species (CMS, Bonn Convention), for the conservation of the wetlands and migration corridors required by this species⁶. The Siberian Crane is listed on Appendix I of CITES, and on Appendix I of CMS. Postage stamps of Siberian Cranes in Pakistan and India, and mass media releases about the birds, have increased public awareness⁷.

CRITICALLY ENDANGERED

References: 1. UNEP/CMS 1999; 2. Meine and Archibald 1996; 3. Ali and Ripley 1978–1999; 3. Rose and Scott 1997; 5. Ichida 1994; 6. J. Harris (pers. comm.) 2000; 7. Archibald and Mirande 1999; 8. A. R. Rahmani,

(pers. comm.) 2001.

Siberian Crane in IBAs

Rajasthan: 1. Keoladeo NP, 2. Ajan Bandh (Part of Keoladeo NP)



JERDON'S COURSER *Rhinoptilus bitorquatus* Critical C2b

This recently discovered and poorly known species qualifies as Critical as a result of its single, small, declining population, which is thought to be threatened by exploitation of scrub-forest, livestock grazing, disturbance and quarrying.

Distribution: Jerdon's Courser is endemic to southern India, where it is principally known from southern Andhra Pradesh. It has an extremely limited geographical range, being known from the Godaverri river valley near Sironcha and Bhadrachalam, and from the Cuddapah and Anantapur areas in the valley of the Pennar river^{1,2}. Although it must have once ranged more widely at least between these regions, there have not been any records from the intervening area. Its range may spread "through many parts of Balaghat [south-central Madhya Pradesh] and Mysore [Karnataka]"³, but at present, over 120 years after this notion was floated, it remains known only from the vicinity of the Lankamalai, Velikonda and Palakonda ranges in the Pennar valley, Cuddapah district, Andhra Pradesh⁴.

Population: Very few individuals have been recorded so far, mainly owing to their nocturnal, shy and retiring habits. Between 1986 and 1995, there were eight sightings of the species in the Lankamalai area with a maximum of six birds seen on a single night⁴. However, it may occur in much higher densities than are currently known.

Main threats: It is difficult to identify specific threats, although it is well known that the habitat is becoming increasingly scarce and fragmented. Following the construction of the Somasilla Dam, 57 villages were displaced and relocated within the Lankamalai, Palgonda

and Seshachellam areas, which were previously inaccessible⁴. The dependence of the settlers on the area for resources may pose a serious threat to habitat through fuelwood collection and livestock grazing, and to the birds themselves through increased disturbance⁴. In addition, extensive quarrying of the hills in the area was found to be destroying the habitat⁴.

Conservation measures: The members of the Yanaadi community, who played a major role in the rediscovery of the species, were employed by the State Forest Department to locate it in other habitats and localities in the Eastern Ghats⁴; the results appear to be unknown. The Lankamalai (500 sq. km) and the Veliconda hill range (1,300 sq. km) areas have been declared as wildlife sanctuaries⁴. To the south of the Sri Lankamaleshwara Wildlife Sanctuary, 500 km² of the Palakonda forests have been gazetted as Sri Venkateswara National Park and Wildlife Sanctuary⁵. In early 2001, a joint BNHS–RSPB study of the species made preliminary investigations of techniques in the wildlife sanctuary.

References: 1. Ali and Ripley 1978–1999; 2. Ripley and Beehler 1989; 3. Jerdon 1862–1864; 4. Bhushan 1995; 5. Bhushan 1992.

Jerdon's Courser in the IBAs

Andhra Pradesh: 1. Sri Lankamaleshwara WLS, 2. Veliconda WLS.



FOREST OWLET *Heteroglaux blewitti* Critical C1; C2a, Endangered B1+2a,b,c,d,e; D1 Vulnerable D2

This recently rediscovered species has a tiny, severely fragmented population recently known from only four localities. It is inferred to be declining as a result of loss of its deciduous forest habitat. These factors qualify it as Critical.

Distribution: The Forest Owllet *Heteroglaux blewitti* is endemic to central India. Until its rediscovery in 1997

by Pamela Rasmussen and others, it was known to survive at a single site in central India, having been collected in

CRITICALLY ENDANGERED

the nineteenth century at four localities in two widely separated general areas in the west and east of the subcontinent¹. In 2000, a survey of 14 forest areas across its former range located 25 birds at four sites in northern Maharashtra and south-western Madhya Pradesh, including three pairs at Taloda Forest Range and seven pairs at Toranmal Forest Range².

Population: The past and present numerical status of the Forest Owlet is unknown. In November 1997, two birds were rediscovered following unsuccessful searches for the species at the other known localities^{3,4,5,6,7,8}. Following field surveys in March 1999 and January–February 2000, three pairs were sighted at Taloda forest range, seven pairs at Toranmal forest range (Shahada), two pairs at Khaknar forest range and a single bird at Melghat Sanctuary, yielding a grand total of 25 birds².

Main threats: In 1998, it was discovered that forest loss was very severe at the site of the rediscovery of the species; there is intense pressure from local people on the forest resources in the area⁹. An area of 50 sq. km was cleared in the vicinity of the November 1997 rediscovery within six months, to make way for people displaced by the Sardar Sarovar Dam^{10,11}. All sites for the species are located in reserve forest and most feeding

sites are in teak plantations; many trees are being cut in these plantations, and the cleared areas are being cultivated by tribal people, who have encroached upon large chunks of forest land¹². There is a scarcity of trees with suitable nest holes in the areas studied¹⁰. Livestock and fuelwood-gatherers appear to cause sufficient disturbance for the birds to leave the vicinity for the duration⁹. Tribals use various owl parts for magic and therefore hunt the owl¹³.

Conservation measures: The Forest Owlet is classed as a Schedule 1 species under India's Wildlife Protection Act (1972)¹⁰, and it is listed on Appendix I of CITES.

References: 1. Rasmussen and Collar 1998; 2. Ishtiaq and Rahmani 2000; 3. King and Rasmussen 1998; 4. Gallagher 1998; 5. Rasmussen 1998a; 6. Rasmussen 1998b; 7. Rasmussen 1998c; 8. Rasmussen 1998d; 9. Rasmussen and Ishtiaq 1999; 10. Ishtiaq 2000a; 11. Ishtiaq 2000b; 12. Ishtiaq 1999; 13. Jathar, G. 2002.

Forest Owlet in the IBAs

Maharashtra: 1. Taloda Reserve Forest; 2. Melghat Tiger Reserve, 3. Toranmal RF; **Chattishgarh:** 1. Barnawapara WLS; **Madhya Pradesh:** Khaknar Forest Range.



WHITE-BELLIED HERON *Ardea insignis* **Endangered A2c; C1 Vulnerable D1**

This heron qualifies as Endangered because it has a very small, declining population. This decline is projected to increase in the near future as a result of loss and degradation of lowland forest and wetlands.

Distribution: The White-bellied or Imperial Heron historically occupied a rather circumscribed range in Nepal, India (West Bengal, Assam, Arunachal Pradesh and Nagaland), Bangladesh and Myanmar^{1,2,3,4}, with two records from southern China. Several old localities for the species are no longer occupied in Assam and Myanmar, suggesting that the overall range has contracted substantially.

Population: A cursory enumeration of sightings made in the latter half of the twentieth century gives serious cause for concern: there are none from Nepal, one from Bangladesh, and only very few from Myanmar, India and Bhutan. As this is a relatively conspicuous bird, confined to a linear habitat, it would appear that overall numbers might be very small indeed. There was an

estimate of 20–200 individuals⁵ but there is today no justification for a population estimate of over 250 mature individuals⁶. However, given the remoteness of much of its range, the population is likely to be somewhat higher than the infrequency of reported sightings suggests, possibly in the region of 250–1,000 individuals. It was apparently very rare in the wetlands of the Brahmaputra valley during winter⁷. It is now most frequently recorded in Namdapha National Park, Arunachal Pradesh, although the one or two individuals regularly reported might have related to the same few birds in the same accessible locations. In conclusion, while India quite possibly hosts the largest single population of the species in the world, its size has not been accurately estimated, although it probably lies in the very low hundreds.

ENDANGERED

ZAFAR-UL-ISLAM

Rollapadu Wildlife Sanctuary in Andhra Pradesh gives shelter to the Great Indian Bustard

Main threats: Since ornithological records began in the Indian subcontinent, this heron appears to have been uncommon. Being large and solitary, its populations have presumably always been thinly distributed; these constitutive factors have perhaps underlain its decline. While it probably suffers the suite of threats that apply to most waterbirds, namely habitat loss, disturbance, hunting and pollution, direct evidence is only available for the first two.

Conservation measures: In India, it probably breeds in Namdapha National Park and has occurred in several other protected areas such as Kaziranga and Dibru-Saikhowa National Parks and Pobitara Wildlife Sanctuary during the non-breeding season. In Bhutan, all birds are legally and culturally protected, and a few individuals of

this species are resident within Jigme Dorji National Park. The species is totally protected in Myanmar by the Wildlife Act of 1994.

References: 1. Baker 1922–1930; 2. Ripley 1982; 3. Hancock and Kushlan 1984; 4. Grimmett *et al.* 1998; 5. Rose and Scott 1997; 6. Kushlan and Hafner 2000; 7. Saikia and Bhattacharjee 1990.

White-bellied Heron in the IBAs

Assam: 1. Kaziranga NP, 2. Nameri NP, 3. Dibru-Saikhowa Wildlife Sanctuary, 4. Jamjing-Senghjam RF, 5. Pobitara WLS, 6. Upper Dihing (East block)-Kakojan RF; **Bihar:** 1. Kursela, 2. Valmiki NP; **Arunachal Pradesh:** 1. Namdapha NP and Kamalang WS, 2. Namsang Mukh-Vodoria



Oriental Stork *Ciconia boyciana* Endangered A2c; C1, Vulnerable A1c

This large intra-Asian migrant has a very small, declining population as a result of deforestation, wetland reclamation and drainage for agriculture, overfishing and disturbance. These factors are projected to lead to an increased rate of decline in the near future, and thus qualify the species as Endangered.

ENDANGERED

Distribution: There have been irregular winter (or vagrant) records from India, Bangladesh and the Philippines, and unconfirmed reports from Myanmar and Thailand. The Oriental Stork breeding in the Amur and Ussuri river basins, near to the border between eastern Russia and north-east China, and there are smaller breeding populations along the Zeya river in Russia, around Khanka Lake/Xingkai Hu on the border between Russia and China, and on the Sanjiang plain in north-east China. It is a rare passage migrant and summer visitor (and presumably may breed) in eastern Mongolia.

It was reported to be a wintering species by Baker (1922–1930), but there have been very few records since the mid-twentieth century and it is probably at best now only a vagrant to India, with few recent acceptable records. One bird was reported from Sibsagar, Assam^{1,2}. In Logtak lake in Manipur, six to seven birds were reported³.

Population: Its numbers must have declined greatly as its range has decreased, and its global population was estimated at just c. 2,500 birds⁴ in 1992. Russian scientists

recently estimated its global population at c. 3,000 wild birds⁵, but the evidence presented below indicates that the number of summering Oriental Storks in eastern Russia is only c. 2,000 birds and there are c. 250 summering birds in China, so that the previous estimate of 2,500 individuals is probably more realistic.

Main threats: Habitat loss, hunting, disturbance, pollution, overfishing

Conservation measures: It is listed on Appendix I of CITES, and also on Appendix I of the Bonn Convention. It is also included in the Indian Wildlife Protection Act 1972 in Schedule IV as Stork (Ciconiidae).

References: 1. P. C. Bhattacharjee in 1994 (Verbally); 2. Choudhury 1990; 3. Hume 1888; 4. Wang Qishan and Coulter 1995; 5. Yu. Darman (verbally) 2000; 6. Kolosov 1983.

Oriental Stork in the IBAs

Assam: 1. Majuli Beel; **Sikkim:** Lachung Lema and Dombang Valley?



GREATER ADJUTANT *Leptoptilos dubius* Endangered A2c,d,e; C1, Vulnerable C2a; D1

This stork qualifies as Endangered as it has a very small, declining population. This decline is projected to increase in the future based on current levels of exploitation, the effects of pollutants and continuing reductions in the availability of nesting and quality of feeding sites.

Distribution: At the beginning of the twentieth century, the Greater Adjutant occurred, often in huge numbers, in much of South and South-East Asia from Pakistan through northern India, Nepal and Bangladesh to Myanmar, Thailand, Laos, Vietnam and Cambodia. A massive decline over the following hundred years has, however, left only two very small and highly disjunct breeding populations of the species, one in Assam^{1,2,3} and the other in Cambodia⁴. Outside these areas it has dwindled to a fraction of its former abundance, although it still occurs as a vagrant to Vietnam, Thailand and Myanmar. Its global range was thought to have more than halved⁵ since 1800. In India records come from the Brahmaputra and Gangetic plains, Gujarat, and central India, with no confirmed records from southern India^{6,7}; Tamil Nadu is mentioned as the southernmost limit of the historical range of the species^{8,9}, but the record in question is not accepted. It has now disappeared from much of this range, with the main breeding and non-breeding population restricted to Assam⁸, where, however, the species recently appeared to be expanding its breeding range¹⁰.

Population: Given recent information from Cambodia and Assam, this was revised upward to 500–600 individuals¹¹, then to under 700 individuals¹² and possibly to 750–800 individuals¹³; based on the evidence accumulated in this account, the actual figure perhaps approaches or slightly exceeds 1,000 individuals. The largest single flock seen anywhere in recent years was a group of 87 in March 1994 on the banks of the Brahmaputra near Gauhati¹⁴.

Main threats: Underlying the phenomenal decline of

this formerly abundant species are the excessive pressures of development: breeding sites and feeding habitats have been cleared, drained, polluted and disturbed^{8,15,16,17}. Hunting of adults and collection of eggs and chicks have also caused problems in certain parts of the species's range^{4,16}. Certainly, if these threats are allowed to continue unchecked in India and Cambodia, populations of the species will dwindle towards non-viable levels, with potentially disastrous effects.

Conservation measures: The species receives legal protection in India, Bangladesh, Myanmar, Thailand, Cambodia and Laos, although for the latter the listing is ambiguous. Legal protection in India lies in the listing of "storks" under Schedule IV of the Indian Wildlife (Protection) Act 1972, although this apparently gives it no legal protected status¹⁰.

References: 1. Rahmani 1989; 2. Saikia and Bhattacharjee 1990; 3. BirdLife International 2001; 4. Mundkur *et al.* 1995b; 5. Saikia 1995; 6. Ali and Ripley 1978–1999; 7. A. R. Rahmani *in litt.*; 8. Rahmani *et al.* 1990; 9. Hancock *et al.* 1992; 10. Singha *et al.* *in press*; 11. Mundkur *et al.* 1995a; 12. Rose and Scott 1997; 13. Goes *et al.* 1998; 14. Choudhury 2000; 15. Khan 1984; 16. Luthin 1987; 17. Hancock 1989.

Greater Adjutant Stork in some of the IBAs

West Bengal: 1. Buxa Tiger Reserve, 2. Jaldapara National Park; **Assam:** 1. Burachapori Sanctuary, 2. Laokhowa WLS, 3. Chakrasila Wildlife Sanctuary, 4. Majuli Beel, 5. Deeper Beel Wildlife Sanctuary, 6. Misamari Beel, 7. Kaziranga NP, 8. Panidihing Bird Sanctuary, 9. Kobo Chapori.

ENDANGERED

WHITE-HEADED DUCK *Oxyura leucocephala* Endangered A1a,c,d,e Vulnerable A2b,c,d,e; C1

Mid-winter counts indicate that the population of this species has undergone a very rapid decline of c. 60% in the last 10 years, which qualifies it as Endangered. Given increases in the Spanish subpopulation, it is projected that the overall rate of decline will be lower in the next 10 years.

Distribution: The White-headed Duck occupies a large Palearctic range that stretches from Spain and Algeria in

the west to Mongolia, western China and India in the east. However, this range is highly fragmented, and it

apparently became extinct as a breeder in Morocco, central Europe and Israel in the twentieth century¹. It breeds in western Mongolia, and there are reports that it breeds in western China. Moreover, it is a non-breeding visitor to Pakistan and (in very small numbers) to northern India. In India the species is a rare, very local and declining winter visitor to northern India, south to eastern Rajasthan and central Uttar Pradesh². In 1997, one bird was sighted in Amakhera Wetland in Aligarh district of Uttar Pradesh⁶.

Population: The global population of the White-headed Duck was probably over 100,000 in the early twentieth century, falling to an estimated 19,000 birds in 1991, since when numbers have probably declined to fewer than 10,000 individuals³.

Main threats: Approximately 50% of breeding habitat has been drained during the 20th century. Remaining sites

are vulnerable to pollution³. Further threats include drowning in fishing nets, hunting, and ingestion of lead shot⁴. Droughts in Kazakhstan may have caused recent poor breeding seasons⁴.

Conservation measures: CITES Appendix II. CMS Appendix I. In India it is protected under the Wildlife (Protection) Act 1972 in Schedule IV: Anatidae. In Europe, a conservation programme in Spain has resulted in a significant population increase⁴. A European action plan was published in 1996⁵.

References: 1. Green and Anstey 1992; 2. Grimmett *et al.* 1998; 3. Green and Hunter 1996; 4. BirdLife International 2001; 5. Green and Hughes 1996; 6. M. Zafar-ul Islam (pers. comm. 2002).

Note: No IBA site identified for this bird, but there is an unconfirmed record from Amakhera wetland in Aligarh district of UP.



WHITE-WINGED DUCK *Cairina scutulata* Endangered A1c,d; A2c,d; C1; C2a Vulnerable D1

This forest duck qualifies as Endangered because it has a very small, rapidly declining, severely fragmented population as a result of deforestation, wetland drainage and exploitation.

Distribution: The White-winged Duck was historically distributed widely from north-east India, through Bangladesh, Myanmar, Thailand, Laos, Vietnam, Cambodia and Malaysia, to the Indonesian islands of Sumatra and Java. It now survives in relatively few scattered sites, having disappeared from many portions of its previous range. The species was “formerly widespread” in north-eastern India¹, particularly in districts and states bordering the Brahmaputra river and its major tributaries^{2,3}. It has been recorded from Arunachal Pradesh, Assam (mainly in the east and patchily elsewhere), Meghalaya, Nagaland and Manipur (no recent records from the latter two states), with its distribution currently centred on the eastern lowlands of Assam and Arunachal Pradesh⁴. It has also been inconclusively reported from Madhya Pradesh, Bihar, West Bengal and Tripura.

Population: In 1992 the known wild population (absolute minimum) was only 210, although few surveys had then been conducted⁵. This figure rose to an

estimated 336 soon afterwards⁶. After further survey work in India, Indochina and Indonesia the most recent global population minimum is 450, comprising 130 in South-East Asia, 170 in India and Myanmar, and 150 on Sumatra⁷. The minimum global population may now be 400, with the “true” figure probably in the region of “a few thousand, undergoing a continuing decline”⁸. The Indian population is at 300–350, of which *c.* 200 would be in the Tinsukia-Dibrugarh area, but still declining⁴.

Main threats: Its decline is largely attributable to habitat loss, wetland drainage, hydropower development, protected area management problems, persecution and hunting, inbreeding, trade and captivity, disturbance, pollution and pesticides, and natural predation.

Conservation measures: It is in Schedule 1 of the Indian Wildlife (Protection) Act 1972. The species is listed under Appendix I of CITES and is legally protected from hunting and collection in seven countries: Bangladesh,

India, Myanmar, Thailand, Indonesia, Cambodia and Laos^{6,8}. However, there has been little effort to enforce this protection or to educate hunters about the law; indeed in countries such as Myanmar the protection applies to all ducks in a blanket and unenforceable law rather than as a specific measure for the White-winged Duck^{1,6}.

References: 1. Green 1992; 2. Choudhury 1996a; 3. Choudhury 1996b; 4. Choudhury 2000; 5. Parr *et al.* 1993; 6. Green 1993a; 7. Rose and Scott 1997; 8. Evans *et al.* 1997.

White-winged Duck in some of the IBAs

Assam: 1. Upper Dihing RF (East Block), 2. Dibru-Saikhowa WLS, 3. Doom Dooma-Dangori Reserve Forest, 4. Kobo Chapori, 5. Nameri National Park, 6. Sonai-Rupa Wildlife Sanctuary, 7. Jatinga, 8. Joydihing WLS, 9. Hahkhati RF + Kumsong RF, 10. Barail Range-North Cachar RF; **Arunachal Pradesh:** 1. Namdapha and Kamalung WLS, 2. D'Ering Wildlife Sanctuary and Bijari Range of Dibang WLS, 3. Pakhui Wildlife Sanctuary, 4. Seesa WLS + Eaglenest WLS.



GREAT INDIAN BUSTARD *Ardeotis nigriceps* Endangered C1; C2b, Vulnerable D1

This bustard qualifies as Endangered because of its very small, declining population, as a result of hunting and continuing agricultural development.

Distribution: Historically the Great Indian Bustard occupied a large range in the Indian subcontinent ranging from central Punjab in the far north to central Tamil Nadu in the far south, and from western Orissa in the east westwards into the eastern borderlands of Pakistan, although within this range the great majority of records stem from dry areas.

Population: The species was once thought “abundant” throughout its range¹. That a decline in numbers has occurred since that time is abundantly clear: flocks of 10–12 were still “evidently not uncommon” in the early twentieth century, but by the 1950s the species was almost always encountered in groups of 1–3 bustards². Although the modern range of the Great Indian Bustard has shrunk relatively little, the populations within that range have diminished drastically^{3,4}, but in some of the places, for example, at Nannaj in Maharashtra, bird can be seen in a large group, some times up to 25 individuals⁸. It was listed as globally threatened in 1966, when described as “very rare and apparently decreasing”⁵. However, the total population for the six states targeted for research in the 1980s, as assessed in 1983, came to 650–900 individuals⁶, and, as assessed in 1990, to 770–1,920 individuals⁴. During the last 10–12 years the bustard population has crashed in many areas, and now the total population could be as low as 500⁷. It is extinct in Karera and Sorsan bustard areas, and practically gone in Ghatigaon Bustard Sanctuary.

Threats: Great Indian Bustard habitats have been made suboptimal or entirely inhospitable by various common developmental factors operating alone or more usually in combination, namely: an increase in land under cultivation (disturbance, loss of wild land); an increase in land under intensive cultivation (disturbance, pesticide usage and its effects, exclusion by irrigation and by new choices of crops, fragmentation of remaining habitats); an increase in the numbers of livestock (disturbance, nest losses, degradation); an increase in the general accessibility of areas, expressed as roads and motorised vehicles (disturbance, elevated hunting pressure); an increase in pressure from fuelwood-gathering (disturbance, degradation)⁷.

Conservation measures: It is listed in CITES Appendix I. In India, it is legally protected and there are severe penalties for killing. The Great Indian Bustard has been the subject of various types of interventions, direct and indirect, for many years. However, the great majority of relevant information on its status, and indeed the greatest impetus for its conservation, was generated by fieldwork conducted by the Bombay Natural History Society.

References: 1. Jerdon 1839–1840; 2. Burton 1953; 3. Goriup 1983; 4. Rahmani and Manakadan 1990; 5. Vincent 1966–1971; 6. Rahmani and Manakadan 1985; 7. Rahmani 2001; 8. M. Zafar-ul Islam (pers. comm. 2002).

ENDANGERED

Great Indian Bustard in some of the IBAs

Rajasthan: Desert National Park + Khuri and Tejsi, 2. Diyatra, 3. Shonkhilya; **Gujarat:** 1. Lala Great Indian

Bustard WLS; **Maharashtra:** 1. Nannaj plots, 2. Ozar and adjoining grasslands; **Karnataka:** 1. Ranebennur Blackbuck Sanctuary; **Andhra Pradesh:** Rollapadu WLS.



BENGAL FLORICAN *Houbaropsis bengalensis*

Endangered C1 Vulnerable A1c,d; A2c,d; C2a; D1

This bustard has a very small, rapidly declining population largely as a result of widespread loss of its grassland habitat. It therefore qualifies as Endangered.

Distribution: The Bengal Florican occurs in India (from the Kumaon terai of Uttar Pradesh through Bihar and West Bengal to the foothills and plains of Arunachal Pradesh, Assam and Meghalaya), Nepal (in the terai) and historically in Bangladesh with an outlying (but now believed substantial) population (subspecies *blandini*¹) in Cambodia and southern Vietnam^{2,3}. While it is possible that the species has occurred in Bhutan, Myanmar and Thailand, there are no extant populations and no confirmed records in these countries. In India the species has been recorded in Uttar Pradesh, Assam, West Bengal, Bihar, Arunachal Pradesh and Meghalaya⁴. In Assam it is still “widely but patchily distributed throughout the Brahmaputra valley”, although it appears to have disappeared from Cachar^{5,6,7}.

Population: In the early 1980s the Bengal Florican was considered the rarest and possibly the most threatened of all bustard species⁸. Its current world population has been estimated at 350–400 individuals^{9,10,14}, having undergone a considerable decline in recent years^{11,12}. However, recent population estimates from Assam, and, in particular, new evidence from Cambodia suggest this estimate should be revised upwards. In Assam, intensive fieldwork has led to its total population of Bengal Floricans being revised upwards to 250–380 individuals⁷, a total that, combined with the best estimates for Uttar Pradesh (c. 60)^{9,14}, West Bengal (c. 10) and Arunachal Pradesh (c. 50), suggests that roughly 400–500 individuals persist in India.

Main threats: The key threat is extensive loss and modification of grasslands through drainage, conversion to agriculture, overgrazing, inappropriate cutting and burning regimes and heavy flooding⁷.

Conservation measures: The Bengal Florican appears on Appendix I of the Indian Wildlife Act (1974) and CITES Appendix I and II. Several populations occur within protected areas^{13,14}.

References: 1. Delacour 1929; 2. Ripley 1982; 3. del Hoyo *et al.* 1996; 4. Ali and Ripley 1978–1999; 5. Choudhury 1996a; 6. Choudhury 1996b; 7. Choudhury 2000; 8. Inskipp and Collar 1984; 9. Rahmani *et al.* 1991; 10. Narayan 1995; 11. Mukherjee 1981; 12. Eames 1997; 13. BirdLife International 2001; 14. Rahmani and Islam 1997.

Bengal Florican in some of the IBAs

West Bengal: 1. Gorumara National Park, 2. Jaldapara National Park; **Uttar Pradesh:** 1. Katernia-ghat Sanctuary, 2. Kishanpur Wildlife Sanctuary, 3. Dudwa National Park, 4. Lagga Bagga WLS; **Assam:** 1. Burachapori Wildlife Sanctuary + Laokhowa Wildlife Sanctuary, 2. Dibru-Saikhowa National Park + Kobo Chapori + Amarpur Chapori-Maguri-Motapung Beels, 3. Majuli Bheel, 4. Manas National Park, 5. Nameri National Park, 6. Orang National Park, 7. Sonai-Rupa Wildlife Sanctuary, 8. Kaziranga National Park; **Arunachal Pradesh:** 1. D’Ering Wildlife Sanctuary and Dibang Wildlife Sanctuary.



LESSER FLORICAN *Syphotides indica* **Endangered A2b,c; C1**

This species qualifies as Endangered because it has a very small, declining population, primarily a result of loss and degradation of its dry grassland habitat. The rate of decline is predicted to increase in the near future as pressure on the remaining grasslands intensifies.

Distribution: The Lesser Florican is virtually endemic to India, although there are persistent records from Nepal,

Pakistan and one unconfirmed historical report from Myanmar. The scatter of historical records shows a fairly

ENDANGERED

even distribution across all of modern-day lowland India, with the exception of the Brahmaputra valley in the north-east; thus the species appears once to have occurred from Gujarat and central Rajasthan east to West Bengal and Orissa and from Sahranpur in north-west Uttar Pradesh south to Trivandrum in southern Kerala^{1,2,3}. There is apparently one record from Punjab. The main breeding areas were apparently in the districts of Nashik, Ahmednagar and Sholapur of Maharashtra, eastern Haryana and the Kathiawar Peninsula (south-central and south Gujarat)⁴, but are now in southern Rajasthan, southern and eastern Gujarat, and western Madhya Pradesh^{5,6}. The species winters in dry, grassy areas throughout much of India, mainly east of the Western Ghats (although there is a record from the west side, at about 1,000 m), and south and east of the Godaver river^{2,3}. It is important to note that reliable evidence was assembled in the 1980s^{7,8,9} in the course of surveys .

Population: Its population declined by nearly 60% from an estimated 4,374 birds in 1982 to about 1,672 in 1989 (although initially only 750 were estimated in the latter year^{8,9,10}, mainly owing to a failure of monsoon rains^{11,12} between 1985 and 1987. However, a survey in 1994 showed a population of 2,206, an increase of 32% on the 1989 figure, attributed to the fairly good rainfall that western India had enjoyed in the ensuing five years^{6,12}. A further survey in 1999 (after another series of good rains) encountered 240 floricans (223 males and 17 females) resulting in a population estimate of 3,530 birds¹³, a population increase of a further 62%. However, caution is urged in interpreting these figures as it is now postulated that these increases may have reflected a greater concentration of floricans in known sites, and thus falling habitat availability rather than rising numbers of birds¹³. Population densities at a single site are known to change depending on the rainfall patterns^{5,6}.

Main threats: Habitat loss, hunting and failure of monsoon rains appear to have contributed to the large-scale, persistent decline of the species over the past 125 years¹⁴. More recently, declines have been caused by rapid reductions in the area of grassland owing to conversion for agriculture and overgrazing¹⁵. The rapid spread of the non-native *Prosopis juliflora* (*chinensis*) threatens habitat quality^{13,15}.

Conservation measures: The Lesser Florican has been the subject of conservation attention for almost 20 years¹⁴. The species is protected under Schedule I of the Wildlife (Protection) Act 1972, and its hunting or trapping is prohibited in India. Florican chowkidars (watchers) were appointed by paying a stipend between July and September in western Madhya Pradesh to prevent hunting of the species and to keep track of immigrating birds.

References: 1. Baker 1922–1930; 2. Ali *et al.* 1986; 3. Sankaran 1995b; 4. Goriup and Karpowicz 1985; 5. Sankaran 1991; 6. Sankaran 1994; 7. Sankaran and Rahmani 1986; 8. Sankaran and Rahmani 1990; 9. Sankaran *et al.* 1990; 10. Sankaran *et al.* 1992; 11. Sankaran 1993; 12. Sankaran 1995c; 13. Sankaran 2000; 14. BirdLife International 2001; 15. Rahmani and Islam 1997.

Lesser Florican in some of the IBAs

Rajasthan: 1. Gagwana, Arian, Mangaliyawas Ramsar, Goyal Ratak and Bandar, 2. Shonkhlia, 3. Bajrangadh; **Madhya Pradesh:** 1. Kanha National Park, 2. Sardarpur Wildlife Sanctuary, Sailana Kharmor WLS; **Gujarat:** 1. Lala Great Indian Bustard Wildlife Sanctuary, 4. Velavadar National Park; **Maharashtra:** 1. Nannj plots, 2. Ozar and adjoining grasslands, 3. Gangapur Dam and Grasslands

ENDANGERED

SPOTTED OR NORDMANN'S GREENSHANK *Tringa guttifer* Endangered C1 Vulnerable A2c,d; D1

This forest-nesting wader has a very small population which is declining as a result of the development of coastal wetlands throughout its range, principally for industry, infrastructure projects and aquaculture. It therefore qualifies as Endangered.

Distribution: The Spotted or Nordmann's Greenshank breeds on the coast of eastern Russia, and has occurred as a non-breeding visitor to many other Asian countries.

Its non-breeding range is not fully understood, but substantial numbers have been recorded in South Korea, China, Taiwan and Hong Kong on passage, and in

Bangladesh, Thailand, Cambodia, Vietnam and Peninsular Malaysia in winter. It has also been recorded on passage or in winter in Japan, North Korea, India, Sri Lanka, Myanmar (which may prove to be an important part of its wintering range), Singapore, the Philippines and Indonesia, with unconfirmed records from Nepal and the Pacific island of Guam¹. In India it is an extremely rare non-breeding visitor. It occurs in Assam (Kaziranga NP)^{2,3}, with an unconfirmed report from Rajasthan (Ranthambore NP)⁴.

Population: The Spotted Greenshank appears to have always been rare, possibly because of the limited availability of its specialised breeding habitat. Its population has been estimated at about 1,000 birds⁵. There has recently been an overall increase in the number of records, presumably because of improvements in identification skills and equipment and increased numbers of observers, but its numbers appear to have declined in some parts of its range (e.g. Japan and Peninsular Malaysia), perhaps indicating that it is being affected by habitat loss and other pressures.

Main threats: The main threats are the development of

coastal wetlands throughout Asia for industry, infrastructure, aquaculture. Pollution in coastal wetlands, hunting and human disturbance are further threats⁴.

Conservation measures: It is listed on Appendix I of CITES and CMS Appendix II. In India it is protected under the Indian Wildlife (Protection) Act 1972. This species is included in the Russian Red Data Book⁶, and is in the Appendix to the Soviet-Japanese Convention on the Conservation of Migratory Birds⁴.

References: 1. Williams 1987; 2. Bhattacharjee *et al.* 1996; 3. Barua and Sharma 1999; 4. BirdLife International 2001; 5. Rose and Scott 1997; 6. Kolosov 1983.

Nordmann's Greenshank in some of the IBAs

Assam: 1. Deepar Beel Wildlife Sanctuary, 2. Kaziranga National Park, 3. Misamari Beel-Kokliamukh-Laojan-Dalani-Kawimari Complex, 4. Dibru-Saikhowa National Park+ Kobo Chapori+Amarpur Chapori-Maguri-Motapung Beels, 5. Nameri National Park, 6. Majuli Bheel, 7. Pobitara WLS; **Tamil Nadu:** 1. Point Calimere Wildlife Sanctuary



NILGIRI OR RUFOUS-BREASTED LAUGHINGTHRUSH *Garrulax cachinnans* Endangered B1+2a,b,c,d,e

This laughingthrush has a very small, declining, severely fragmented range because of loss of its forest habitat, primarily through conversion to plantations, agriculture and settlements. It therefore qualifies as Endangered.

Distribution: The Rufous-breasted Laughingthrush is one of the 16 bird species endemic to the Western Ghats¹ but the only one truly endemic to the Nilgiris, where its range is “curiously restricted” to montane forests². The confirmed records are from Kerala Wynaad district, Silent Valley National Park³, Palghat district⁴; Munnar. From Tamil Nadu the confirmed records are from Naduvattam⁵, Longwood shola and Kil Kotagiri⁶, Udagamandalam^{7,8}, Mukurti National Park^{4,9}, Coonoor¹⁰, Upper Bhavani⁴. There are records also that include Bison Swamp⁴, Governor's Shola.

Population: In the nineteenth century¹¹, the Rufous-breasted Laughingthrush was “exceedingly numerous” on the plateau and upper slopes of the Nilgiris, being “one of the most characteristic birds” of these hills, occurring “wherever there are a few bushes or a little scrub”. Although it remains locally

abundant, the species occupies a highly restricted range where suitable habitat is diminishing rapidly, and thus its overall numbers might well now be low and declining. Its population centre is the Nilgiris; it is generally a rare and local bird in Kerala. In this latter state it is “uncommon” at Silent Valley National Park^{4,11,12}, rare in Wynaad^{3,13} and absent almost everywhere else. In Tamil Nadu, however, it is common in the high ground of the Nilgiris. During a study in these hills between 1994 and 1997 population density in undisturbed shola forests was calculated as 160–210 individuals per sq. km, while it was 90–130 per sq. km in disturbed shola forests⁴.

Main Threats: Large-scale conversion of habitats into plantations, reservoirs, crops and human habitations poses the major threat to this species^{4,12}. Plantations of

tea, *Eucalyptus*, and *Acacia* have been expanding, and represent the major threat to shola forests and grasslands in the higher-altitude regions of the Western Ghats^{4,14}.

Conservation measures: Silent Valley National Park in Kerala and Mukurti National Park in Tamil Nadu are the only two protected areas within the range of the species. There are some sholas partly protected as reserve forests in the upper Nilgiris included in the Nilgiri Biosphere Reserve, which however does not in practice provide any habitat protection⁴. There have been some moves to stop further conversion of forests and grasslands into plantations in Tamil Nadu¹⁵.

References: 1. Stattersfield *et al.* 1998; 2. Ali and Ripley 1978–1999; 3. Zacharias and Gaston 1993; 4. Vijayan and Gokula 1999; 5. Harrap 1986; 6. Gokula and Vijayan 1996; 7. Islam 1987; 8. Islam 1990; 9. Islam 1985; 10. P. Holt *in litt.* 1999; 11. Davison 1883; 12. Gaston and Zacharias 1996; 13. Zacharias and Gaston 1999; 14. Pramod *et al.* 1997; 15. BirdLife International 2001.

Nilgiri Laughingthrush in some of the IBAs

Tamil Nadu: 1. Grass Hills, 2. Siruvani Foothills, 3. Avalanche, 4. Bison Swamp, 5. Cairn Hill RF, 6. Coonoor, 7. Governor's Shola, 8. Kodanad, 9. Kothagiri, Longwood shola, 10. Naduvattam; **Kerala:** 1. Silent Valley National Park, 2. Wynaad Wildlife Sanctuary, 3. Amarambalam - Nilambur RF.



ENDANGERED

SPOT-BILLED PELICAN *Pelecanus philippensis* Vulnerable A1c,d,e; C1

This species underwent a rapid decline in the recent past. Its small population continues to decline, although at a reduced rate, as a result of widespread degradation and exploitation of wetlands and colonies. It therefore qualifies as Vulnerable.

Distribution: The Spot-billed Pelican has occurred in China, Pakistan, India, Nepal, Bangladesh, Sri Lanka, Myanmar, Vietnam, Laos, Thailand, Malaysia, Cambodia, Philippines, and Indonesia, with unconfirmed reports from the Maldives, Hong Kong and Taiwan, and Singapore. The only known present-day breeding populations occur in India, Sri Lanka and Cambodia, although breeding is also suspected in Sumatra. In India this species has occurred almost throughout India, being known from the states of Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal^{1,2,3,4}, although breeding takes place only in Andhra Pradesh, Assam, Karnataka and Tamil Nadu. There are unconfirmed reports from Arunachal Pradesh and the Nicobar islands.

Population: This pelican was once common over much of Asia, with hundreds of thousands (or even “millions”) breeding in Myanmar and records spanning from Pakistan to Vietnam. At the start of the twentieth century it was considered “very common over a very great area”⁵, while at its close the world population was estimated at fewer than 13,000 individuals^{6,7}, or 11,500 individuals⁸,

revealing a huge decline in a relatively short period. The Assamese population with a recent assessment places it at “less than 3,000 with a declining trend”⁹.

Main threats: The main threats to pelican populations in general are any combination of disturbance, persecution, degradation of wetlands through drainage or pollution, entanglement in fishing equipment and decline in food supplies¹⁰. The decline of this species is most strongly related to the disturbance or destruction of colonies.

Conservation measures: The species is granted legal protection in India and listed in the Schedule IV of the Indian Wildlife (Protection) Act 1972, Sri Lanka, China, Myanmar, Thailand, Cambodia and Laos.

References: 1. Ali and Ripley 1978–1999; 2. Scott and Rose 1989; 3. Perennou and Mundkur 1991; 4. Mundkur and Taylor 1993; 5. Baker 1922–1930; 6. Johnson et al. 1993; 7. Collar et al. 1994; 8. Rose and Scott 1997; 9. Choudhury 2000; 10. Crivelli and Schreiber 1984.

Spotbilled Pelican in some of the IBAs

Madhya Pradesh: 1. Dihaila Jheel, 2. National Chambal WLS; **Gujarat:** 1. Pariehj and Kaneval Reservoirs, 2.

VULNERABLE



Desert National Park in Rajasthan harbours three globally threatened species

Marine NP and Sanctuary, 3. Gir NP; **Orissa:** 1. Bhitarkanika WLS, 2. Chilka lake, 3. Ghohad Dam; **West Bengal:** Sundarbans Biosphere Reserve; **Delhi:** 1. Okhla Barrage; **Assam:** 1. Burachapori WLS and Laokhowa WLS, 2. Deepor Beel WLS, 3. Dibru - Saikhowa WLS, 4. Jamjing Reserve Forest, 5. Jengdia Beel, 6. Koabari Doloni, 7. Majuli, 8. Manas NP, 9. Misamari Beel, 10. Orang NP, 11. Panidihing WLS & Phokolai bheel, 12. Pobitara WLS, 13. Kaziranga

NP; **Karnataka:** 1. Kakkare Bellur, 2. Malavalli Tank; **Andhra Pradesh:** 1. Kolleru Lake, 2. Nellapattu WLS, 3. Pulicat Lake WS; **Tamil Nadu:** 1. Vedanthangal WLS, 2. Pulicat Lake, 3. Gulf of Mannar (Mandapam & group of islands), 4. Suchindram Therur, 5. Point Calimere WLS; **Kerala:** Kole Lake; **Rajasthan:** Keoladeo NP; **Manipur:** 1. Loktak Lake WLS and Keibul-Lamjao NP, **Uttaranchal:** Corbett TR.

LESSER ADJUTANT *Leptoptilos javanicus* Vulnerable C1

This stork qualifies as Vulnerable because it has a small, declining population as a result of habitat loss and degradation, hunting and disturbance.

Distribution: The Lesser Adjutant ranges from India (and formerly China) south through Myanmar and Thailand to Laos, Cambodia, Vietnam and Peninsular Malaysia to the Greater Sundas including Sumatra, Kalimantan, Java and Bali (Indonesia), Sabah and Sarawak (Malaysia) and Brunei¹.

There are unconfirmed records from Bhutan. In India the species was originally resident in central and north-eastern India in all well-watered and thinly populated areas². Colonies or individual nests have been found, at least historically, in Uttar Pradesh, Kerala, Tamil Nadu, Orissa, Bihar, West Bengal and Assam^{3,4}.

Population: Although broadly distributed from India to Indonesia, the Lesser Adjutant is becoming locally scarce, rare or extinct because of habitat loss, hunting and disturbance of colonies; it was once much more abundant than at present, although in India and Myanmar a century or less ago it was "not nearly so common" as the Greater Adjutant⁵. The global population is estimated at 5,000 birds and declining⁶, with that of South-East Asia⁷ (including Indonesia) believed to fall short of 3,500. These total may need a slight upward revision, however, as the population of the species in Assam is thought to exceed 2,000 individuals⁸.

Main threats: Several threats are contributing to its decline, with their relative importance varying across its range. The loss of nest-sites through the felling of colony nest trees is a major threat, particularly in Assam⁸. Important sites such as Harike Lake Wildlife Sanctuary, Punjab, have long been threatened by high poaching levels^{9,10}. Thiodan, Dieldrin and other non-biodegradable

pesticides are used in winter to kill fish in Dibru-Saikhowa National Park, Assam¹¹.

Conservation measures: The species is legally protected in India, Bangladesh, Myanmar (Wildlife Act 1984), Thailand, Malaysia and Indonesia.

References: 1. Saikia 1995; 2. Ali and Ripley 1978–1999; 3. Baker 1932–1935; 4. Whistler 1935; 5. Baker 1922–1930; 6. Rose and Scott 1997; 7. Hancock 1989; 8. Choudhury 2000; 9. Ali *et al.* 1981; 10. Singh 1992; 11. Choudhury 1995.

Lesser Adjutant Stork in some of the IBAs

Rajasthan: 1. Ranthambore Tiger Reserve, 2. Keoladeo NP; **Madhya Pradesh:** 1. Bandavgarh NP, 2. Kanha NP, 3. National Chambal Sanctuary; **Chattisgarh:** 1. Udanti and Sitanadi WLS; **Orissa:** 1. Bhitarkanika Wildlife Sanctuary, 2. Chilka Lake; **Jarkhand:** 1. Udhwa WLS; **West Bengal:** 1. Buxa Tiger Reserve, 2. Gorumara NP, 3. Jaldapara NP, 4. Sundarbans Biosphere Reserve, 5. Mahananda WLS; **Assam:** 1. Burachapori Sanctuary, 2. Chakrasila WLS, 3. Deeper Beel Wildlife Sanctuary, 4. Dibru-Saikhowa Wildlife Sanctuary, 5. Kaziranga NP, 6. Kobo Chapori, 7. Laokhowa Sanctuary, 8. Majuli, 9. Misamari Beel, 10. Panidihing Bird Sanctuary, 11. Sonai-Rupa Wildlife Sanctuary, 12. Buarchapori, 13. Pabho Reserve Forest, 14. Son Beel; **Arunchal Pradesh:** 1. Namdapha and Kamalang; 2. D'Ering Wildlife Sanctuary and Bijari Range of Dibang WLS; **Manipur:** 1. Loktak Lake; **Tamil Nadu:** 1. Mudumalai Wildlife Sanctuary; **Kerala:** 1. Parambikulam Wildlife Sanctuary; **Goa:** 1. Ilhas Wetlands; **Gujarat:** 1. Velavadar NP; **Bihar:** 1. Valmiki NP 2. Kursela

LESSER WHITE-FRONTED GOOSE *Anser erythropus*
Vulnerable A1a,c,d; A2b,c,d

This species has suffered a rapid population reduction of c. 20–40% decline in the last 10 years in its key breeding population in Russia, which qualifies it as Vulnerable. The decline is predicted to continue over the next 10 years.

Distribution: The Lesser White-fronted Goose breeds around the interface of the Taiga and Tundra zones of northern Eurasia, from Arctic Europe to north-eastern Siberia (Russia), and it winters primarily in south-eastern Europe, around the Black and Caspian seas, on the lower Euphrates in Iraq, and in the lowlands of eastern and southern China^{1,2,3}. In India there are unconfirmed sight records from Keoladeo National Park, Rajasthan.

Population: The total midwinter population is probably 25,000–30,000 individuals^{3,4}. This includes 8,000–13,000 individuals in autumn in its western Palearctic range⁴ and 14,000–16,000 wintering individuals from the East Asian flyway^{5,6}, which may constitute the majority of eastern breeding birds⁷.

Main threats: In Europe and Central Asia, high mortality rates in autumn and winter, particularly of juveniles, indicate that hunting on the staging and wintering grounds is the primary threat^{4,7}. Habitat deterioration, as a result of land cultivation and increased water levels in the Caspian Sea, is a further threat³. In the Asian part of its

range, hunting also appears to be the most significant threat—with eight hunters apparently responsible for killing almost a thousand birds (3–4% of the global total!) in late October 2000.

Conservation measures: It is listed on Appendix I of the Bonn Convention. Satellite telemetry studies have improved knowledge of its range, movements and key threats. There is an ongoing re-introduction programme in Sweden. Public awareness materials have been produced in eight languages. An international action plan was published in 1996.

References: 1. Cramp and Simmons 1977, 2. Madge and Burn 1988, 3. Madsen 1996; 4. Tolvanen 1998; 4. Lorentsen *et al.* 1998; 5. Miyabayashi and Mundkur 1999; 6. I. J. Øien *in litt.* 2000; 7. Aarvak *et al.* 1997.

Lesser White-fronted Goose in some of the IBAs
Orissa: 1. Chilka Lake; **Haryana:** 1. Sultanpur NP; **Maharashtra:** 1. Gangapur Dam; **Rajasthan:** 1. Keoladeo NP; **Assam:** 1. Kaziranga NP

VULNERABLE



NICOBAR SPARROWHAWK *Accipiter butleri*
Vulnerable C1

This species has been upgraded to Vulnerable because it is assumed to have a small, declining population as a result of forest loss.

Distribution: The Nicobar Sparrowhawk is endemic to the Nicobar Islands. Two subspecies are recognised, *A. b. butleri*, endemic to Car Nicobar¹, and *A. b. obsoletus*, known with certainty from Katchall in the Nancowry subgroup. As many islands in the archipelago are poorly studied, it is possible that it is more widely distributed.

Population: There have been no population estimates. *A. butleri* was found uncommon on Car Nicobar^{1,2,3}. While it would be dangerous to speculate a decline on this basis, there is an obvious concern that neither the

range nor the status of this species can be gauged with any confidence in the absence of clear identification criteria; on the other hand, a precautionary view of the situation suggests that the range may be limited and the species is declining.

Threats: The Nicobar Sparrowhawk is one of (now) three threatened bird species in the suite of six (with the addition of the Nicobar Scops-owl *Otus alius*: see relevant account under Data Deficient) that are entirely restricted to the “Nicobar Islands Endemic Bird Area”, threats and

conservation measures are profiled⁴. The primary threat to this species appears to be habitat loss. On Car Nicobar this has been estimated at 45%, significantly more than that in the Nancowry subgroup⁵.

Conservation measures: The species is listed in Schedule I of the Indian Wildlife (Protection) Act, 1972.

References: 1. Butler 1899–1900; 2. Abdulali 1967; 3. Sankaran 1998; 4. Stattersfield *et al.* 1998; 5. Sankaran 1997.

Nicobar Sparrow Hawk in the IBAs

1. Car Nicobar, 2. Tilangchong, Camorta, Katchal, Nancowry, Trinkat, 3. Great Nicobar and Little Nicobar.



BAIKAL TEAL *Anas formosa* Vulnerable A1c,d; A2c,d

This duck has a rapidly declining population as a result of hunting and destruction of its wintering wetland habitats for agriculture and economic development. These factors qualify it as Vulnerable.

Distribution: The Baikal Teal is only known to breed in eastern Russia, and it occurs on migration in the Russian Far East, Mongolia, Japan, North Korea, South Korea and northern China. Large wintering concentrations were recorded in the past in Japan, South Korea and mainland China, with smaller numbers (or vagrants) recorded in Hong Kong, Taiwan, Pakistan, India, Nepal, Bangladesh, Myanmar and Thailand. In India the species has historical records from Jammu and Kashmir, Haryana, Delhi, Rajasthan, Gujarat, Uttar Pradesh, Bihar, Assam, Manipur, except from West Bengal (Satragachi *jheel*) where two males were sighted recently¹ in January 1993 and from Arunachal Pradesh (from Pasighat)².

Population: The Baikal Teal used to be common in many parts of its range, and extremely abundant in some places, but its numbers declined rapidly in the second half of the twentieth century, apparently with a particularly sharp drop in the 1970s. It is now much less numerous than before in many parts of its breeding range in Russia, and in its non-breeding range in Japan, mainland China and South Asia. The total global population was estimated at 105,000 birds³, but that figure was revised upwards to

210,000 birds⁴. Despite this increase in the known population, the trend in recent decades has most certainly been sharply downwards.

Main threats: Hunting was probably the main reason for its decline and is still a serious threat, particularly as it concentrates in large flocks on arable land. In China and South Korea, birds are killed with poisoned grain. Habitat destruction is one of the factors that is considered to have caused a sharp decline in the numbers of Anatidae as a whole in several parts of mainland China⁵.

Conservation measures: It is listed on Appendix II of CITES⁶. It is included in the Indian Wildlife (Protection) Act 1972.

References: 1. Chatterjee *et al.* 1995; 2. Choudhury 2000; 3. Rose and Scott 1997; 4. Miyabayashi and Mundkur 1999; 5. Wang Qishan 1999; 6. BirdLife International 2001.

Baikal Teal in the IBAs

West Bengal: Ballavpur WLS; **Bihar:** 1. Danapur Tank, 2. Valmiki NP, **Gujarat:** Marine NP, **J&K:** Mirgund Jheel.



MARBLED TEAL *Marmaronetta angustirostris* Vulnerable A1c,d; A2c,d; C1

This species appears to have suffered a rapid decline, evidenced in its core wintering range, as a result of widespread and extensive habitat destruction. It therefore qualifies as Vulnerable. However, data are scarce and some birds may have relocated to alternative wintering sites. Apparent increases in the western Mediterranean population probably reflect improved observer coverage rather than genuine changes. This population has suffered a long-term decline and widespread loss of habitat.

Distribution: The Marbled Teal has a fragmented distribution around the Mediterranean, through the

Middle East and in west-central Asia. The species is generally rare and local, with small numbers breeding

and wintering in (chiefly southern) Pakistan, wintering in north-west India (with a few records from Assam and a report from Bangladesh), and one Chinese record of possible breeding in the far north-west near Kazakhstan.

The species is a rare winter visitor¹, with most records, as might be expected, from the north-west of the country. Although there are now several reports from Assam, “the occurrence of this duck so far east is nevertheless astonishing”².

Population: Prior to 1991, the estimated world population of the Marbled Teal was 34,000–40,000 birds³. Although count data are poor, a more recent estimate of 14,000–24,000 birds indicates a rapid population decline⁴. Numbers wintering in Iran fell from 25,000–30,000 (1985–1992) to 5,021 in 1993 and 3,677 in 1995⁵. The “west Mediterranean” wintering population (apparently excluding Tunisia) was estimated at around 3,000 birds⁶ in 1997, while a recent count of 4,250 on one lake in Tunisia in 1999 raises the known population of the region⁷. Repeated recent records from Assam have led to the conclusion that the species is still a “winter straggler” to north-eastern India⁸.

Main threats: Over 50% of suitable habitat may have been destroyed during the 20th century^{3,9,10}. Wetland drainage for agriculture, egg collection, mortality resulting from birds being caught in nets and lead poisoning.

Conservation measures: The Marbled Teal is listed on Appendix I of the Bonn Convention. It is listed in Schedule IV: Anatidae of the Indian Wildlife (Protection) Act 1972.

References: 1. Grimmett *et al.* 1998; 2. Savage and Mackenzie in Isakov 1970; 3. Green 1996; 4. Rose and Scott 1997; 5. Delany *et al.* 1999; 6. Green and El Hamzaoui 1998; 7. Bos *et al.* 2000; 8. Choudhury 2000; 9. Green 1993; 10. Green 2000.

Marbled Teal in the IBAs

Rajasthan: Keoladeo NP, **Gujarat:** Chhari Dhand; 2. Salt Pans (Bhavnagar); 3. Marine NP; **West Bengal:** Ballavpur WLS; **Jammu & Kashmir:** Mirgund Jheel & Reserve; **Uttar Pradesh:** Dudwa NP; **Assam:** Kaziranga NP.

BAER'S POCHARD *Aythya baeri* Vulnerable A1c,d; A2c,d; C1

This poorly known lake-dwelling intra-Asian migrant has a small, rapidly declining population which qualifies it as Vulnerable. It is thought that hunting and wetland destruction are the key threats.

Distribution: Baer's Pochard breeds in eastern Russia, north-east China, and possibly in Mongolia and North Korea, and it has occurred on passage or in winter (or as a vagrant) in Mongolia, Japan, North Korea, South Korea, mainland China, Hong Kong, Taiwan, Pakistan, India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Vietnam and the Philippines. The main wintering areas appear to be in eastern and southern China, north-east India, Bangladesh, Thailand and Myanmar.

In India it occurs regularly (but locally) in the north-east, but is uncommon and erratic elsewhere¹. The bird is recorded from Harike Lake Wildlife Sanctuary, Keoladeo National Park², Dudwa National Park³, Chilka lake⁴, Santragachi jheel, Dibru-Saikhowa National Park, Sibsagar tank, Kaziranga National Park, Deepor Beel, Bordoibam-Bilmukh Sanctuary, Laokhowa Wildlife Sanctuary and the adjacent Burachapori Wildlife Sanctuary, Panidihing Sanctuary⁵. All the given sites are recognized as Important Bird Areas.

Population: Various estimates of the global population of this species have recently been made, including more than 10,000 individuals⁶, fewer than 25,000 and possibly fewer than 10,000 individuals⁷, and 10,000–20,000 birds⁸. The total winter population in Assam is placed at c.1,000 individuals⁶. North-east India is clearly a very important site for this species.

Main threats: On the breeding grounds this species has been negatively affected by habitat degradation, probably caused by regular grass fires, and the drainage of marshlands⁹. In Dibru-Saikhowa Wildlife Sanctuary non-biodegradable pesticides are used in winter to kill fish, presumably with detrimental effects on wetland ecosystems^{10,11}.

Conservation measures: In India the species is not listed on Appendix I of the Wildlife Act (1972), but is included under the general (and presumably ineffectual) heading of “Ducks” in Schedule IV.

References: 1. Grimmett *et al.* 1998; 2. Kannan 1985; 3. Scott 1989; 4. Turin *et al.* 1987; 5. Choudhury 2000; 6. Callaghan and Green 1993; 7. Rose and Scott 1997; 8. Miyabayashi and Mundkur 1999; 9. V. A. Dugintsov *in litt.* 1997; 10. Choudhury 1995; 11. Choudhury 1997a.

Bear's Pochard in the IBAs

Rajasthan: Ajan Bandh; **Gujarat:** Gir NP, Khijadiya

Bird Sanctuary; 2. Marine NP; **Orissa:** 1. Bhitarkanika Wildlife Sanctuary, 2. Chilika Lake; **West Bengal:** 1. Sundarbans Biosphere Reserve, 2. Buxa Tiger Reserve; **Assam:** 1. Deepar Beel Wildlife Sanctuary, 2. Kaziranga NP, 3. Laokhowa Sanctuary, 4. Majuli, 5. Nameri NP; **Arunachal Pradesh:** 1. D'Ering Wildlife Sanctuary and Bijari Range of Dibang WLS.



PALLAS'S FISH-EAGLE *Haliaeetus leucoryphus* Vulnerable C1

This species is inferred to have a small, declining population as a result of widespread loss, degradation and disturbance of wetlands and breeding sites throughout its range. It therefore qualifies as Vulnerable.

Distribution: Pallas's Fish-eagle is widespread from Kazakhstan, Russia, Uzbekistan, Tajikistan, Mongolia and China, India, Pakistan, Bhutan, Bangladesh and Myanmar. It is a passage migrant and winter visitor to Nepal and non-breeding visitor to Afghanistan. The main breeding populations are believed to be in China. In India, the Pallas's Fish-eagle is a widespread breeding species on lakes and large rivers in the north and north-east of the country. There are unconfirmed records from the south in Karnataka, Tamil Nadu and Andhra Pradesh.

Population: The population is likely to be <10,000 mature individuals in the world and in India the species is now very rare and probably close to extinction, with an estimated population of under 100 and probably fewer than 50 individuals^{1,4}. These early reports indicate that the species was once remarkably abundant for such a large raptor throughout much of northern India. Since then, it has "become rare over most of its distribution"² and it begins the twenty-first century dramatically reduced in both range and numbers. In Assam no population estimate is available, but Grey-headed Fish-eagles *Ichthyophaga ichthyaetus* were commoner than Pallas's Fish-eagles, but numbered "less than 150 breeding pairs"³.

Main threats: The key threats are habitat loss, degradation and disturbance. Across the Indian

subcontinent, and probably most of its range, wetlands have been drained or converted for agriculture and human settlements. Pesticides, industrial effluents in the wetlands reduces its breeding success.

Conservation measures: Pallas's Fish-eagle is included on Appendix II of CITES. It is listed in Schedule 1 of the Indian Wildlife (Protection) Act 1972, and also legally protected in China, Nepal and Myanmar.

References: 1. A. Kovshar' *per* A. Bräunlich *in litt.* 2000; 2. Samant *et al.* 1995; 3. Choudhury 2000; 4. BirdLife International 2001.

Pallas's Fish Eagle in the IBAs

Rajasthan: 1. Keoladeo NP, 2. Ajan Bandh (Part of Keoladeo NP); **Gujarat:** 1. Nalsarovar WS, 2. Marine NP; **Orissa:** Chilka Lake; **West Bengal:** 1. Gorumara NP, 2. Jaldapara NP, 3. Sundarbans Biosphere Reserve, 4. Mahananda WLS, 5. Buxa Tiger Reserve; **Jammu & Kashmir:** Wular Lake; **Uttaranchal:** 1. Asan Barage, 2. Corbett Tiger Reserve; **Assam:** 1. Deepar Beel WLS, 2. Dibru-Saikhowa WLS, 3. Kobo Chapori, 4. Laokhowa WLS, 5. Majuli, 6. Misamari Beel, 7. Nameri NP, 8. Panidihing Bird Sanctuary, 9. Kaziranga NP; **Jarkhand:** 1. Udhwa Lake WLS; **Maharashtra:** Taloda RF, **Sikkim:** Barsey Rhododendron WLS.



GREATER SPOTTED EAGLE *Aquila clanga* Vulnerable C1

There is anecdotal evidence that this species's small population is declining, at a rate likely to exceed 10% in three generations, which qualifies it as Vulnerable. It has suffered from extensive habitat loss and persistent persecution.

Distribution: The range of the Greater Spotted Eagle is huge. It breeds from Finland to China and winters from Kenya to Japan. Throughout the twentieth century, numbers have dwindled and many subpopulations have become extinct, with the result that, although it remains extremely widespread, its range is now highly fragmented. In this account, attention is focused on the status of the species in the Asian portion of its range. The species's breeding status in the country remains somewhat unclear. There is only one reliable recent report of breeding, in Rajasthan¹, the general impression being that it is a "rare and very local breeder"² or that "a few pairs may breed"³.

Population: The global population of the Greater Spotted Eagle is probably less than 10,000 mature individuals, with Russia holding 2,800–3,000 pairs, and the European population probably no more than 900 pairs⁴. Numbers have declined in the western half of its range and in some parts of Asia, but long-term trends are difficult to assess owing to identification problems⁴. After a noticeable sharp decline in the populations of all large raptors in India^{5,6,7}, it is now generally "uncommon" in the north and "rare" in the peninsula². Having been "apparently more abundant" in Assam, the population is now "declining alarmingly"⁹. In Keoladeo National Park (Bharatpur), Rajasthan, it was common in 1983, when 20 were recorded⁹, again in 1985 when 30 were counted¹⁰, and it was still common there in the 1990s, with as many as 35 reported. It is likely, however, that the high density of individuals at this protected site is the result of a lack of alternative refuges¹¹.

Main Threats: Habitat loss and degradation, exploitation, human disturbance, pollution, and shortage of prey.

Conservation measures: CITES Appendix II, CMS Appendix I and II. In Europe, the Greater Spotted Eagle is legally protected.

References: 1. Prakash 1988; 2. Grimmett *et al.* 1998; 3. Khacher 1995; 4. Meyburg *et al.* 1997; 5. Akhtar 1976; 6. Samant *et al.* 1995; 7. A. Prasad *in litt.* 2000; 8. Choudhury 2000; 9. Bult 1983; 10. Naoroji 1990; 11. A. R. Rahmani *in litt.* 2000

Greater Spotted Eagle in some of the IBAs

Rajasthan: 1. Desert NP, 2. Keoladeo NP, 3. Sariska NP, 4. Ajan Bandh (Part of Keoladeo NP); **Madhya Pradesh:** 1. Dihalia Jheel, 2. Kanha NP, 3. Panna NP, 4. Pench NP, 5. National Chambal Sanctuary, 6. Bori and Satpura NP; **Chattisgarh:** 1. Udanti and Sitarnadi WLS, 2. Indravati NP; **Gujarat:** 1. Gir NP, 2. Kaneval Reservoirs, 3. Khijadiya Bird Sanctuary, 4. Marine NP and Sanctuary, 5. Thol Lake, 6. Velavadar NP, 7. Wild Ass Sanctuary, 8. Flamingo City; **Orissa:** 1. Bhitarkanika WLS, 2. Simlipal NP; **Jharkhand:** 1. Palamau NP; **West Bengal:** 1. Gopaldhara, 2. Gorumara NP, 3. Singhalila NP, 4. Sundarbans Biosphere Reserve, 5. Mahananda WLS, 6. Buxa TR; **Jammu & Kashmir:** 1. Kishtawar NP; **Uttar Pradesh:** 1. Hastinapur WLS, 2. Dudwa NP, 3. Sur Sarovar Bird Sanctuary, 4. Lakhbhosli Bird Sanctuary, 5. Patna Bird Sanctuary; **Uttaranchal:** 1. Asan Barrage, 2. Corbett Tiger Reserve; **Haryana:** 1. Sultanpur Jheel NP; **Maharashtra:** 1. Bhimashankar WLS, 2. Sanjay Gandhi NP, 3. Tadoba NP; **Assam:** 1. Burachapori Sanctuary, 2. Deepar Beel Wildlife Sanctuary, 3. Kaziranga NP, 4. Kobo Chapori, 5. Laokhowa Sanctuary, 6. Majuli, 7. Manas NP, 8. Misamari Beel, 9. Nameri NP, 10. Panidihing Bird Sanctuary, 11. Barchapori, 12. Son Beel, 14. Dibru-Saikhowa NP; **Mizoram:** 1. Dampa Tiger Reserve, 2. Nengpui WLS; **Manipur:** 1. Loktak Lake; **Karnataka:** 1. Rangananthitoo WLS; **Andhra Pradesh:** 1. Pulicat lake WS; **Tamil Nadu:** 1. Mudumalai Wildlife Sanctuary, 2. Vedanthangal Bird Sanctuary, 3. Pulicat Lake; **Kerala:** 1. Periyar Tiger Reserve; **Goa:** 1. Ilhas wetland, 2. Bhagwan Mahavir NP; **Arunachal Pradesh:** Pakoi WLS

IMPERIAL EAGLE *Aquila heliaca* Vulnerable C1

It is estimated that this species' small population has declined by more than 10% in three generations, primarily as a result of the loss of mature native forest and persecution in parts of Europe and probably in Asia. This qualifies it as Vulnerable.

Distribution: The Imperial Eagle breeds in eastern Russia, northern mainland China and presumably Mongolia, and formerly nested in very small numbers in Pakistan and northern India. It has been recorded as a passage and/or winter visitor (or vagrant) in Japan, North Korea, South Korea, mainland China, Hong Kong, Taiwan, Pakistan, India, Nepal, Bhutan, Bangladesh, Thailand, Laos, Vietnam, Peninsular Malaysia and Singapore. In India the only confirmed breeding record comes from Haryana, where a female was shot on her nest¹; in general the species is a winter visitor to the north, straggling southward in smaller numbers to Tamil Nadu. It is recorded from Jammu and Kashmir, Himachal Pradesh², Punjab, Haryana, Delhi, Rajasthan, Gujarat, Uttar Pradesh³, West Bengal and Assam⁴.

Population: The Imperial Eagle occurs at low densities in most parts of its range, and its total world population is probably only a few thousand pairs⁵. There has been a rapid decline in Europe, where the non-Russian population is estimated at 224–318 pairs, with populations in Hungary and Slovakia now increasing^{5,6}. In India there has been a considerable decline in numbers of large raptors throughout the country^{7,8,9} and the important Imperial Eagle population in north-west India appears to have declined in the late 1990s; for example, only small numbers (and, alarmingly, no juveniles) were seen in 1995 and 1996, at the “usual sites”¹⁰.

Main threats: Despite the huge range of this eagle, its population has declined significantly everywhere as a

consequence of changing land-use practices, pesticides, persecution and declining prey⁵. Its long-term survival will depend on the protection of sufficient natural habitat, especially in the breeding range, and control of hunting, particularly in the wintering range.

Conservation measures: The Imperial Eagle is listed on Appendix I of the Bonn Convention and Appendix I of CITES. It receives general protection in India. The Imperial Eagle is highly mobile and therefore its occurrence in many protected areas is intermittent or based on single records only.

References: 1. Ali and Ripley 1978–1999; 2. Singh *et al.* 1991; 3. Singh 2000; 4. Barua and Sharma 1999; 5. Heredia 1996; 6. Magyar *et al.* 1998; 7. Akhtar 1976; 8. Samant *et al.* 1995; 9. A. Prasad *in litt.* 2000; 10. BirdLife International 2001

Imperial Eagle in some of the IBAs

Rajasthan: 1. Keoladeo NP, 2. Ranthambore Tiger Reserve, 3. Sariska NP, 4. Ajan Bandh (Part of Keoladeo NP); **Madhya Pradesh:** 1. Dihaila Jheel, 2. Panna NP, 3. Pench NP, 4. National Chambal Sanctuary, 5. Bori WLS & Satpura NP, 6. Bandhavgarh NP; **Gujarat:** 1. Gir NP, 2. Lala Great Indian Bustard WS, 3. Velavadar NP, 4. Wild Ass Sanctuary, 5. Flamingo City; **West Bengal:** 1. Gorumara NP, 2. Mahananda WLS; **Jammu & Kashmir:** 1. Dachigam NP; **Uttaranchal:** 1. Corbet Tiger Reserve; **Punjab:** 1. Harike Bird Sanctuary; **Maharashtra:** 1. Nandur Madhmeshwar WLS; **Assam:** 1. Kaziranga NP.

VULNERABLE

LESSER KESTREL *Falco naumanni* Vulnerable A1b,c,e; A2b,c,e

This species has undergone rapid decline in western Europe, on its wintering grounds in South Africa, and possibly in parts of its Asian range. If these declines are representative of populations in all regions, the total population is likely to have declined by more than 20% in 10 years, which qualifies the species as Vulnerable.

Distribution: The Lesser Kestrel is an extremely widespread Old World falcon, breeding from Iberia and North Africa through Central Asia to eastern China, and

wintering chiefly in sub-Saharan Africa. The species largely vacates the region in winter, and is then rare at most (in Nepal, India and the Maldives). It occurs south

of the breeding range as a migrant, and as a vagrant as far east as Japan. It is listed as a winter visitor throughout Bangladesh¹. Although records are widely spread, this species is now a rare winter visitor and passage migrant, occasionally in large flocks². It is reported from Himachal Pradesh³, Haryana⁴, Rajasthan⁵, Uttar Pradesh⁶, Madhya Pradesh⁷, Maharashtra^{8,9}, Karnataka¹⁰, Kerala^{11,12}, Bihar¹³, Orissa¹⁴, Arunachal Pradesh¹⁵, Assam¹⁶.

Population: The European and North African population is estimated at 17,000–21,000 pairs, 8,000 pairs in Spain, with several thousand pairs breeding outside this range, principally in Central Asia¹⁷. Although the status of the species is poorly known in most of its Asian range, the available information suggests that substantial breeding populations may survive in Mongolia and northern China. These could prove to be globally important given the decline that has taken place in Europe and Central Asia.

Main threats: Intensification of agriculture and increased use of pesticides are two threats that have caused significant decline in raptor populations in India, perhaps including this species.

Conservation measures: The species is listed on Appendix II of CITES and on Appendices I and II of the Bonn Convention. In Asia, it occurs (at least intermittently) in several protected areas. In Europe, the Middle East and Africa, research into and management

of the species, its sites and habitats have been carried out in France, Spain, Portugal, Gibraltar, Italy, Greece, Bulgaria, Turkey, Israel, Jordan and South Africa. The provision of artificial nests has been successful in several countries.

References: 1. Rashid 1967; 2. Grimmett *et al.* 1998; 3. Gaston *et al.* 1981; 4. Kalsi 1998; 5. Turin *et al.* 1987; 6. Anon. 1985; 7. Anon. 1990a; 8. Anon. 1990b; 9. Anon. 1993; 10. Chakravarthy and Tejasvi 1992; 11. Zacharias and Gaston 1993; 12. Uthaman 1993; 13. Inskipp and Inskipp 1977; 14. Gauntlett 1986; 15. Singh 1994; 16. Rahmani *et al.* 1988; 17. Biber 1996.

Lesser Kestrel in some of the IBAs

Maharashtra: 1. Gangapur Dam and Grasslands, 2. Bhimashankar WLS, 3. Melghat TR, 4. Sinhadag; **Assam:** Deepar Beel Wildlife Sanctuary, 2. Nameri NP, 3. Kaziranga NP, 4. Manas NP, 5. Pobitara WLS; **Sikkim:** Chholhamo Plateau; **Haryana:** Sultanpur Jheel NP; **Madhya Pradesh:** Bandhavgarh NP, 2. Bori WLS and Satpura NP, 3. National Chambal WLS, 4. Pench NP, 5. Panna NP; **Jharkhand:** 1. Palamau NP, 2. Udhwa WLS; **Gujarat:** 1. Marine NP, 2. Nalsarovar WL, 3. Wild Ass WLS, **Chattisgarh:** 1. Indravati NP, 2. Gomarda WLS, **Orissa:** Bhitarkannika WLS; **Rajasthan:** Keoladeo NP, **Tamil Nadu:** 1. Berijam 2. Grass hills; **West Bengal:** 1. Jaldapara NP, 2. Lava Neora Valley NP, 3. Mahananda WLS; **Bihar:** 1. Danapur Tank, 2. Valmiki NP, 3. Kursela.

VULNERABLE

NICOBAR MEGAPODE *Megapodius nicobariensis* Vulnerable C1

This species qualifies as Vulnerable because it has a small, declining population as a result of the destruction of coastal forest.

Distribution: The Nicobar Megapode or Nicobar Scrubfowl is endemic to the Nicobar Islands, occurring over 1,600 km from its nearest congener¹. There is some question whether it might occur or have occurred in the Andaman Islands and/or adjacent islands belonging to Myanmar. Two subspecies are recognised^{2,3,4} with *M. n. nicobariensis* north of the Sombrero channel and *M. n. abbotti* to the south. The species occurs on most of the Nicobar Islands⁵.

Population: The total population was earlier thought to be in the order of 4,500–8,000 adults⁵. In 1988, the Great Nicobar group population was estimated to be below 400

birds⁶. The nominate race *nicobariensis* is represented by 625–1,090 breeding pairs. Populations in the interior of islands were not estimated, but densities are believed to be much lower than in coastal forests⁵.

Main threats: The Nicobar Megapode is one of (now) three threatened bird species in the suite of six (with the addition of Nicobar Scops-owl *Otus alius*) that are entirely restricted to the “Nicobar Islands Endemic Bird Area”, threats and conservation measures are profiled⁷. The main threats have been itemised as hunting of birds for meat and egg collection, predation and habitat loss^{5,6,8}.

Conservation measures: The species is listed in Schedule I of the Wildlife Protection Act, 1972. Three Nicobar Islands, all uninhabited, are protected for wildlife: Batti Malv, Tillanchong and Megapode Island. Great Nicobar has two national parks (Campbell Bay and Galathea) and is also a biosphere reserve.

References: 1. Olson 1980; 2. Abdulali 1965; 3. Abdulali

1967; 4. Ali and Ripley 1978–1999 5. Sankaran 1995a; 6. BirdLife International 2001; 7. Stattersfield *et al.* 1998; 8. Collar *et al.* 1994.

Nicobar Megapode in the IBAs

Batti Malv, Tillanchong and Megapode Island, Great Nicobar (Campbell Bay and Galathea).



SWAMP FRANCOLIN *Francolinus gularis* Vulnerable A1c,d; A2c,d

This species is classified as Vulnerable because it has undergone a rapid population decline which is projected to continue, concurrent with the rapid decline in extent and quality of its specialised habitat. Trapping is an additional pressure.

Distribution: The Swamp Francolin is endemic to the Indian subcontinent, where it is distributed from northern Uttar Pradesh and southern Nepal, east through northern Bihar and West Bengal to the Brahmaputra valley in north-eastern India. Among the four members of the genus *Francolinus* in India, this species has the most restricted range, being confined to the tall, wet grasslands of the terai in Uttar Pradesh and Bihar, West Bengal, Assam, Meghalaya and Arunachal Pradesh^{1,2}.

Population: The global population was recently estimated at 1,000–10,000 individuals³. However, the species remains locally common in many areas and is undoubtedly more abundant than these figures suggest, with the population in Assam alone now thought to approach or possibly exceed 10,000 individuals⁴.

Threats: The Swamp Francolin has declined as a result of extensive habitat loss compounded by hunting and trapping, and these factors continue to threaten the species.

Conservation measures: The Swamp Francolin occurs

in Dudwa, Kishanpur, Katerniaghat, North Pilibhit Reserve Forest, Manas NP, Kaziranga NP, and many northern sanctuaries throughout its ranges^{5,6}. The Swamp Francolin is protected under the Wildlife Act 1972 (Schedule IV). It is listed from 15 protected areas.

References: 1. Ali and Ripley 1978–1999; 2. Grimmett *et al.* 1998; 3. McGowan *et al.* 1995; 4. Choudhury 2000; 5. Javed *et al.* 1999b; 6. Rahmani and Islam 1997.

Swamp Francolin in some of the IBAs

West Bengal: 1. Sundarbans Biosphere Reserve, 2. Mahananda WLS, 3. Gorumara NP; **Uttar Pradesh:** 1. Hastinapur WS, 2. Dudwa NP, 3. Kishanpur WLS, 4. Suhelwa WLS, 5. Sohagibarwa WLS, 6. Katerniaghat, 7. Lagga Bagga WLS; **Assam:** 1. Burachapori Sanctuary, 2. Kaziranga NP, 3. Kobo Chapori, 4. Laokhowa Sanctuary, 5. Majuli beel, 6. Manas NP, 7. Misamari Beel, 8. Nameri NP, 9. Orang NP, 10. Panidihing Bird Sanctuary, 11. Sonai-Rupa WLS; 12. Son Beel; **Arunachal Pradesh:** 1. D'Ering WLS and Bijari Range of Dibang WLS; **Bihar:** Valmiki NP.



MANIPUR BUSH-QUAIL *Perdicula manipurensis* Vulnerable A1c,d; A2c,d; C1; C2a

This poorly known species's specialised habitat is undergoing a continuing rapid decline and severe fragmentation, pressures that are assumed to be causing a decline. In addition, there have been no confirmed records of the bird since 1932, indicating it may have a small population. These factors, combined with ongoing hunting pressures across its range, qualify it as Vulnerable.

Distribution: The Manipur Bush-quail is distributed in the duars from West Bengal to Assam north of the

Brahmaputra river, and the hills south of the Brahmaputra from Assam (in Cachar) to Manipur¹.

VULNERABLE

Population: Estimation of the Manipur Bush-quail's population is hampered by lack of data. There are no recent records and just one unconfirmed report, from Dibru-Saikhowa WLS in March 1998.

Main threats: Although little is known about the status of the Manipur Bush-quail, it is undoubtedly threatened by the considerable decline in the extent and quality of grassland habitat throughout its small range, compounded by high levels of hunting². It is one of three threatened bird species that are entirely restricted to the "Assam

Plains Endemic Bird Area"³.

Conservation measures: Apart from a tentative report from Dibru-Saikhowa National Park, the species is not listed for any protected area⁴. No conservation measures are known.

References: 1. Ripley 1982; 2. R. Kaul (verbally) 1999; 3. Stattersfield *et al.* 1998; 4. McGowan *et al.* 1999

Manipur Bush Quail in the IBA

Manipur: Sirohi NP.



RED-BREASTED HILL PARTRIDGE OR CHESTNUT-BREASTED PARTRIDGE *Arborophila mandellii* Vulnerable C1; C2a

It is inferred from limited available data that this partridge has a small population which is declining and becoming increasingly fragmented. It is therefore classified as Vulnerable. Results of more extensive surveys will require a reassessment, and possible downgrading, of its threat status.

VULNERABLE

Distribution: The Chestnut-breasted Partridge was historically distributed from Sikkim and West Bengal, eastward through Bhutan to Arunachal Pradesh, and into Tibet. It still appears to be evenly distributed across its range wherever suitable habitat remains¹.

Population: Vague estimates of the population range between 1,000 and 100,000 for its entire range². As considerable areas of unsurveyed forest remain in this area, further research will perhaps show it to be more numerous and widespread than current records imply. In particular, while some difficulty remains in distinguishing the region's *Arborophila* species by their vocalisations³, increased knowledge of the calls of *mandellii* have clarified that it is quite common in the forests of eastern Arunachal Pradesh^{4,5,6}.

Main threats: The Chestnut-breasted Partridge is one of nine threatened members of the suite of 19 bird species that are entirely restricted to the "Eastern Himalayas Endemic Bird Area", threats and conservation measures are profiled⁷. Forest cutting, shifting agriculture and hunting for food are presumably among the deleterious pressures on populations of this species².

Conservation measures: The Chestnut-breasted Partridge has recently been confirmed in three protected areas: Singhalila National Park in West Bengal and Mehao and Dibang Valley Wildlife Sanctuaries in Arunachal Pradesh are considered important to the long-term conservation of galliformes in East Asia⁸. Export of timber from forests in Arunachal Pradesh has been banned, a measure that is expected to provide some relief from commercial extraction.

References: 1. R. Kaul *in litt.* 1998; 2. McGowan *et al.* 1995; 3. R. Kaul (verbally) 1999; 4. Grimmett *et al.* 1998; 5. Singh 1999; 6. BirdLife International 2001; 7. Stattersfield *et al.* 1998; 8. McGowan *et al.* 1999;

Chestnut-breasted Partridge in some of the IBAs

West Bengal: 1. Singhalila NP, 2. Buxa TR; **Arunachal Pradesh:** 1. Mouling NP and Adjoining Areas, 2. Dibang WLS, 3. Zamithang - Lumla Sageshwar Lake Area, 4. Eaglenest and Seesa WLS, 5. Mandla Phudung Area, 6. Ditchu RF, 7. Sirkum Pahar, 8. Pakhui WLS; **Sikkim:** 1. Maenam WLS, 2. Lachung Lema and Dombang Velley; **Mizoram:** 1. Blue Mountain (Phawngpui NP); **Assam:** Nameri NP.



WESTERN TRAGOPAN *Tragopan melanocephalus* Vulnerable C1; C2a

This species is classified as Vulnerable because its sparsely distributed, small population is declining and becoming increasingly fragmented in the face of continuing forest loss and degradation throughout its restricted range.

Distribution: The Western Tragopan was originally found in the Western Himalayas from the Swat catchment and Hazara in northern Pakistan through Kashmir and Himachal Pradesh to Garhwal and possibly Kumaon in Uttaranchal^{1,2}.

Population: Early authors agreed that this species was scarce and local even at the start of the nineteenth century, and it is now undoubtedly the rarest of the Himalayan pheasants. Estimated total population stood in the range of 1,600–4,800 birds².

Threats: The Western Tragopan is one of four threatened members of the suite of 11 bird species that are entirely restricted to the “Western Himalayas Endemic Bird Area”, where the main threat appears to be the loss of forest habitat in the Western Himalayas through commercial exploitation and human population expansion³. The loss and degradation of the species’s lower-elevation winter habitat, as well as hunting, may be of particular significance⁴.

Conservation measures: The species is listed in

Appendix I of CITES and receives full legal protection in both Pakistan and India. Thus hunting of the species, as well as possession of skins, parts or plumage and trade in live birds is fully prohibited in Pakistan and India⁵. Recent attempts have been made to control poaching problem in protected areas and reduce hunting overall: a five-year ban on hunting was imposed by the Himachal Pradesh government and rewards were offered to villagers who helped bring offenders to justice⁶. It is also listed under the Indian Wildlife (Protection) Act 1972.

References: 1. Sharma 1993; 2. Gaston *et al.* 1983; 3. Javed *et al.* 1999a; 4. R. F. A. Grimmett *in litt.* 2001; 5. Islam (undated); 6. Pandey 1993.

Western Tragopan in some of the IBAs

Himachal Pradesh: 1. Daranghati Sanctuary, 2. Gamgul Siahbehi Sanctuary, 3. Great Himalayan NP, Kais WLS, 4. Kanawar WLS, 5. Tirthan WLS, 6. Rupi Baba WLS; **Jammu & Kashmir:** 1. Limbar Valley WS, 2. Lolab Valley; **Uttaranchal:** 1. Govind WLS, Kulni & Balcha Forest.

**BLYTH’S TRAGOPAN *Tragopan blythii* Vulnerable C1; C2a**

This species qualifies as Vulnerable because its total population is believed to be small and declining, and is scattered in small subpopulations within a severely fragmented range. Widespread high levels of hunting and continuing habitat destruction will inevitably exacerbate this situation.

Distribution: Blyth’s Tragopan historically ranged from the mountains of north-east India and Bhutan to extreme south-eastern Tibet and north-west Myanmar¹. All records are from the north-eastern states of Arunachal Pradesh, Assam, Nagaland, Mizoram and Manipur^{1,2,3}.

Population: The population is likely to be very small and declining because of habitat loss⁴. Call counts detected 14 pairs in the 50 sq. km Blue Mountain National Park in Mizoram⁵.

Threats: Blyth’s Tragopan is one of nine threatened members of the suite of 19 bird species that are entirely

restricted to the “Eastern Himalayas Endemic Bird Area”; threats and conservation measures are profiled⁶.

Conservation measures: The species receives legal protection in Bhutan, Myanmar (as pheasants in general), China (a first class nationally protected species) and India (Schedule 1). It is listed in CITES Appendix I and international trade in the species is thus essentially outlawed.

References: 1. McGowan and Garson 1995; 2. Zeliang 1980; 3. Kaul *et al.* 1995; 4. Zhang Zhengwang *in litt.* 1997; 5. Choudhury 1996c; 6. Stattersfield *et al.* 1998

Blyth's Tragopan in some of the IBAs

Assam: 1. Barail Range- Laisong - Laike Areas North Cachar RF; **Arunachal Pradesh:** 1. Talley Valley WLS, 2. Mehao WLS, 3. Dibhang WLS, 4. Ditchu RF, 5.

Mandla Phudung Area, 6. Namdapha and Kamlang WLS, 7. Eaglenest WLS and Seesa WLS; **Mizoram:** 1. Blue Mountain (Phawngpui NP); **Manipur:** 1. Siroy NP, 2. Yangoupokri-Lakchao WLS, 3. Dzuko NP; **Sikkim:** Maenam WLS.



SCLATER'S MONAL *Lophophorus sclateri* Vulnerable C1; C2a

This striking pheasant is poorly known across all of its remote, inaccessible and relatively restricted range. It is classified as Vulnerable because it probably has a small population which is naturally fragmented and subject to a significant decline.

Distribution: Sclater's Monal occupies a restricted range in the area where India, Myanmar, Tibet and Yunnan meet^{1,2}. In India a newly discovered but as yet unnamed subspecies probably occupies a restricted range from eastern Tawang (Tawang) district to western Upper Subansiri district^{3,4,5}.

Population: While a dearth of accurate data precludes assessment of the global population of this species, rough estimate is 10,000 individuals⁶. It should be assumed that the population far exceeds the low numbers implied by the records and reports listed above simply because the bulk of its range is extremely remote and therefore rarely visited.

Threats: The Sclater's Monal is one of nine threatened members of the suite of 19 bird species that are entirely restricted to the "Eastern Himalayas Endemic Bird Area", threats and conservation measures are profiled⁷. Habitat degradation and over-exploitation of the species for food are presumably the major threats; these factors are certainly widespread in its range^{6,8}.

Conservation measures: The species is listed in Schedule 1 of the Indian Wildlife (Protection) Act 1972, also legally protected in China and Myanmar. It is listed on CITES Appendix I and international trade is thus illegal.

References: 1. Ali and Ripley 1978–1999; 2. Smythies 1986; 3. Kumar and Singh 1998; 4. Kumar and Singh 1999; 5. Kumar and Singh 2000; 6. McGowan and Garson 1995; 7. Stattersfield *et al.* 1998; 8. del Hoyo *et al.* 1994.

Sclater's Monal in some of the IBAs

Arunachal Pradesh: 1. Dibang WLS; 2. Thungri Changla Poshingla, Maji, Basti Lilak Area; 3. Chayang-Tajo-Khenew Lada Area (USF); 4. Koloriang - Sarli - Damin - Valley Areas, 5. Nacho - Limeking - Taksiang, Majha and neighbouring, 6. Tato - Machuka - Moni Gong- Gasheng, 7. Ditchu Reserve Forest, 8. Para - Chaglagaum Neighbouring Areas, 9. Sirkum Pahar and neighbouring areas, 10. Mago-Thingbu and Lubuthang Area



CHEER PHEASANT *Catreus wallichi* Vulnerable C1; C2a

This pheasant's small population is naturally fragmented because it lives in small patches of successional grassland. Human population pressure, hunting and changing patterns of land-use are resulting in its decline, qualifying it as Vulnerable

Distribution: The Cheer Pheasant is distributed through the southern foothills of the Himalayas from Pakistan to Nepal, occurring in northern Pakistan, three states of India (Jammu and Kashmir, Himachal Pradesh and Uttar Pradesh). In India, it has declined, with most known populations now confined to Himachal Pradesh.

Population: Since the earliest records available, the species has been considered generally scarce and local¹. Given its patchy distribution and specialized habitat requirements, it is thought to number less than 10,000 individuals². Many populations are now thought to contain fewer than 10 individuals³ in isolated pockets of suitable habitat².

Threats: The Cheer Pheasant is one of four threatened members of the suite of 11 bird species that are entirely restricted to the “Western Himalayas Endemic Bird Area”, threats and conservation measures are profiled⁴. Alongside its susceptibility to hunting and habitat loss, one of the main complications to the conservation of the species appears to be its distribution in small isolated populations. Since grassy and scrubby formations in the western Himalayas are patchy and vulnerable to stochastic extinction, the same applies to Cheer Pheasant populations. The extreme fragmentation of the species’s range leaves it vulnerable to local extinction and presents a hindrance to gene-flow between subpopulations³. Furthermore, laws designed to protect the species are rarely implemented.

Conservation measures: The species is legally protected in Nepal and it is listed in Schedule 1 of the Indian

Wildlife (Protection) Act 1972. Many status surveys have now been conducted in Himachal and Uttar Pradesh, along with research into population ecology and habitat preferences.

References: 1. Hume and Marshall 1879–1881; 2. McGowan and Garson 1995; 3. Kalsi 1999; 4. Stattersfield *et al.* 1998;

Cheer Pheasant in some of the IBAs

Himachal Pradesh: 1. Chail WLS, Beat and Blossom Beat, 2. Daranghati WLS, 3. Gamgul Siahbehi WLS, 4. Great Himalayan NP, 5. Kugti WLS, 6. Kais WLS, 7. Kanawar WLS, 8. Trithan WLS; **Jammu & Kashmir:** 1. Limbar Valley WLS; **Uttaranchal:** 1. Govind WLS, Kulni & Balcha Forest, 2. Kedarnath WLS, 3. Khati Reserve and Wacchum (Nanda Devi Biosphere Reserve);



MRS. HUME’S PHEASANT *Syrmaticus humiae* Vulnerable C1; C2a

This species appears to have been reduced to a small population, which has become increasingly fragmented. Although its status remains virtually unknown across a substantial proportion of its historic range in Myanmar, habitat loss and hunting continue to operate as major threats throughout. It therefore qualifies as Vulnerable.

Distribution: There are two subspecies of Hume’s Pheasant, one of which, *S. h. humiae*, is found in north-east India in eastern parts of Nagaland, Manipur and Mizoram through western Myanmar south to the Irrawaddy (= Ayeyarwady) river, while the other, *S. h. burmanicus*, occurs in southern China, northern and eastern Myanmar and extreme northern Thailand^{1,2}. Although the species was suspected to occur in the Chittagong Hill Tracts of Bangladesh³, this is perhaps unlikely given the relatively low altitude of these highlands and there is no definite record for the country.

Population: Three decades ago it was believed that Mrs. Hume’s Pheasant was “tolerably abundant” and that “the size of the population need cause no apprehension”⁴. With the help of slightly more detailed information, the global population is now estimated at a few thousand individuals, and the subspecies *humiae* may be as few as 1,000 in number⁵. However, the species’s range is centred on some of the most remote and inaccessible highlands of Asia, and any estimate of its true population in Yunnan, Myanmar and the Naga hills is guesswork at best.

Threats: It might be assumed that, as this pheasant appears not to be strictly reliant on intact forest, it perhaps suffers less severely from the ravages of deforestation than many other birds. In any case, the species’s preference for a patchwork of habitats suggests that undue degradation of habitat will be deleterious⁵. However, a more direct threat may be posed by hunting, especially as the range of the species overlaps with various hill tribes whose hunting lifestyles are notorious.

Conservation measures: Mrs. Hume’s Pheasant is listed as a nationally protected species in China (category I) and legally protected in India (Schedule I), Thailand and Myanmar (in the latter as pheasants in general: Wildlife Act 1994). It also appears on Appendix I of CITES.

References: 1. Oates 1898; 2. Finn 1898; 3. Sarker 1986; 4. Vincent 1966–1971; 5. McGowan and Garson 1995.

Mrs. Hume’s Pheasant in some of the IBAs

Arunachal Pradesh: 1. Namdapha and Kamalangi WS, 2. D’Ering WLS and Bijaria range of Dibhang WLS; **Mizoram:** 1. Murlen NP, 2. Phawngpui WLS; **Manipur:** 1. Siroy Hills, 2. Dzuko WLS

GREEN PEA FOWL *Pavo muticus* Vulnerable A1c,d; A2c,d; C1; C2a

This majestic species has a small, rapidly declining and severely fragmented population, primarily owing to high hunting levels, although more locally it has suffered a reduction in the extent and quality of its habitat. Rapid decline and further fragmentation are projected to continue. These factors qualify it as Vulnerable.

Distribution: Historically the Green Peafowl was distributed widely from north-east India to southern China, Myanmar, Thailand, Laos, Vietnam and Cambodia, with further populations in Peninsular Malaysia and Indonesia (Java). It persists in all these countries except Malaysia and Bangladesh, but has certainly declined rapidly and now only occurs in fragmented, greatly reduced populations. In India the Green Peafowl is restricted to the far north-eastern states where its range is small and declining. The few records are from extreme north of the Manipur valley and along the Myanmar border and in Churachandpur district, c. 1990¹.

Population: The current world population of Green Peafowl in the wild is estimated at 5,000 to 10,000 individuals and declining².

Threats: Current threats to the Green Peafowl are considerable, as it now occupies a highly fragmented

range throughout which it is heavily persecuted. Hunting for meat, exploitation for trade and retributive persecution by farmers are not mutually exclusive; indeed, persecution by farmers often follows after habitat conversion to farmland. The species's preference for alluvial valleys and daily access to water overlaps with the requirements of human populations, a circumstance that is severely detrimental to the bird³.

Conservation measures: The species is listed on CITES Appendix II and receives full legal protection in India, China, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia.

References: 1. Choudhury 1992; 2. McGowan and Garson 1995; 3. Evans and Timmins 1995

Green Peafowl in some of the IBAs

Manipur: 1. Ango Hills, 2. Dzuko NP, 3. Yangoupokri-Lakchao WLS.

VULNERABLE

■ ■ ■
SARUS CRANE *Grus antigone* Vulnerable A1c,d,e; A2c,d,e

This crane has suffered a rapid population decline, which is projected to continue, as a result of widespread reductions in the extent and quality of its wetland habitats, exploitation and the effects of pollutants. It therefore qualifies as Vulnerable.

Distribution: The Sarus Crane now occupies a highly disjunct distribution: the nominate race *antigone* inhabits Pakistan, northern and central India, Nepal and historically Bangladesh and Arakan in Myanmar; the race *sharpii* was previously widely distributed across South-East Asia but has almost disappeared from north-east India, mainland China, Myanmar, Thailand, Malaysia and Laos, and surviving populations are virtually confined to Cambodia and Vietnam; the third subspecies *G. a. gilliae* inhabits northern Australia. The Sarus has suffered a considerable contraction of its range in South and South-East Asia^{1,2,3,4}. Although its range contracted markedly during the course of the twentieth century, particularly at the eastern and southern fringes⁴, it remains widely

distributed in northern India, occurring in parts of Jammu and Kashmir, Himachal Pradesh, Maharashtra, Bihar, West Bengal, Assam, Meghalaya and Manipur, but principally in Rajasthan, Haryana, Uttar Pradesh, Gujarat and Madhya Pradesh.

Population: Given the ongoing decline in the Indian population, it is quite possible (indeed probable) that the number of mature adults has fallen below 10,000 birds worldwide⁵. On the basis of early reports it seems likely that 150 years ago the Indian population of this species was in the order of hundreds of thousands of birds (see Distribution). A survey in the 1980s, however, suggested that only 10,000–12,000 survived⁶. Further declines took

place during the 1990s leading to a sense of unease about the status of the species in India^{7,8}.

Main threats: In Asia, as with many other large waterbirds, the species is primarily threatened by a combination of habitat loss and modification (owing primarily to agricultural expansion), pollution and persecution, and it has been extirpated from large proportions of its historical range and hugely reduced in numbers in the areas which it still occupies. During the 1999 Sarus Crane census throughout India, the major threat listed by participants was the spread of agriculture to the shores of wetlands⁵. Habitat availability is also reduced by mud removal activities, vegetation clearing, vegetation overgrowth and reclamation⁵.

Conservation measures: The species is listed on Appendix II of CITES. It receives full legal protection in all range countries (although appearing only on Schedule IV of the Indian Wildlife Act 1972). Of the 10 Asian countries where it is found, eight are signatories to the Ramsar Convention (the exceptions are Laos and Myanmar).

References: 1. Roberts 1991–1992; 2. Meine and Archibald 1996; 3. Wells 1999; 4. Sundar *et al.* in press; 5. Choudhury, B. C. *et al.* 1999; 6. Gole 1989; 7. Choudhury, B. C. 1998; 8. Sundar and Choudhury 1999.

Sarus Crane in some of the IBAs

Rajasthan: 1. Keoladeo NP, 2. Ranthambore TR, 3. Sariska NP, 4. Bund Baretha WLS; **Madhya Pradesh:** 1. Dihaila Jheel, 2. Kanha NP, 3. Panna NP, 4. National Chambal WLS, 5. Bandhavgarh NP, Sone Gharial WLS; **Gujarat:** 1. Gir NP, 2. Khijadiya WLS, 3. Lala Great Indian Bustard WLS, 4. Marine NP, 5. Nalsarovar WLS, 6. Thol Lake WLS, 7. Velavadar NP, 8. Rudra Mata Dam; **Uttar Pradesh:** 1. Hastinapur WLS, 2. Kishanpur WLS, 3. Lakhbhosli Bird Sanctuary, 4. Patna Bird Sanctuary, 5. Nawabganj Bird Sanctuary, 6. Samastipur Bird Sanctuary, 7. Sheikha Jheel, 8. Tikra Jheel; **Haryana:** 1. Bhindawas WLS, 2. Sultanpur WLS; **Maharashtra:** 1. Tadoba NP, 2. Nawegaon NP; **Manipur:** 1. Loktak Lake & Keibul-Lamjao National Park; **Assam:** 1. Dibru-Saikhowa NP+ Kobo Chapori+Amarpur Chapori-Maguri-Motapung Beels; **Delhi:** Okhla Barrage.

VULNERABLE

■ ■ ■ BLACK-NECKED CRANE *Grus nigricollis* Vulnerable C1

This species has a small, declining population as a result of loss and degradation of wetlands, changing agricultural practices and increased human activity in its breeding and wintering grounds. These factors qualify it as Vulnerable.

Distribution: The breeding range of the Black-necked Crane includes much of the Qinghai–Tibetan Plateau in south-central China, with small breeding populations in Ladakh, and Bhutan. Very small numbers have wintered in Arunachal Pradesh.

Population: The global population is estimated to be 5,600–6,000 birds^{1,2}, including wintering populations of 360 in Bhutan, no more than 10 in Arunachal Pradesh, small numbers breed in Ladakh³, and breeding could occur in Sikkim⁴. Very small numbers of wintering birds (perhaps only occasional visitors) have also been reported from Myanmar and Vietnam. More comprehensive and coordinated counts in Ladakh in the 1980s and 1990s have located larger numbers, with a maximum population estimate of 38 individuals in 1997, including 12 breeding pairs³. It is believed that a recent increase might have occurred after poaching by military personnel was controlled in the mid-1980s³.

Main threats: Intensive grazing and pesticide use has caused degradation of grasslands in the breeding grounds. A dam planned on the Lhasa river threatens wintering birds. Fish-farming, peat and firewood collection and construction of roads have resulted in increased disturbance and habitat degradation. The collection of eggs and poaching are problems in parts of China and India. In the breeding areas of Ladakh, the high-altitude vegetation is slow-growing and sensitive to disturbance, and direct and indirect human interference is having an increasingly detrimental impact³. The constant diminution of undisturbed foraging and breeding areas is exerting such pressure on the small Indian population that it is unlikely to survive without assistance in the form of legal and habitat protection³.

Conservation measures: CITES Appendix I and II. CMS Appendix I and II. Research conducted in China,

India and Bhutan since the mid-1980s has involved cooperative efforts among conservationists and scientists from these three countries. There have been conservation and development programmes in local communities at the important sites. The Indian breeding population occurs in the Changthang Cold Desert Wildlife Sanctuary. The species is legally protected and its hunting prohibited¹. Soldiers who shot a pair of cranes in 1997 in Ladakh faced heavy fines or prison sentences⁵.

References: 1. Meine and Archibald 1996; 2. Rose and

Scott 1997; 3. Pfister 1998; 4. Usha-Lachungpa (verbally) 2002; 5. BirdLife International 2001.

Black-necked Crane in some of the IBAs

West Bengal: 1. Chapramari WLS, 2. Buxa TR; **Jammu & Kashmir:** 1. Chushul Marshes, 2. Hanle Shado-Bug, 3. Tso morari Lake & Adjacent Marshes, 4. Hemis NP; **Sikkim:** 1. Chholhamo Pleatue, 2. Lhonak Valley (including Muguthang marshes), 3. Barsey Rhododendron WLS; **Arunachal Pradesh:** Sangti Valley 2. Zamithang - Lumla Sageshwar Lake area



HOODED CRANE *Grus monacha* Vulnerable C1

This crane has a small population. A lack of baseline data makes identification of a population trend problematic. Apparent recent increases may reflect improved observer coverage or the displacement of birds from degraded or destroyed sites. Given the substantial threats to its habitat, it may currently be declining or is likely to decline in the near future. These factors qualify it as Vulnerable.

VULNERABLE

Distribution: The Hooded Crane is mainly confined to eastern Russia as a breeding bird, where it nests in forested wetlands, but it may also breed in northern Mongolia, and there is a single record of nesting in north-east China. It occurs in Mongolia, North Korea and northern China on migration, and on migration and in winter in Japan, South Korea and eastern and southern China. There are also a few records from Taiwan and north-east India, and unconfirmed reports from Myanmar. In India it was a very rare visitor in the nineteenth century, with records from lower Assam and Manipur.

Population: Recent estimates of the global population of Hooded Cranes have included: 9,400–9,600 birds¹.

Main threats: The main threats are wetland loss and degradation in its wintering grounds in China and South Korea as a result of reclamation for development and

dam building. Other threats are pollution of coastal water, pesticide poisoning, increased levels of human disturbance and overfishing. Some poaching and hunting of breeding birds occurs.

Conservation measures: CITES Appendix I and II. Bonn Convention Appendix II. Since the 1980s, there has been international collaboration on projects for the conservation of this species within the Asia region, mostly inspired by the International Crane Foundation and the Wild Bird Society of Japan, and the satellite-tracking project has helped to initiate a network for the conservation of cranes in North-East Asia⁴.

References: 1. Meine and Archibald 1996; 2. Rose and Scott 1997; 3. Chan 1999; 4. Ichida 1994.

Note: No recent record from any IBA site in India.



MASKED FINFOOT *Heliopais personata* Vulnerable A1c; A2c; C1

This elusive species has a very small, declining population as a result of loss and degradation of wetlands and lowland forest, which qualifies it as Vulnerable.

Distribution: The Masked Finfoot occurs patchily from north-east India and Bangladesh through continental South-East Asia to Vietnam. In the non-breeding season

it occurs southwards to Peninsular Malaysia and Sumatra, Indonesia. In India the species is a very rare breeding visitor (or possibly resident) in north-eastern states,

mainly Assam. There is one unconfirmed report from the Dum Duma river, inside Dum Duma Reserve Forest, c.1988, although this is later given as a confirmed record¹.

Population: The global population is thought to be below 10,000 individuals², although the reclusive nature of the species impedes the accuracy of this estimation. In India it has always been scarce in the north-east region³. There have been very few recent records, however, and the species is now a great rarity in the country⁴. It is possible that undiscovered populations may survive in eastern Arunachal Pradesh, parts of Nagaland, Manipur or Mizoram⁴, but if so they must be very small.

Main threats: The Masked Finfoot is at risk throughout its range from the ongoing loss of forest ponds, streamside or riverside vegetation and the increase in human

disturbance in suitable wetlands; an enormous amount of suitable habitat has disappeared from its historical range^{5,6,7}.

Conservation measures: The Masked Finfoot receives full legal protection in Myanmar (Wildlife Act 1994) and Thailand (WARPA).

References: 1. Choudhury 2000; 2. Rose and Scott 1997; 3. Ali and Ripley 1978–1999; 4. Choudhury 1997b; 5. Round 1988; 6. Scott 1989; 7. Collins *et al.* 1991.

Masked Finfoot in some of the IBAs

West Bengal: Sundarbans Biosphere Reserve; **Assam:** 1. Upper Dihing Reserve Forest (East Block), 2. Doom Dooma, Dangori RF, **Arunachal Pradesh:** Namtok, Namhek, Nampong, Manmao



SOCIABLE LAPWING *Vanellus gregarious* Vulnerable A1a,c; A2b,c; C1

This species has a small population which has undergone a rapid reduction, for largely unknown reasons. It therefore qualifies as Vulnerable

Distribution: The Sociable Lapwing breeds just outside the Asian region, in the west-central Asian steppes, wintering in north-east Africa, the Middle East and northern India.

The main wintering range lies in the north and west of the country, with small numbers occasionally straggling as far south as Kerala. Apart from some untraced and unconfirmed records, the only recent records are from Haryana and Rajasthan.

Population: The Sociable Plover has suffered a rapid decline and contraction of its breeding range, with total numbers now thought to be fewer than 10,000 mature individuals^{1,2}.

Main threats: In Europe, the Middle East and Central Asia, known factors cannot explain the magnitude of recent declines, but key threats probably affect birds at wintering and passage sites^{1,2}. It may have been adversely affected by the increasingly dry climate in its breeding and wintering range.

Conservation measures: In Europe and Central Asia, the Sociable Plover is legally protected in Armenia, Kazakhstan, Russia, Turkmenistan, Ukraine and Uzbekistan^{1,2}. It is listed on Appendix I of the CMS (Bonn Convention). Measures taken in Asia that may have benefited this species. In India, the species occurs in winter around sanctuaries such as Sultanpur *jheel* and Keoladeo National Park. However, as the habitat favoured by this species differs from other water-birds, it is not subject to the same threats and indeed it is probably secure in many areas of arable land in the wintering range.

References: 1. Collar *et al.* 1994; 2. Tucker and Heath 1994

Sociable Lapwing in some of the IBAs

Rajasthan: 1. Keoladeo NP; **Madhya Pradesh:** Dihalia Jheel; **Gujarat:** Flamingo City; **Bihar:** Valmikinagar NP; **Haryana:** Sultanpur WLS.



WOOD SNIPE *Gallinago nemoricola* Vulnerable C1

This secretive snipe has a small, declining population, as a result of habitat loss and localized hunting in its wintering grounds. It therefore qualifies as Vulnerable.

Distribution: The Wood Snipe breeds in the Himalayas and the mountains of China (and possibly in northern Vietnam), wintering southwards to southern India, Bangladesh, Myanmar, Thailand and Indochina; it has apparently occurred as a vagrant in Sri Lanka and Singapore^{1,2}. In India records of this species are broadly, but thinly scattered from Himachal Pradesh in the north-west to Assam, Arunachal Pradesh and Manipur in the north-east, southwards in hills to the southern tip. A report that the species is a common winter visitor to Coringa Wildlife Sanctuary in Andhra Pradesh³ is presumably erroneous and other records for the state are considered unconfirmed⁴.

Population: In the nineteenth and early twentieth centuries this species was the rarest of the snipes in the Indian subcontinent but it was still regularly recorded from a wide variety of localities and regions. Its distribution and population at that time was in many ways better known than it is today because of the extensive hunting record. Recent winter records of the species anywhere in India are scarce. During a protracted survey of 24 sites in Kerala, 1973–1997⁵, the species was identified at seven sites, concluding that it was “uncommon or rare” at all of these, but possibly overlooked. However, their definition of “uncommon” is that the species was observed on at least 30% of field days⁵, suggesting that quite a few sightings were made.

Threats: The apparent decline and current rarity of this species is in some ways curious given the low rates of habitat loss in high-altitude breeding areas where it is generally not persecuted⁶. If a decline has occurred, therefore, it is probably due to pressures (through habitat loss and hunting) exerted on the wintering population.

Conservation measures: The species is listed as totally protected in Myanmar (Wildlife Act 1984). It is listed in Schedule IV of the Indian Wildlife (Protection) Act 1972, which includes the general entry: “Snipes Scolopacinae”.

References: 1. Blanford 1895–1898; 2. del Hoyo *et al.* 1996; 3. Rao *et al.* 1996; 4. Grimmett *et al.* 1998; 5. Zacharias and Gaston 1999; 6. C. Inskipp and T. P. Inskipp (verbally) 1998.

Wood Snipe in some of the IBAs

Haryana: 1. Sultanpur Wildlife Sanctuary; **Gujarat:** 1. Wild Ass WLS; **West Bengal:** 1. Buxa TR; 2. Mahananda WLS, 3. Gopaldhara, 4. Singhalila NP; **Uttar Pradesh:** Dudwa NP; **Assam:** 1. Deepar Beel WLS, 2. Nameri NP, 3. Panidihing Bird Sanctuary- Phokolai Beel, 4. Burchapori WLS and Laokhowa WLS; **Madhya Pradesh:** Dihalia Jheel; **Mizoram:** Murlen NP; **Sikkim:** 1. Kyongnosia Alpine WLS, 2. Lachung, Lema and Dombang Valley; **Tamil Nadu:** Kothagiri and Longwood Shola (Nilgiri)

VULNERABLE

SPOON-BILLED SANDPIPER *Eurynorhynchus pygmeus* Vulnerable C1

This sandpiper has a small population which is declining as a result of habitat loss in its breeding, passage and wintering grounds, compounded by disturbance and hunting. These factors qualify it as Vulnerable.

Distribution: The Spoon-billed Sandpiper breeds on the Chukotsk peninsula and southwards down the isthmus of the Kamchatka peninsula, in north-eastern Russia. It migrates down the western Pacific coast through eastern Russia, Japan, North and South Korea, mainland China, Hong Kong and Taiwan to its main wintering ground in South and South-East Asia, where it is recorded from India, Bangladesh, Sri Lanka, Myanmar, Thailand,

Vietnam, the Philippines, Peninsular Malaysia and Singapore, with unconfirmed reports from the Maldives. In India it is an uncommon winter visitor recorded mainly on the east coast in Kerala, Tamil Nadu, Orissa, and West Bengal.

Population: The global population of this species was recently estimated at between 4,000 and 6,000

individuals¹, presumably originally based on an estimate of c. 2,000–2,800 breeding pairs in Russia^{2,3,4,5}. It appears to be rare on migration and in winter throughout its range, indicating that it may actually total well below 4,000 individuals⁶.

Main threats: The species is vulnerable to habitat loss because of its specific requirements, high level of site fidelity, and small population. The Chilka lake ecosystem is threatened by expanding aquaculture, the invasion of weeds (e.g. *Potamogeton*), a decrease in salinity due to the closure of the lake's mouth, and tourism^{7,8}. At Point Calimere, the total number of wintering waders has declined gradually because of increased salinity in the industrial condensers (presumably salt pans) and encroachment by villagers developing small-scale salt works^{9,10}.

Conservation measures: Bonn Convention Appendix II. It is also included in the Schedule IV of the Indian Wildlife Protection Act 1972 as Sandpipers (Scolopacinae). Protected areas in its breeding, staging and wintering areas include Point Calimere and Chilka lake.

References: 1. Rose and Scott 1997; 2. Flint and Kondrat'ev 1977; 3. Johnsgard 1981; 4. Tomkovich 1991; 5. Collar *et al.* 1994; 6. BirdLife International 2001; 7. Acharya and Karr 1996; 8. Bandyopadhyay and Gopal 1990; 9. Sugathan 1985; 10. Hussain 1991.

Spoon-billed Sandpiper in some of the IBAs
Orissa: Chilka Lake; **West Bengal:** Sundarbans Biosphere Reserve; **Tamil Nadu:** Point Calimere; **Gujarat:** Marine NP(?)



INDIAN SKIMMER *Rynchops albicollis* Vulnerable A1c,e; A2c,e; C1

This species has a small, rapidly declining population as a result of widespread degradation and disturbance of lowland rivers and lakes. It therefore qualifies as Vulnerable.

Distribution: The Indian Skimmer has a large extent of occurrence but a relatively narrow area of occupancy, being confined to the major river systems of Pakistan, northern India, Bangladesh, Myanmar and Indochina (Laos, Cambodia and Vietnam). It was once very common on all large river systems in central and northern India, not occurring south of c. 16° N latitude¹. A decline in numbers has occurred, paralleled by a fragmentation of its range, and it now only breeds at scattered localities.

Population: This unusual waterbird was once abundant in the major river systems of the Indian subcontinent and fairly common in South-East Asia. There have been decline in both range and numbers throughout its broad distribution. While this has resulted in much smaller populations in the Indus, Ganges (and other Indian rivers) and Irrawaddy catchments, the population of the Mekong catchment is almost certainly extinct. Its global population was recently judged to be 10,000 individuals² but it may well have fallen below this level, and is certainly falling. A 1994 count of 555 individuals along 403 km of the Chambal river in the National Chambal Sanctuary, Madhya Pradesh³, suggests that this river

system is now one of the most important areas for the species anywhere in the world. It is “the most important species which needs special conservation action” in the Indo-Gangetic plains⁴.

Threats: In the past century of increased human usage of wetlands, many colonies have been plundered and the substrates mined, cultivated and settled; and many feeding areas have been over-exploited, polluted, flooded or drained^{4,5,6}. The Indian Skimmer has consequently declined throughout and will continue to do so unless suitable wetland habitats, and particularly their colonies, are kept sufficiently free of disturbance and development. Its stronghold is India, but even here it is thought to be the species most urgently in need of conservation action⁴.

Conservation measures: Very few conservation activities currently target this species, a circumstance that needs urgent attention. The species is listed as totally protected in Myanmar (Wildlife Act 1984). The National Chambal Sanctuary (5,400 sq. km) was established to protect Gharial *Gavialis gangeticus*, but it also contains one of the healthiest skimmer populations in Asia.

VULNERABLE

References: 1. Ali and Ripley 1978–1999; 2. Rose and Scott 1997; 3. Sharma *et al.* 1995; 4. Rahmani 1995; 5. Scott 1989; 6. Duckworth *et al.* 1999.

Indian Skimmer in some of the IBAs

Rajasthan: 1. Band Baretha WLS, 2. Keoladeo NP; **Madhya Pradesh:** 1. National Chambal WLS, 2. Son Gharial WLS; **Gujarat:** 1. Gir NP, 2. Pariehj and Kaneval

Reservoirs, 4. Nalsarovar WLS, 5. Thol Lake, 6. Wild Ass Sanctuary, 7. Flamingo City, 8. Khijadiya WLS; **Orissa:** 1. Chilka Lake, 2. Satkosia Gorge WLS; **West Bengal:** 1. Buxa Tiger Reserve; **Haryana:** 1. Bhindawas WLS, 2. Sultanpur NP; **Punjab:** 1. Harike WLS; **Assam:** Kaziranga NP; **Andhra Pradesh:** 1. Nelapattu Wildlife Sanctuary; **Bihar:** 1. Valmiki NP, **Uttar Pradesh:** National Chambal WLS



EASTERN STOCK PIGEON OR PALE-BACKED PIGEON *Columba eversmanni*
Vulnerable A1a,c,d

This species has declined rapidly in the past, probably as a result of changing agricultural practice and hunting in its wintering grounds, and possibly habitat loss in its breeding grounds. These factors qualify it as Vulnerable.

VULNERABLE

Distribution: Pale-backed Pigeon breeds in the deserts and settled regions of Uzbekistan, Turkmenistan, Tajikistan, Kyrgyzstan, southern Kazakhstan, north-east Iran and Afghanistan and winters in south-east Iran and the northern Indian subcontinent. In Central Asia, it has suffered drastic decline, especially in Kazakhstan. Birds from Central Asia winter in western Pakistan and northern India, east (at least formerly) to Bihar and south to Punjab and Uttar Pradesh^{1,2,3}.

Population: In Central Asia the Pale-backed Pigeon has suffered drastic decline, and is now rare; it is listed in the Red Data Books for Uzbekistan and Kazakhstan, assessments supported by the fact that 20 years of constant-ringing effort in the western Tien Shan revealed a 75% population reduction over that period⁴. In one valley in eastern Kazakhstan, destruction of poplar woodland was thought to be a major factor, but otherwise the causes of this decline are not clear⁴. As recently as 1995, up to 2,000 individuals were seen in a single flock⁵.

Threats: The flocks of this pigeon that once crossed the Himalayas to overwinter in Pakistan and northern India

have greatly diminished, probably as a result of the escalation of hunting throughout its range and the intensive cultivation of its winter quarters. Concerted action is now required to mitigate these threats, but the problem may be complicated by the mobility of the species in winter. The species has been found in small numbers in trade in India, usually as a by-catch of generalist pigeon trappers⁶.

Conservation measures: There are several large protected areas in Xinjiang⁷, but it is not clear which are of significance for the conservation of this species. In India none is known. Important numbers of the species have recently been recorded very near but apparently not inside Harike Lake Wildlife Sanctuary, Punjab.

References: 1. Baker 1922–1930; 2. Collar *et al.* 1994; 3. del Hoyo *et al.* 1997; 4. Aspinall 1996; 5. BirdLife International 2000; 6. Ahmed 2000; 7. MacKinnon *et al.* 1996.

Eastern Stock Pigeon in some of the IBAs
Haryana: .Sultanpur WLS; **Punjab:** Harike WLS.



NILGIRI WOOD-PIGEON *Columba elphinstonii* **Vulnerable C1**

This pigeon qualifies as Vulnerable owing to its small, declining population, as a result of widespread destruction of its forest habitat.

Distribution: The Nilgiri Wood-pigeon is one of the 16 bird species endemic to the Western Ghats, and is restricted to the moist evergreen biotope^{1,2,3}. It occurs from

Kerala northwards to about 19°N including the Anaimalai hills, the Nilgiri hills and the hills of western Karnataka, Goa and Maharashtra^{3,4,5}.

Population: Although this species was previously categorised as Near Threatened⁶, recent assessments of declines in habitat have prompted greater concern for its status. It is generally not very sociable, so it does not reveal itself in large flocks as some pigeons do. While it is thought that it is “not gregarious”⁷, it has been seen in flocks of 6–12 in January–February, but only as singles or pairs during the summer⁸.

Threats: The Nilgiri Wood-pigeon is one of four threatened members of the suite of 16 bird species that are entirely restricted to the “Western Ghats Endemic Bird Area”, threats and conservation measures are also profiled². Historically, it was hunted for food and sport, which probably contributed to its decline. Currently, the loss, degradation and increasing fragmentation of forest are a greater concern.

Conservation measures: It is legally protected in India and occurs in at least 16 protected areas, most in Kerala, including three national parks, 10 wildlife sanctuaries, one tiger reserve and two reserve forests⁹.

References: 1. Ali and Ripley 1978–1999; 2. Stattersfield *et al.* 1998; 3. Whistler and Kinnear 1931–1937; 4. Zacharias and Gaston 1999; 5. Uthaman 1993; 6. Collar *et al.* 1994; 7. Sykes 1832; 8. Prasad *et al.* 1998; 9. BirdLife International 2001.

Nilgiri Wood-pigeon in some of the IBAs

Tamil Nadu: 1. Avalanche (Nilgiris), 2. Grass Hills, 3. Mudumalai WLS, 4. Siruvani Foothills, 5. Kalakkad WLS, 6. Coonoor, 7. Cairnhill RF, 8. Bison Swamp, 9. Kothagiri Longwood Shola, 10. Moir Point; **Kerala:** 1. Amarambalam Reserve Forest-Nilambur, 2. Parambikulam WLS, 3. Thattakkad Bird Sanctuary, 4. Eravikulam NP, 5. Periyar TR, 6. Chinnar WLS, 7. Silent Valley NP, 8. Peechi-Vazhani, 9. Idukki WLS, 10. Wynaad WLS, 11. Vazhachal-sholayar; **Karnataka:** 1. Bannergatta NP, 2. Bhadra WLS, 3. Biligiriranga Swami Temple WLS, 4. Dandelli WLS, 5. Nandi Hills; **Goa:** 1. Bhagwan Mahavir NP, 2. Cotigaon WLS; **Maharashtra:** 1. Bhimashankar WLS, 2. Sanjay Gandhi NP, 3. Malsej

VULNERABLE

PURPLE WOOD-PIGEON OR PALE-CAPPED PIGEON *Columba punicea* Vulnerable C1; C2a

This pigeon has a small, declining, severely fragmented population owing to destruction of its evergreen forest habitat and hunting. It therefore qualifies as Vulnerable.

Distribution: The Pale-capped Pigeon is broadly distributed from eastern India and southernmost China through Myanmar and Thailand to the Malay Peninsula, with further populations in Laos, Vietnam and Cambodia. It has apparently occurred in both Sri Lanka and Malaysia at least once¹. In India the species is recorded mainly in the north-eastern states although it ranges thinly as far as Andhra Pradesh and Maharashtra.

Population: Early records reveal that the Pale-capped Pigeon was seasonally abundant at scattered localities until the beginning of the twentieth century. Current indications are that it occurs erratically throughout its range. Its total population has declined markedly, and there is certainly no evidence to suggest that it exceeds 10,000 individuals¹.

Threats: Having once been patchily common in its wide distribution, the Pale-capped Pigeon is now scarce and

highly localised as a result of habitat loss and hunting, threats that are exacerbated by its apparently unpredictable nomadism¹. Given the difficulty in identifying patterns of distribution and habitat preference for this species, there is a concomitant problem in assessing the importance of threats. It undoubtedly suffers the twin effects of deforestation and persecution in varying proportions throughout its range¹.

Conservation measures: The species is protected by law in India (pigeons are generically included on Schedule IV of the Wildlife Act 1972) and Myanmar (again pigeons appear as a general term on the 1994 protected species list)¹.

References: 1. BirdLife International 2001.

Purple Wood-pigeon in some of the IBAs

Orissa: 1. Simlipal NP, 2. Chandka WLS; **Assam:** 1.

Dibru-Saikhowa National Park+ Kobo Chapori+Amarpur Chapori-Maguri-Motapung Beels, 2.Kaziranga NP, 3. 3.Nameri NP, 4. Joydihing WLS, Burachapori and Laokhowa WLS, Doom Dooma-Dangori RF; **Arunachal**

Pradesh: 1..Mehao WLS, 2. Namtok, Namheik, Nampong, Manmao, 3. Pakhui WLS; **Mizoram:** 1.Blue Mountain (Phawngpui NP); **West Bengal:** Lava Neora Valley NP



KHASI HILLS OR DARK-RUMPED SWIFT *Apus acuticauda* **Vulnerable D1**

This poorly known swift qualifies as Vulnerable owing to its very small population. Discovery of new breeding colonies and identification of possible threats would necessitate a reassessment of its threatened status.

Distribution: The Dark-rumped Swift breeds in a few colonies in the eastern Himalayas of Bhutan, possibly Nepal, and the hills of Meghalaya, apparently dispersing southward during the winter. There are no certain records from Myanmar, but swifts possibly this species observed in the Myitkyina valley¹. In India the Dark-rumped Swift has been recorded breeding in the Khasi and Mizoram hills.

Population: Collection of birds at Cherrapunji and Blue Mountains over a span of many years indicates that the species was common at these sites early in the twentieth century. The bird bred “in colonies of some size”². Although flocks of between 100 and 200 birds have recently been seen around Cherrapunji³, no further evidence of breeding has been reported. There is no evidence that any decline has taken place in this small overall population.

Threats: The Dark-rumped Swift is one of nine threatened members of 19 bird species that are entirely restricted to the “Eastern Himalayas Endemic Bird Area”, threats and conservation measures are profiled⁴. No specific threats are known, although, if the species forages over forest, it may be (or run the future risk of being) constrained by habitat loss in the region.

Conservation measures: None is known. Its intermittent occurrence over protected areas in Thailand seems unlikely to be of great importance.

References: 1. Stanford and Ticehurst 1938–1939; 2. Baker 1922–1930; 3. Hornbuckle 1998a; 4. Stattersfield *et al.* 1998.

Khasi Hills Swift in some of the IBAs

Meghalaya: Khasi and Garo Hills **Mizoram:** Blue Mountain (Phawngpui NP)



RUFOUS-NECKED HORNBILL *Aceros nipalensis* **Vulnerable A1c,d; A2c,d; C1**

This large hornbill qualifies as Vulnerable because it has a small, rapidly declining population as a result of destruction of evergreen forest and hunting.

Distribution: The Rufous-necked Hornbill originally occurred in mountainous regions between eastern Nepal and Vietnam. Although it is now absent from or very rare in much of its previous range it still occurs in southern China, north-eastern India, Myanmar, Thailand, Laos and Vietnam. There are no confirmed records from Bangladesh. In India the species has been recorded in West Bengal, Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram and possibly also Nagaland and Sikkim¹. Although it remains moderately common in easternmost Arunachal Pradesh and Bhutan, it appears to be scarce or absent from much of the intervening

country, even from apparently suitable hill forests towards the Chinese border¹.

Population: The Rufous-necked Hornbill does not appear to be evenly distributed throughout its range. This impression is doubtless exaggerated by the large swathes of Myanmar and southern China that have received little ornithological exploration, but its population elsewhere seems to be scattered discontinuously in isolated pockets¹.

More recently, it has become scarce almost throughout, surviving in much reduced numbers in West Bengal and

Assam, having perhaps disappeared from its previous range in Meghalaya, Mizoram and Manipur. It remains locally common in eastern Arunachal Pradesh, particularly in and around Namdapha National Park: up to 10 a day were seen during February 1994 in this area². It is also fairly common in the Mishmi hills area of Arunachal Pradesh³ and near the Bhutan border around Sessa Orchid Sanctuary and Eagle Nest Wildlife Sanctuaries^{3,4}. No population estimate has been made for India, but it seems likely to fall in the high hundreds or low thousands.

Threats: The Rufous-necked Hornbill is primarily threatened by the pervasive combination of habitat loss and hunting.

Conservation measures: The species is listed on Appendix I of CITES and protected in India and listed in

Schedule 1 of the Indian Wildlife (Protection) Act 1972. It is also protected in Bhutan, Myanmar, China and Thailand¹.

References: 1. BirdLife International 2001; 2. Alström *et al.* 1994; 3. Singh 1994; 4. Choudhury 2000.

Rufous-necked Hornbill in some of the IBAs

West Bengal: 1. Buxa Tiger Reserve, 2. Lava/Neora Valley NP; **Assam:** 1. Jatinga, 2. Nameri NP, 3. Manas NP, 4. Joydihing WLS; **Arunachal Pradesh:** 1. Namdapha and Kamalang WLS, 2. Talley Valley WLS, 3. Pakhui WLS, 4. Mehao WLS, 5. Mouling NP, 6. Dibhang WLS, 7. Koloriang - Sarli - Damini - Talley Areas; **Sikkim:** 1. Fambong Lho WLS, 2. Lachung, Lema and Dombang Valley; **Manipur:** 1. Siroy NP, 2. Kailam WLS, 2. Bunning WLS



NARCONDAM HORNBILL *Aceros narcondami* Vulnerable D1; D2.

This hornbill qualifies as Vulnerable because it has a very small population on one tiny island. It appears to be stable despite some hunting and habitat degradation. Feral goats are preventing forest regeneration.

Distribution: The Narcondam Hornbill has one of the smallest natural ranges of any bird species, being known from: Narcondam, a tiny (<7 sq. km.) outlier of the Andaman Islands in the Bay of Bengal, where it is found throughout. However, the observation that low-lying areas of the island (below 300 m) hold the majority of older birds (with many chevrons on the casque), while the upper areas hold mostly young birds (possibly under three years old)¹, strongly suggests that the lower areas are more important and valuable for the species, presumably owing to the quantity and/or quality of nest sites and/or food trees.

Population: Based on a 24-day study in March– April 1972, a “liberal estimate” was 400 birds²; More recently, in 1998, the population was estimated at between 295 and 320 birds; 17 nests were then found, and it was estimated that there were 68–85 breeding pairs on the island³. On this basis it seems probable that the population has been fairly stable ever since it was first discovered.

Main threats: Although it has clearly survived for aeons with a maximum of 400 individuals and a total range of under 7 sq. km, the population is permanently susceptible

to stochastic events such as climatic disasters and disease. The primary threats arise from the establishment of a police outpost on the island, manned by 17 personnel, in 1969. In 1976 the police introduced several pairs of goats, which by 1998 had grown to a population of 130–150 domestic animals in the police camp and over 250 feral animals at large on the island, as a result of which there is very little natural woodland regeneration in evidence. At least 10–12 live standing trees are cut each year for fuelwood for the camp, and over 500 poles were cut during a three-month period to make and repair fences that prevent goats from entering the vegetable plots. Up to very recently, the outpost police staff hunted Narcondam Hornbills for meat.

Conservation measures: The species is listed in Schedule I of the Wildlife Protection Act, 1972, and on Appendix II of CITES. Narcondam Island has been protected since February 1977⁴ as a wildlife sanctuary.

References: 1. R. Sankaran *in litt.* 1999; 2. S. A. Hussain 1993; 3. BirdLife International 2001; 4. Pande *et al.* 1991.

Narcondam Hornbill in the IBA

Narcondam Island

VULNERABLE

YELLOW-THROATED BULBUL *Pycnonotus xantholaemus* Vulnerable C1; C2a

This bulbul has a small, declining, severely fragmented population, owing to destruction and degradation of its scrub and forest habitats, which qualifies it as Vulnerable.

Distribution: The Yellow-throated Bulbul is endemic to southern peninsular India, where it is patchily distributed^{1,2,3,4}. All recent records are confined to an area south of 16°N and east of 76°W in four southern Indian states: Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. Most records come from the Eastern Ghats, with a few from the outer reaches of the Western Ghats^{5,6,7,8}.

Population: The Yellow-throated Bulbul has long been overlooked owing to its skulking behaviour and the general paucity of ornithological fieldwork in the region it inhabits, but it is generally “uncommon and patchily distributed”^{9,10}. Moreover, in a survey of 18 localities in the 1990s, it was common wherever the habitat proved to be relatively intact⁴, leading to the conclusion that the species is “common, but very local”. Total numbers cannot be high and they must be decreasing, since habitat is very limited and continually being cut back⁴.

Main threats: Loss of suitable habitat may be affecting the species. Removal or cutting of vegetation for fuel by

people from villages occurs around its habitats, as does quarrying of the hills for granite on a commercial scale; forest fires and cattle-grazing within the habitats have recently been observed⁴.

Conservation measures: The species is included on Schedule IV of the Indian Wildlife (Protection) Act 1972 under a generic term (“bulbuls”).

References: 1. Abdulali 1949, 2. Ali and Ripley 1978–1999, 3. Gaston 1985, 4. Subramanya *et al.* 1995; 5. Davison 1888, 6. Nichols 1943–1945, 7. Ali 1969, 8. Kannan 1992; 9. Whistler and Kinnear 1931–1937, 10. Ali and Whistler 1942–1943;

Yellow-throated Bulbul in some of the IBAs

Karnataka: 1. Nandi Hills, 2. Bannerghatta NP, 3. BR Temple Hills WLS, 4. Cauvery WLS, 5. Hampi ruins, 6. Ramanagara RF; **Andhra Pradesh:** 1. Horsely Hills, 2. Koundinya WLS, 3. Sri Venkateshwar WLS, 4. Rollapadu WLS, 5. Telineelapuram; **Tamil Nadu:** Kolli Hills (Eastern Ghats).

VULNERABLE

NICOBAR BULBUL *Hypsipetes nicobariensis* Vulnerable C1

This species has a small, declining population as a result of clearance and degradation of forests for plantation agriculture and infrastructure projects. These factors qualify it as Vulnerable.

Distribution: The Nicobar Bulbul is endemic to the Nancowry group of islands¹ in the Nicobar islands. It occurs on Camorta, Trinkat, Nancowry, Katchall, Teressa, Bompoka and Tillanchong.

Population: Until the 1960s this species was locally quite common, especially on Tillanchong². Earlier, large flocks, numbering 100, were seen², but in a study (1992-95), only one was seen in Tillanchong, none in Trinkat, and one in Nanchowry, indicating serious decline³. Perhaps, healthy population is found only on Teressa and Katchall islands³.

Main threats: The Nicobar Bulbul is one of (now) three threatened bird species in the suite of six (with the

addition of the Nicobar Scops-owl *Otus alius*: see relevant account under Data Deficient) that are entirely restricted to the “Nicobar Islands Endemic Bird Area”⁴. Habitat loss in the Nicobar Islands is perhaps the most serious long-term threat to the species. The endemic Nicobar Bulbul is probably also suffering from the resulting competition⁵.

Conservation measures: Tillanchong (17 sq. km) is uninhabited and protected as a wildlife sanctuary. All islands in the Nancowry group are tribal reserves, with the result that agriculture or large-scale development by mainlanders cannot take place; however, the indigenous tribes are at liberty to convert habitats into agriculture or settlements⁶.

References: 1. Abdulali 1965; 2. Abdulali 1967; 3. Sankaran 1998; 4. Stattersfield *et al.* 1998; 5. Collar *et al.* 1994; 6. L. Vijayan *in litt.* 1999

Nicobar Bulbul in the IBAs

Nicobar: Tilangchong, Camorta, Katchal, Nancowry, Trinkat.



GREY-SIDED THRUSH *Turdus feae* Vulnerable C1

This thrush qualifies as Vulnerable because it has a small, declining population as a result of deforestation in its breeding and wintering grounds.

Distribution: The Grey-sided Thrush breeds in the mountains of northern China, with non-breeding records from north-east India, Myanmar, north-west Thailand and Laos. Assessment of sight records requires slight caution because of possible identification problems. In India this species is a non-breeding visitor to hills in north-east India south of the Brahmaputra especially from West Bengal, Assam, Meghalaya, Nagaland and Manipur¹.

Population: There is very little information available on the population of this species from the breeding grounds in China, where there are records from a handful of sites, mostly involving a small number of individuals. In the non-breeding range this species was “frequently noticed” in winter 1872–1873² in the Naga hills, India. On the basis of this early report it was considered to be “not rare” in winter in north-east India³, but there is only one recent record from there. Much of its historical range (particularly the Naga and Manipur hills) is mostly very difficult to access, and this is probably one factor underlying the dearth of records.

Main threats: The Grey-sided Thrush is one of two bird species that are entirely restricted as breeding birds to the “Shanxi Mountains Endemic Bird Area”, threats and conservation measures in which are profiled⁴. It is threatened by the continued loss and fragmentation of its habitat in both its breeding and non-breeding ranges. Its population is also affected by shifting agriculture, wood collection and fires.

Conservation measures: Bonn Convention Appendix II. In India it is protected under the Wildlife (Protection) Act 1972 in Schedule IV: Thrushes (Turdinae).

References: 1. BirdLife International 2001; 2. Godwin-Austen 1874; 3. Ali and Ripley 1978-1999; 4. Stattersfield *et al.* 1998;

Grey Sided Thrush in some of the IBAs

Assam: 1. Barail range and North Chachar RF, 2. Jatinga (at higher elevation)



RUSTY-BELLIED SHORTWING *Brachypteryx hyperythra* Vulnerable C1

This species has a small, declining population which qualifies it as Vulnerable. Its decline is thought to be a result of forest clearance and degradation.

Distribution: The Rusty-bellied Shortwing is endemic to the eastern Himalayas where it is found from West Bengal (Darjeeling, Haldibari, Mangpu, Tonghlu) to extreme western Arunachal Pradesh (Mehao WLS). There is one record from southern China and one from northern Myanmar, and it is likely to occur in Bhutan although it has not yet been found there.

Population: This small bird is poorly known and apparently rare¹. The discovery of up to nine singing males in the Lava area of West Bengal² in 1996 was the first record in the Darjeeling area since 1945, and confirmed that fairly dense

populations survived in at least this area. In particular, the fact that this discovery was made in a relatively well-watched locality suggests that the species might to a large degree be overlooked rather than rare, particularly because of the logistical and security problems attending travel into and through much of its range². There are only two (old) records from Assam and one from China. It is rarely observed in Arunachal Pradesh.

Main threats: The Rusty-bellied Shortwing is one of nine threatened members of the suite of 19 bird species that are entirely restricted to the “Eastern Himalayas

Endemic Bird Area”, threats and conservation measures are profiled³. Loss of hill forest habitat through logging and shifting cultivation is presumably reducing populations of this species. In particular, forest in West Bengal, including around the Lava area where this species has recently been recorded, is shrinking rapidly and being constantly fragmented.

Conservation measures: It occurs in Namdapha National Park and the Mehao, Dibang and Kamlang Wildlife Sanctuaries in north-east India.

References: 1. Ali and Ripley 1978–1999; 2. Mauro and Vercruyse 2000; 3. Stattersfield *et al.* 1998

Rusty-bellied Shortwing in some of the IBAs

West Bengal: 1. Lava/Neora Valley NP, 2. Gopaldhara, Singhalila NP; **Arunachal Pradesh:** 1. Namdapha and Kamalang; 2. Talley Valley WLS, 3. Mehao WLS, 4. Dibhang WLS, 5. Eaglenest WLS and Seesa WLS, 6. Chayang - Tajo - Khenew Lada Area, 7. Ditchu RF, 8. Mouling NP, 9. Mandla Phudung Area; **Sikkim:** Fambong Lho WLS



WHITE-BELLIED SHORTWING *Brachypteryx major* Vulnerable B1+2a,b,c,d,e

This species has a small, severely fragmented, declining range owing to destruction and fragmentation of its evergreen and semi-evergreen forest habitat. It therefore qualifies as Vulnerable.

VULNERABLE

Distribution: The White-bellied Shortwing is endemic to the southern portion of the Western Ghats, inhabiting the Nilgiri hills, Brahmagiri hills, Coonoor and other ranges^{1,2}. The nominate race *major* occurs in southern Karnataka (Baba Budan, Brahmagiris) and the Nilgiri hills, while the subspecies *albiventris* is found in western Tamil Nadu and southern Kerala from the Palni to the Ashambu hills².

Population: In the Nilgiris, the White-bellied Shortwing was a “common resident” in the nineteenth century^{1,3}. This latter statement was borne out by extensive mist-netting surveys: in four summers (1970, 1982, 1984, 1991), 133 were ringed; in April–May 1991, Sixty Four were mist-netted, the third highest total for any passerine in the study³. Although early records derive from the Anaimalai Hills, two years of fieldwork failed to produce any sightings⁴, suggesting that the species is very scarce in this area.

Main threats: Whilst it appears to be tolerant of some habitat degradation and alteration, forest loss and fragmentation still pose a threat. Between 1961–1988, 47% of evergreen/semi-evergreen forest was lost in Kerala, as a result of clearance for plantations, cash-crops (e.g. tea), reservoirs and human settlements.

Conservation measures: Many areas within the range of this species are protected as sanctuaries or national parks, but the only ones known to harbour populations are Periyar Sanctuary, Thattakkad Bird Sanctuary and Eravikulam National Park, the last of which apparently supports “substantial areas” of forest⁵. It presumably also occurs in the Indira Gandhi (Anaimalai) Wildlife Sanctuary. A good population is reported from Avalanche area of the Nilgiris⁶.

References: 1. Davison 1883; 2. Ali and Ripley 1978–1999; 3. Balachandran 1998; 4. Kannan 1998; 5. Zacharias and Gaston 1999; 6. Ashfaq Ahmed Zari (pers. comm.) 2002.

White-bellied Shortwing in some of the IBAs

Tamil Nadu: 1. Avalanche (Nilgiri), 2. Grass Hills, 3. Kalakkad WLS, 4. Kodaikanal, Palni Hills + Kukal, 4. Kothagiri Longwood Shola, 5. Moir Point, 6. Mutukuzhi, 7. Naduvattam, Bison Swamp, Cairnhill Reserve; **Kerala:** 1. Eravikulam NP, 2. Nelliampathy RF, 3. Parambikulam WLS, 4. Periyar Tiger Reserve, 5. Silent Valley NP, 6. Thattakkad WLS, 7. Peechi - Vazhani, 8. Cardiamom hills, 9. Wyanaad WLS, **Karnataka:** BR Temple WLS



STOLICZKA'S OR WHITE-BROWED BUSHCHAT *Saxicola macrorhyncha* Vulnerable C1

This desert specialist has a small, declining population because of agricultural intensification and encroachment, which qualifies it as Vulnerable.

Distribution: The White-browed Bushchat or Stoliczka's Whinchat is found in a circumscribed area of semi-arid country in north-western India and eastern Pakistan. It has apparently strayed as far east as the Bharatpur area of Rajasthan and as far south as Goa, with two simultaneous historical records from southern Afghanistan. In India the species occurs generally in low-lying arid areas of the north-west. Early records are from western Uttar Pradesh, Punjab, Haryana, south-eastern Rajasthan and Gujarat. There are more recent records from eastern Rajasthan. The bird may survive in Kutch¹. Eight birds are seen in Naliya grasslands(Kutch)⁴. It is now thought to survive in good numbers only in the Thar (or Indian) Desert in Rajasthan and Gujarat¹.

Population: The clear evidence, based on qualitative assessments from the late nineteenth and early twentieth centuries, is that this species has experienced a long, strong decline to a point where it is, today, apparently a single-country endemic with a low overall population. There were only around 15 records between 1974 and 1994, but during four intensive surveys in 1993–1994 about 86 birds were located in 18 localities². Of these, 25 were seen over a 45 km transect on a single day and, on another day, 13 birds were seen on six line-transects of 1.5 km each². However, out of a total of 38 transects, the bird was seen on only nine². These data indicate that the species is not as threatened as once feared, being

common in certain localities, although overall very local².

Main threats: The main threat is agricultural intensification and encroachment, primarily through the introduction of irrigation schemes to semi-arid areas and their subsequent conversion into croplands. Overgrazing by livestock may also reduce the extent of suitable habitat. These trends are expected to continue with the development of the Indira Gandhi Nahar Project (Rajasthan Canal) and widespread application of modern agricultural techniques².

Conservation measures: The bird has been recorded at Sam in Desert National Park and at Sonkhaliya, both protected enclosures for Great Indian Bustard². There have also been single records at each of Keoladeo National Park, Ranthambore National Park and Velavadar National Park³.

References: 1. Rahmani 1996; 2. Rahmani 1997; 3. BirdLife International 2001, 4. Jadeja, R. (pers. comm.) 2002.

Stoliczka's Bushchat in some of the IBAs

Rajasthan: 1. Desert NP, 2. Sariska NP, 3. Diyatra, 4. Keoladeo NP, 5. Sonkhaliya, 6. Ranthambore Tiger Reserve; **Haryana:** Sultanpur WLS, **Gujarat:** 2. Velavadar WLS, 2. Naliya grasslands.

VULNERABLE

HODGSON'S OR WHITE-THROATED BUSHCHAT *Saxicola insignis* Vulnerable C1

This poorly known chat has a small, declining population as a result of loss of its wintering grassland habitats to drainage, conversion to agriculture, overgrazing, flooding, and thatch harvesting. These factors qualify it as Vulnerable.

Distribution: The White-throated Bushchat breeds very locally in the mountains of Mongolia and an adjacent part of Russia, and it winters in the northern Gangetic plains and the duars of northern India and the terai of Nepal. It has been recorded on passage between these regions in Bhutan and western China. The listing of the species for Bangladesh^{1,2,3} is presumably hypothetical and requires substantiation.

Population: Although the White-throated Bushchat has always been infrequently recorded, it is perhaps not as rare as published records indicate, especially as it can be overlooked amongst congeners⁴. The population data accumulated so far throughout the range of the species suggest that total numbers might not exceed 1,000 birds. However, as some breeding populations are fairly dense, and as this species is perhaps likely to be overlooked,

the true figure is here estimated to fall between 2,500 and 10,000 birds.

Main threats: No information is available regarding the state of the breeding habitat of the species, but it is unlikely to be unduly threatened given the modest levels of human population density and regional development. The destruction and modification of grassland and wetland habitats in its wintering range is thought to be the main concern⁵. Virtually all remaining grasslands within the species's wintering range are subject to intense pressures which threaten their future^{5,6,7,8}.

Conservation measures: CMS Appendix II. Wintering

populations regularly occur in several protected areas including Kaziranga National Park and Manas National Park in Assam. It may well be overlooked on other grassland reserves in the terai of Uttar Pradesh, Bihar, West Bengal and Assam.

References: 1. Rashid 1967; 2. Husain 1979; 3. Ripley 1982; 4. Ali and Ripley 1978–1999; 5. Rahmani 1988; 6. Javed and Rahmani 1991; 7. Bell and Oliver 1992; 8. Peet *et al.* 1999a.

Hodgson's Bushchat in some of the IBAs

Assam: 1. Manas NP, 2. Kaziranga NP; **Bihar:** Valmiki NP, **West Bengal:** Gorumara NP.



MARSH BABBLER *Pellorneum palustre* **Vulnerable A1c; A2c**

This grassland specialist is inferred to have a rapidly declining population as a result of widespread loss of its tall grassland habitat. It therefore qualifies as Vulnerable.

VULNERABLE

Distribution: The Marsh Babbler is restricted to the floodplain of the Brahmaputra river and its associated tributaries in north-eastern India and adjacent Bangladesh. It is distributed fairly widely in the lowlands of Assam, extending to Meghalaya at the foot of the Khasi hills and to Arunachal Pradesh at the foot of the Mishmi hills.

Population: The Marsh Babbler's population is unknown but is inferred to be declining as a result of loss of its tall grassland habitat. Historically, it was described as a "rare bird" in North Cachar¹, although "common about marshy ground" in Meghalaya². There have been few recent records, but it was "common" in the Amarpur area adjacent to Dibru-Saikhowa National Park^{3,4}.

Threats: The key threat is probably habitat loss and degradation. Huge areas of grassland in northern India, including the Brahmaputra valley, have been lost as a result of conversion to agriculture and forestry plantations, edaphic grasslands have been altered as flooding regimes have been changed by dam and irrigation schemes, and many remaining grasslands are subject to high grazing pressure from domestic stock and intensive harvesting by local communities, often associated with grassland burning^{5,6}. Moreover, grassland

habitats are generally poorly represented in protected-area systems⁷. Further threats in Dibru-Saikhowa are flood erosion, encroachment and inadequate management⁸. Tall grassland in Manas National Park, where the species has also been recorded, has been overgrazed by domestic livestock, a situation exacerbated by the poor security situation in the Park.

Conservation measures: : The species occurs in Dibru-Saikhowa, Kaziranga⁴, Manas, and Nameri National Parks.

References: 1. Baker 1894–1901; 2. Jerdon 1871–1872; 3. Allen 1998; 4. Choudhury 2000; 5. Bell and Oliver 1992; 6. Peet 1997; 7. Rahmani 1988; 8. Choudhury 1997a.

Marsh Babbler in some of the IBAs

Assam: 1. Dibru-Saikhowa NP+ Kobo Chapori+Amarpur Chapori-Maguri-Motapung Beels, 2. Kaziranga NP, 3. Burachapori WLS+Laokhowa WLS, 4. Majuli Beel, 5. Nameri NP, 6. Orang NP, 7. Pobitara WLS, 8. Koabari Dolni; **Arunachal Pradesh:** 1. Namdapha NP and Kamalang WLS, 2. Namtok, Namheik, Nampong, Manmao, 3. Pakhui WLS.



MISHMI OR RUSTY-THROATED WREN-BABBLER *Spelaeornis badeigularis*
Vulnerable B1+2a,b,c,e; C1; C2b; D2

This species, known from only a single specimen at one site, is inferred to have a small, declining range and population as a result of deforestation. These factors qualify it as Vulnerable.

Distribution: The Rusty-throated Wren-babbler is known only from the type specimen taken in the Mishmi hills, north-east India, although it probably occurs over a larger area in the region¹. The only confirmed record is from Mishmi hills of Arunachal Pradesh¹ in January 1947.

Population: Nothing is known about the current population of this species, although it is presumed to occur throughout the Mishmi hills². Ornithological research has been scant in its range until recently, but the fact that no sightings have been reported suggests that it is possibly very scarce and localised.

Main threats: The Rusty-throated Wren-babbler is one of nine threatened members of the suite of 19 bird species that are entirely restricted to the “Eastern Himalayas Endemic Bird Area”, threats and conservation measures are profiled³. The likely habitat of the species (i.e.

subtropical forest) in the Dibang and Lohit districts in the southern Mishmi hills is disappearing owing to timber extraction⁴.

Conservation measures: None is known. However, the Dibang, Mehao and Walong wildlife sanctuaries are close to the type-locality and may support undiscovered population.

References: 1. Ali and Ripley 1978–1999; 2. Ali and Ripley 1948; 3. Stattersfield *et al.* 1998; 4. BirdLife International 2001.

Mishmi Wren Babbler in some of the IBAs

Arunachal Pradesh: 1. Ditchu RF, 2. Mandla Phudung Area, 3. Mouling NP, 4. Nacho-Limeking-Taksang-Majha; **Assam:** Burchapori WLS and Laokhowa WLS.



TAWNY-BREASTED WREN-BABBLER *Spelaeornis longicaudatus*
Vulnerable B1+2a,b,c,d,e; C1; C2a

This poorly known babbler qualifies as Vulnerable because it has a small, declining, severely fragmented population and range owing to clearance and degradation of moist evergreen forest.

Distribution: The Tawny-breasted Wren-babbler is endemic to India, occupying a restricted range in the north-eastern states where it has been recorded in the hills of Meghalaya, Assam and north-west Manipur^{1,2}. Although elsewhere said to occur in Nagaland², the species is absent from Mount Japvo and not thought to extend to the Barail range; there are apparently no confirmed records for the state. In Assam it was reported from North Cachar Hills³ in 1888 at about 1,200 m. In Meghalaya it is reported in Khasi hills at Shillong⁴, Mawphlang, Cherrapunji, Mawsynram⁵.

Population: Historically, the Tawny-breasted Wren-babbler bred “in considerable numbers” in the Khasia hills but was regarded as “much more rare” in the

adjoining Cachar and Naga hills⁶. Indeed, there are only two records from outside Meghalaya and the species is apparently absent from Nagaland. Nevertheless, the overall range is very small and there has been considerable habitat loss within it, so that total numbers of this species must be both small and declining, and many populations must now be permanently separated from one another.

Threats: The Tawny-breasted Wren-babbler is one of nine threatened species entirely restricted to the Eastern Himalayas Endemic Bird Area (EBA), threats and conservation measures are detailed⁷. It is rather difficult to assess specific threats to this wren-babbler as its current distribution and status are poorly known, while

VULNERABLE

knowledge of the pressures on the forests it inhabits is equally scant. A threat common to all forest birds in north-east India, however, is the widespread damage to habitat caused by semi-shifting cultivation or “jhum”; although this practice has encouraged bamboo growth it has caused widespread loss of forest except in steep inaccessible areas where cultivation is difficult⁸. Habitat in the Shillong-Cherra-Mawphlang area of the Khasia hills was recently described as a mosaic of cultivation and patches of broadleaved evergreen forest (sometimes mixed with pine), but with habitat covering the ridge above Shillong being in particularly good condition (C. R. Robson *in litt.* 2001). Elsewhere in the area remaining forest was either confined to low-stature (perhaps secondary) locally protected (sacred) groves or restricted to very steep

inaccessible slopes⁵.

Conservation measures: None is known apart from the existence of locally protected sacred groves (including Mawphlang) that might provide important protection for the species⁵.

References: 1. Ali and Ripley 1978–1999; 2. Grimmett *et al.* 1998; 3. Baker 1894–1901; 4. Grimmett 1979; 5. BirdLife International 2001; 6. Baker 1922–1930; 7. Stattersfield *et al.* 1998; 8. Choudhury 1992.

Tawny-breasted Wren-babbler in some of the IBAs Assam: 1. Jatinga, 2. Barail range and North Cachar RF; **Mizoram:** Murlen NP.



SNOWY-THROATED BABBLER *Stachyris oglei* Vulnerable B1+2a,b,c,d,e; C1

This species is inferred to have a small, severely fragmented, declining range and population because of loss of scrub and forest to logging and shifting cultivation. These factors qualify it as Vulnerable.

Distribution: The Snowy-throated Babbler occupies an extremely restricted range in the forested hills of north-eastern India and extreme northern Myanmar.

In India the species is a rare resident with a restricted range, apparently confined to eastern Arunachal Pradesh¹. Although many specimens are listed from “Margherita”, Assam², it is likely that these are all from above this town in the Naga/Patkai range, and thus near Tirap in Arunachal Pradesh³.

Population: The tiny global range of this species suggests that overall numbers are low. It has always been thought very rare^{1,4}. Recently it has been found in good numbers in Namdapha National Park: 20–25 individuals were seen along a few kilometres of road from Deban to Vijaynagar⁵, and around 20 were seen daily around Embeong⁶.

Main threats: The Snowy-throated Babbler is one of nine threatened members of the suite of 19 bird species

that are entirely restricted to the “Eastern Himalayas Endemic Bird Area”, threats and conservation measures are profiled⁷. As there are still fairly large areas of unsurveyed forest in its restricted range the species is probably not in immediate danger. However, these circumstances may change and pressures on the region’s habitat appear to be increasing.

Conservation measures: In India the species occurs in Namdapha National Park and may well be found in nearby Kamlang Wildlife Sanctuary.

References: 1. Ali and Ripley 1978–1999; 2. Stevens 1914–1915; 3. Choudhury 2000; 4. Harington 1914–1915; 5. Alström *et al.* 1994; 6. Hornbuckle 1998b; 7. Stattersfield *et al.* 1998

Snowy-throated Babbler in some of the IBAs Arunachal Pradesh: 1. Namdapha and Kamalangi WLS; **Assam:** Upper Dihing (East block) - Kakojan RF, **West Bengal:** Gorumara NP



JERDON’S BABBLER *Chrysomma altirostre* Vulnerable A1c; A2c; C1

This species’s small population is inferred to be rapidly declining as a result of extensive loss of its tall, wet grassland habitat, primarily due to drainage and conversion to cultivation. It therefore qualifies as Vulnerable.

Distribution: Jerdon’s Babbler occurs in the Indus valley of Pakistan, the plains and Brahmaputra valley of north-

east India, and the terai of Nepal, historically from Myanmar and possibly from Bangladesh. There are three disjunct

VULNERABLE

populations each represented by a separate subspecies. In India the subspecies *C. a. griseigularis* occurs only in the sub-Himalayan plains from the Buxa duars (West Bengal), through the Bhutan duars to the extreme east of Assam, apparently with an isolated population in the Cachar plains^{1,2}. Given the population in Royal Chitwan National Park, Nepal, the species presumably ranged westwards through the terai of Bihar to Uttar Pradesh, but there are no records from these states.

Population: Although the size of the Jerdon's Babbler population is unknown, it is inferred to be small and declining as a result of the severe reduction in tall wet grassland habitat throughout its range. It has clearly shown a serious range contraction during the twentieth century.

Main threats: Jerdon's Babbler is amongst a group of species threatened by a huge decline in the area and quality of grasslands across South Asia^{3,4,5}. Virtually all

remaining grasslands within the species's range are subject to intense pressures. In many regions, grasslands of conservation value are practically confined to protected areas where, however, they continue to suffer degradation^{4,5}. Moreover, grassland habitats are generally poorly represented in protected-area systems^{6,7}.

Conservation measures: Jerdon's Babbler occurs in Dibru-Saikhowa, Kaziranga, with new areas of grassland recently added² and Manas National Parks.

References: 1. Harington 1914–1915; 2. Choudhury 2000; 3. Roberts 1991–1992; 4. Bell and Oliver 1992; 5. Peet *et al.* 1999b; 6. Rahmani 1988; 7. Baral 1998.

Jerdon's Babbler in some the IBAs

West Bengal: 1. Buxa Tiger Reserve; 2. Mahananda WLS; **Assam:** 1. Kaziranga NP, 2. Manas National Park, 3. Dibru-Saikhowa NP+ Kobo Chapori+Amarpur Chapori-Maguri-Motapung Beels



SLENDER-BILLED BABBLER *Turdoides longirostris* Vulnerable A1c; A2c; C1

This elusive species is inferred to have a small, rapidly declining population because of extensive destruction and degradation of its tall grassland habitats. It therefore qualifies as Vulnerable.

Distribution: The Slender-billed Babbler occurs in the terai of Nepal, Assam and Manipur (and historically Uttar Pradesh). At various times it has also been included in the avifaunas of Bhutan, Bangladesh and Myanmar, but these states are omitted here.

Population: The Slender-billed Babbler was reportedly common in northern West Bengal at Hasimara¹. Recent records have been few in Assam, although it should be remembered that the species was often recorded by explorers riding elephants through suitable habitat (e.g. Godwin-Austen 1874), and to find the species in otherwise impenetrable grasslands is very difficult.

Main threats: Virtually all remaining grasslands within the species's range are subject to intense pressures from encroachment by people and domestic livestock, grass harvesting, fire, forestry, irrigation and dam schemes².

Grasslands are perhaps the most threatened ecosystem of the Indian subcontinent, suffering the greatest losses owing to degradation, conversion and heavy disturbance^{3,4}, and are insufficiently well represented in protected areas⁵, a circumstance that needs to be addressed urgently.

Conservation measures: In India the species occurs in Manas National Park and Kaziranga National Park, while in Nepal it is found in Chitwan National Park.

References: 1. Inglis 1951–1969; 2. Peet *et al.* 1999a; 3. Rahmani 1988; 4. Baral 1998; 5. Rahmani 1992.

Slender-billed Babbler in some of the IBAs

Assam: 1. Kaziranga NP; 2. Nameri NP; **Sikkim:** 1. Lachung, Lema and Dombang Valley, 2. Lowland Forest.



BLACK-BREASTED PARROTBILL *Paradoxornis flavirostris* **Vulnerable A1c; A2c; C1**

This tall grassland specialist is inferred to have a small, rapidly declining population as a result of extensive loss and degradation of grasslands. It therefore qualifies as Vulnerable.

Distribution: The Black-breasted Parrotbill has been recorded in the north-eastern plains and neighbouring foothills of India, from West Bengal, through Assam, to Arunachal Pradesh and northern Bangladesh, with possible records from Nepal, Sikkim and the Chittagong region (Bangladesh). The species is restricted to northern West Bengal, the Brahmaputra valley in Assam and surrounding foothills in Arunachal Pradesh. Although listed for Meghalaya and Nagaland^{1,2} and possibly occurring at the lowland fringes of these states, no confirmed primary records have been traced.

Population: The population size of this species is unknown but given the relative paucity of recent records and the widespread reduction in the area of its tall grassland habitat it is believed to be declining³.

Main threats: The Black-breasted Parrotbill is one of three threatened bird species that are entirely restricted to the “Assam Plains Endemic Bird Area”, threats and conservation measures are profiled⁴. The key threat to the species is the loss in area and quality of its grassland and marshland habitat³.

Conservation measures: D’Ering Memorial Wildlife Sanctuary protects appropriate habitat in Arunachal Pradesh, while in Assam the species occurs in and around Dibru-Saikhowa National Park (the important Amarpur section was once included in the park, but it has subsequently been excised)³ and Kaziranga National Park; in West Bengal it has been recorded in Jaldapara Wildlife Sanctuary.

References: 1. Baker 1922–1930; 2. Grimmett *et al.* 1998; 3. Choudhury 2000; 4. Stattersfield *et al.* 1998.

Black-breasted Parrotbill in some of the IBAs

West Bengal: 1. Buxa Tiger Reserve, 2. Gorumara NP, 3. Jaldapara NP, 4. Lava/Neora Valley NP, 5. Gopaldhara; **Assam:** 1. Dibru-Saikhowa NP+ Kobo Chapori+Amarpur Chapori-Maguri-Motapung Beels, 2. Kaziranga NP, 3. Nameri NP, 4. Majuli Beel, 5. Manas NP, 6. Orang NP, 7. Pobitara WLS, 8. Burchapori WLS and Laokhowa WLS; **Arunachal Pradesh:** 1. D’Ering WLS & Dibang WLS, 2. Talley Valley WLS, 3. Pakhui WLS; **Sikkim:** 1. Barsey Rhododendron WLS, 2. Lachung, Lema and Dombang Valley, 3. Low Land Fore to Melli, Kerabari, Baguwa Jorethang.



GREY-CROWNED PRINIA *Prinia cinereocapilla* **Vulnerable A1c; A2c**

This species is inferred to be rapidly declining, probably as a result of destruction and conversion of grasslands throughout its range. It therefore qualifies as Vulnerable.

Distribution: The Grey-crowned Prinia has been recorded in India, Nepal and Bhutan, where it occurs in the terai belt and the Himalayan foothills. It has also been reported from a single locality in Pakistan, the Margalla hills (at 450–1,000 m), where a small, apparently resident breeding population was discovered¹ in May 1985. However, the species has not been relocated in the area despite considerable searching² and, given the ease with which it may be confused with its congeners, confirmation of its presence in Pakistan is desirable. In India it occupies a restricted range in the Himalayan foothills in northern India, from Garhwal and Kumaon (Uttaranchal) to northern West Bengal and Assam³.

Population: Despite its rarity in early collections,

which suggests that it has always been local and uncommon, this is almost certainly mistaken; the contrary view that it remains localised across its range and is probably declining^{3,4} is seemingly borne out by the evidence above and below. In India very little is known about its current population but it is inferred to be declining as a result of habitat loss throughout its Indian range. There have been no recent records in West Bengal and Assam, and current unquantified populations are known in only a few protected areas in Uttar Pradesh.

Main threats: The terai regions of Nepal and India have undergone massive ecological disturbance over the last century and the loss and degradation of natural and semi-

VULNERABLE

natural terai grasslands and forest is the key threat to this species^{4,5,6,7,8}. This species is perhaps especially vulnerable to grassland degradation as it will not colonise grassland regrowth until well developed⁹.

Conservation measures: In India, Grey-crowned Prinia has been recorded in Corbett National Park and Dudwa National Park, although no information on populations or persistence in these areas is available. In Nepal, populations occur in Royal Chitwan National Park, Royal Bardia National Park and Parsa Wildlife Reserve and there are recent reports from Kosi Tappu Wildlife Reserve.

References: 1. Roberts 1991–1992; 2. M. Pyhälä *in litt.* 2000; 3. Grimmett *et al.* 1998; 4. H. S. Baral *in litt.* 1998; 5. Rahmani 1988; 6. Rahmani and Qurieshi 1991; 7. Peet *et al.* 1999a; 8. Bhargava 2000; 9. Baral 2000.

Grey-crowned Prinia in some of the IBAs

Uttaranchal: Corbett Tiger Reserve; **Uttar Pradesh:** Dudwa NP; **Assam:** Nameri NP; **Sikkim:** 1. Lachung, Lema and Dombang Valley, 2. Low Land Forest to Melli, Kerabari, Baguwa Jorethang; **West Bengal:** 1. Buxa Tiger Reserve, 2. Gopaldhara.



BRISTLED GRASS-WARBLER *Chaetornis striatus* Vulnerable A1c; A2c; C1

This grassland specialist has a small, rapidly declining population owing to loss and degradation of its grassland habitat, primarily through drainage and conversion to agriculture. It therefore qualifies as Vulnerable.

Distribution: The Bristled Grass-warbler is endemic to the Indian subcontinent. It occurs rather erratically throughout a range that encompasses lowland Pakistan, much of India, the Nepal terai and, at least historically, Bangladesh^{1,2}. This species is widely distributed but “very local”¹. A record from Keoladeo National Park, Bharatpur, Rajasthan, in February 1996³ is here treated provisionally, given the absence of other observations at this very well-watched site. Recent records come from Pakistan, the *terai* of Nepal, Uttar Pradesh and Assam, as well as Delhi, Punjab and Maharashtra.

Population: Several early records referred to the Bristled Grass-warbler as a common bird, and it was concluded⁴ that “it seems certain that it has declined drastically in recent years”. It is, however, easily overlooked outside the breeding season because it is difficult to both see and identify, while little recent fieldwork has been conducted during its breeding season when it is very hot and access to some sites (such as Royal Chitwan National Park) is difficult due to monsoonal flooding⁵. These factors have possibly exaggerated its rarity.

Main threats: Over the past century, but in particular in the past half-century, there has been huge declines in the area and quality of grasslands across the Indian subcontinent^{6,7}. Virtually all remaining wet or dry grasslands within the species’ range are subject to intense pressures (through drainage, conversion to agriculture,

overgrazing etc.) that threaten their future^{6,7}, and in many areas grasslands of conservation value are restricted to protected areas but continue to suffer degradation⁸. Moreover, grasslands are generally poorly represented in protected-area systems⁶. In India huge areas of grassland have been lost as a result of conversion to agriculture and forestry plantations, edaphic grasslands have been altered as flooding regimes have been changed by dam and irrigation schemes, and many remaining grasslands are subject to high grazing pressure from domestic stock and intensive harvesting by local communities, often associated with grassland burning⁶.

Conservation measures: The species has been reported in Corbett and Dudwa National Parks in Uttar Pradesh, and Manas, Orang and Kaziranga National Parks in Assam. It has also been recorded in Harike Lake Wildlife Sanctuary, Punjab, and listed for Buxa Sanctuary, West Bengal, although the latter is possibly based on historical records from nearby, as there is little suitable habitat for the species in the area³. The wetland area at Okhla receives some protection, but this has apparently been ineffective in the protection of grassland where this species occur.

References: 1. Ali and Ripley 1978–1999; 2. Roberts 1991–1992; 3. BirdLife International 2001; 4. Inskipp, T. P. 1996; 5. Baral 1997; 6. Rahmani 1992; 7. Peet *et al.* 1999a; 8. Peet 1997.

VULNERABLE

Bristled Grass-warbler in some of the IBAs

Orissa: Satkosia Gorge WLS; **West Bengal:** 1. Buxa Tiger Reserve, 2. Gopaldhara; **Punjab:** Harike WLS;

Assam: 1. Manas NP, 2. Nameri NP, 3. Orang NP, 4. Buridihing; **Delhi:** Okhla Barrage; **Gujarat:** 1. Luna Jheel, 2. Rudra Mata Dam; **Maharashtra:** Sinhgad (north western ghats); **Uttar Pradesh:** Okhla WLS.



BROAD-TAILED GRASSBIRD *Schoenicola platyura* **Vulnerable B1+2a,b,c,d,e; C1; C2a**

This species has a small, severely fragmented range and population as a result of clearance and modification of grasslands. It therefore qualifies as Vulnerable.

Distribution: The Broad-tailed Grassbird is restricted to grassy highlands, principally in the Western Ghats, at least in the breeding season. Outside this time there is some indication that altitudinal movement occurs, with some birds possibly dispersing as far afield as Sri Lanka. This species breeds in damp grasslands in the Western Ghats and Nilgiri hills, occurring largely in Karnataka, Kerala and Tamil Nadu, with possible outlying records from northern Maharashtra (specific locality untraced) and the Eastern Ghats of Andhra Pradesh^{1,2}. It appears to be absent from at least some sites during the non-breeding season, suggesting that seasonal movements might take place, a hypothesis supported by the record of one individual at the coastal migration watchpoint of Point Calimere, Tamil Nadu, in November.

Population: Populations have been judged “not denser than about one bird—or more rarely a pair—to an acre,” with individuals generally keeping “widely scattered”³. In Periyar Sanctuary, it is “common” in at least parts of the Sanctuary⁴. Small numbers have been recorded recently on the Grass hills⁵, but again a population estimate is impossible. It was thought that the species could be commoner than generally assumed because it is such a skulker for much of the year⁴. However, given that it is apparently very conspicuous during the breeding season, the breeding range is probably well known.

Main threats: The Broad-tailed Grassbird is one of (now) four threatened members of the suite of 16 bird species that are entirely restricted to the “Western Ghats Endemic Bird Area”, threats and conservation measures are profiled⁶. Grasslands in general are insufficiently

represented in protected areas of the Indian subcontinent⁷, a circumstance that needs to be addressed urgently. In the Western Ghats, upland grassland areas are heavily overgrazed and this is of major concern for this species and the near-threatened Nilgiri Pipit *Anthus nilghiriensis*. The Broad-tailed Grassbird in particular frequents rather tall grass and the distribution of this habitat type is becoming increasingly fragmented in southern India⁸.

Conservation measures: The species is known from Periyar Sanctuary and Mudumalai Wildlife Sanctuary, with an important population thought to exist in the former. In the Ashambu hills, the Muthukuzhi and Kadayar areas fall within the Kalakad-Mundanthurai Sanctuary⁹.

References: 1. Price 1979; 2. Grimmett *et al.* 1998; 3. Ali and Whistler 1935–1937; 4. Zacharias and Gaston 1999; 5. Kannan 1998; 6. Stattersfield *et al.* 1998; 7. Rahmani 1992; 8. BirdLife International 2001; 9. Raman 1998

Broad-tailed Grassbird in some of the IBAs

Tamil Nadu: 1. Avalanche (Nilgiri), 2. Grass Hills, 3. Kalakkad WLS, 4. Kodaikanal, Palni Hills + Kukal, 5. Mudumalai WLS, 6. Point Calimere WLS, 7. Muthukuzhi; **Kerala:** 1. Amarambalam Reserve Forest- Nilambur, 2. Nelliampathy Reserve Forest, 3. Pambikulam WLS, 4. Periyar Tiger Reserve, 5. Silent Valley NP, 6. Peechi-Vazhani, 7. Thirunelli (part of Wynaad WLS); **Maharashtra:** Sinhgad (north Western Ghats); **Karnataka:** BR Temple Hills WLS.



VULNERABLE

KASHMIR FLYCATCHER *Ficedula subrubra* **Vulnerable B1+2a,b,c,d,e; C1**

This migratory flycatcher has a small, declining population and breeding range, which is also severely fragmented, as a result of the destruction of temperate, mixed deciduous forests. It therefore qualifies as Vulnerable.

Distribution: The Kashmir Flycatcher has a very restricted distribution in northern India and a small portion of Pakistan, occurring as a summer breeding visitor in the valleys of Kashmir and in the Pir Panjal range^{1,2,3}. Virtually the entire population winters in Sri Lanka with small numbers recently discovered wintering in the Nilgiri hills^{4,5,6} and being recorded sparingly in Nepal, Bhutan and across much of India on migration.

Population: There is little recent information on the population of this species from the breeding grounds, but there appears to be some evidence that it may have declined in its non-breeding range in Sri Lanka. Given its restricted breeding and non-breeding ranges, and the reduction in the area of its forest habitat, it is unlikely that it currently numbers more than a few thousand individuals.

Main threats: The major threat is loss and degradation of its breeding habitat as a result of commercial timber extraction, conversion of land for agriculture, livestock-grazing which has substantially altered forest under-storey

structure and composition, and tree-logging for animal fodder, fuelwood and construction materials.

Conservation measures: In India the flycatchers “Muscicapidae” are included, along with most Indian species, in Schedule IV of the Wildlife Act 1972, while in Sri Lanka, the 1993 amendment of the Fauna and Flora Protection Ordinance of 1938 (Act No. 49) grants protection to all Sri Lankan birds (apart from agricultural pests), and it is therefore illegal to kill this species or to keep it in captivity. The species breeds commonly in Overa Wildlife Sanctuary, Jammu and Kashmir⁷, although it is not known what level of protection this confers.

References: 1. Bates and Lowther 1952; 2. Henry 1955; 3. Roberts 1991–1992; 4. Harrap and Redman 1990; 5. Karthikeyan and Athreya 1993; 6. Ashfaq Ahmed Zari (pers. comm.) 2002; 7. Jamdar 1987

Kashmir Flycatcher in some of the IBAs

Jammu & Kashmir: 1. Dachigam NP, 2. Overa WLS;
Tamil Nadu: Avalanche (Nilgiri).

VULNERABLE

PIED OR WHITE-NAPED TIT *Parus nuchalis* **Vulnerable A1c; C1; C2a**

This species underwent a rapid population decline in the recent past. Its small, severely fragmented population continues to decline, although at a reduced rate, as a result of the loss, degradation and fragmentation of its tropical thorn-scrub habitat. It therefore qualifies as Vulnerable.

Distribution: The White-naped Tit is endemic to India, occupying a restricted range with two isolated populations. The first, and best known, occurs in an area of north-western India: central and south-central Rajasthan (Jodhpur, Nagaur, Jaipur, Ajmer, Pali, Jalore and Sirohi districts), Kutch and northern Gujarat (Banas Kantha and Mahesana districts). The second is in southern India: the Eastern Ghats west of Nellore in Andhra Pradesh, west-central and south Karnataka (Dharwad district and Bangalore districts), and northern Tamil Nadu (Periyar district).

Population: The White-naped Tit appears to be in serious difficulties. Both range and population seem to have

declined significantly in the last century and at present it occurs in low densities throughout¹. Its total population cannot be assessed by using a constant density value across its modern range, for reasons of the patchiness in abundance; overall numbers must be very low. It was even thought extinct around Bangalore², but there have been a few recent sightings from Karnataka, Kerala and Tamil Nadu—that from Kerala listing the species as “rare”³.

Threats: The White-naped Tit is a somewhat mysterious bird whose apparently relictual distribution, and patchiness within that distribution, suggests a constitutive difficulty with more versatile competitors, i.e. a degree

of specialisation that no longer confers any easily discernible advantages. Its population is under serious threat mainly from habitat loss, fragmentation, degradation, developmental activities and possibly nest-site limitation. The future of the western population in Gujarat and Rajasthan appears to be “very bleak” as “dry forest cover is diminishing rapidly”¹. The tropical thorn-forest inhabited by the species in Kutch is under threat from clearance owing to local requirements for fuelwood (for illegal charcoal-making and bakeries), fodder, cultivable land and *Acacia* twigs for disposable toothbrushes¹.

Conservation measures: None is known. There is a single record from the fringe of Mudumalai National Park⁴, suggesting that a small population might receive some protection from this area.

References: 1. Tiwari and Rahmani 1996; 2. George 1994; 3. Zacharias and Gaston 1993; 4. BirdLife International 2001.

Pied Tit in some of the IBAs

Gujarat: 1. Luna Jheel; **Karnataka:** 1. BR Temple Hills WLS, 2. Cauveri WLS.



BEAUTIFUL NUTHATCH *Sitta formosa* **Vulnerable C1; C2a**

This nuthatch has a small, declining, severely fragmented population as a result of loss, degradation and fragmentation of evergreen and semi-evergreen forest. It therefore qualifies as Vulnerable.

VULNERABLE

Distribution: The Beautiful Nuthatch is scarce in high-altitude evergreen forests, ranging widely from the eastern Himalayas and outlying hills of north-eastern India and Bhutan through the highlands of Myanmar to scattered sites in the Annamite mountains of Laos and Vietnam. There is one record each in southern China and northern Thailand, but no confirmed record from either Nepal or Bangladesh. In India records are restricted to the eastern Himalayas in West Bengal and Sikkim and to the ranges of north-eastern India (including the Khasia, North Cachar, Barail, Naga and Mishmi hills).

Population: The Beautiful Nuthatch is generally difficult to find throughout its rather extensive range^{1,2}. It appears to be highly local in distribution, a factor that renders any assessment of its overall population size fraught with difficulty. On the basis of current information, however, there is little to suggest that the population exceeds 10,000 individuals. In India it is now apparently absent from West Bengal, still present in the Barail range of southern Assam, and locally fairly common in Arunachal Pradesh, especially in and near Namdapha National Park.

Main threats: The Beautiful Nuthatch is considered threatened by forest destruction, primarily as a result of logging and shifting cultivation^{3,4,5}. As the altitudes it prefers generally exceed those frequented by agriculturists and timber extraction teams, the species is

possibly more secure than most. Nevertheless, the current isolation of montane forest above deforested lowlands possibly impinges on its non-breeding dispersal, and its low population density may render it more susceptible to habitat fragmentation. These facts imply that the species will be quick to disappear when forests are selectively logged or fragmented.

Conservation measures: The species is legally protected in Thailand; its family (Sittidae) appears on the list of protected species in Myanmar (1994). It receives no protection in either China, India, Laos or Vietnam⁶.

References: 1. Baker 1922–1930; 2. Smythies 1986; 3. Collar *et al.* 1994; 4. Harrap and Quinn 1996; 5. Choudhury 2000; 6. BirdLife International 2001

Beautiful Nuthatch in some of the IBAs

West Bengal: 1. Buxa Tiger Reserve, 2. Lava/Neora Valley NP, 3. Singhalila NP, 4. Gopaldhara; **Assam:** 1. Nameri NP, 2. Jatinga, 3. Joydihing WLS, 4. Barail range - North Cachar RF, 5. Buridihing RF; **Arunachal Pradesh:** 1. Namdapha and Kamalang WLS, 2. Talley Valley WLS, 3. Pakhui WLS, 4. Mehao WLS, 5. Mouling NP, 6. Mandla Phudung Area, 7. Eaglenest WLS and Seesa WLS; **Sikkim:** 1. Lachung, Lema and Dombang Valley, 2. Lowland Forest to Melli, Kerabari, Baguwa, Jorethang



GREEN MUNIA *Amandava formosa* **Vulnerable A1a,c,d; A2b,c,d**

This colourful finch qualifies for Vulnerable because it has a rapidly declining population owing to widespread trapping for the cagebird trade, compounded by habitat loss and degradation through agricultural intensification.

Distribution: The Green Munia or Avadavat is endemic to India where it is distributed locally from southern Rajasthan, central Uttar Pradesh and southern Bihar to northern Andhra Pradesh and (possibly) northern Kerala^{1,2}. There are also recent records from north and east Rajasthan.

Population: More recently, flocks of up to 60–70 individuals were seen in 1994 in the Tikamgarh area³, with unspecified numbers in Kanha National Park in 1995⁴. The recent records of 2,000 for sale at Ranchi, Bihar, does not imply a large population in this region as trapping activities are focused on Orissa and Madhya Pradesh⁵. Although recent observations have tended to imply small numbers of individuals, erratically distributed and widely scattered, the occurrence in trade of a minimum of several thousand birds^{5,6} in the early 1990s indicates that sizeable populations must still occur locally.

Main threats: Even in the nineteenth century, the Green Munia was popular as a cagebird, sometimes being brought to market in “considerable numbers”^{7,8}. It remains a highly sought-after cagebird in both domestic and international markets, being sold to aviaries, zoos and private individuals⁵. It is captured, usually in nets or funnel traps, in substantial numbers, and up to 2,000–3,000 were

estimated to be illegally traded annually for the pet trade in the 1990s⁵. Nearly 1,000 individuals were observed during market surveys in 1992–1994⁵.

Conservation measures: The species appears on CITES Appendix II and is protected under a 1991 amendment of the Wildlife (Protection) Act of India (1972); national trade is therefore illegal. Trapping and trade has been banned since around 1971. A countrywide study on the live bird trade in India was taken up by TRAFFIC-India⁵ between 1992 and 1994 and the impact of trade on the species was assessed. The species has been recorded in Kanha National Park, Desert National Park, Melghat Sanctuary and Taal Chappar Wildlife Sanctuary, and is reported from Palamau National Park, Anshi National Park, and the Gurukulam Botanical Sanctuary.

References: 1. Grimmett *et al.* 1998; 2. Sharma and Tehsin 1994; 3. Bhargava 1996; 4. Kanoje 1996; 5. Ahmed 1997; 6. Ahmed 1998; 7. Jerdon 1862–1864; 8. Reid 1881;

Green Munia in some of the IBAs

Madhya Pradesh: 1. Kanha NP, 2. Pench NP, 3. Bori WLS and Satpura NP; **Chattishgarh:** 1. Gomarda WLS, 2. Udanti and Sitanadi WLS; **Orissa:** Simlipal NP; **Kerala:** Thirunelli (part of Wynaad WLS).

VULNERABLE

FINN’S OR YELLOW WEAVER *Ploceus megarhynchus* **Vulnerable A1c; A2c; C1; C2a**

This species has a small, rapidly declining, severely fragmented population as a result of the loss and degradation of terai grasslands, principally through conversion to agriculture and overgrazing. These factors qualify it as Vulnerable.

Distribution: Finn’s Weaver occurs very locally in the terai belt of India and Nepal from the plains to 1,300 m^{1,2} and it is listed as a resident almost throughout Bangladesh³. In India the species occupies a disjunct distribution in the terai, with one population in Uttar Pradesh/Delhi and another in West Bengal/Assam.

Population: The population of Finn’s Weaver must always have been relatively small but recent evidence suggests that it has declined substantially as many

colonies in its stronghold of northern Uttar Pradesh have apparently disappeared⁴. There is no evidence to suggest that the total population from 2,500 to 10,000 individuals, and it may well fall well short of this.

Main threats: Finn’s Weaver is threatened primarily by extensive habitat loss and degradation in the terai and in north-east India, and additionally by capture for the live-bird trade^{4,5}.

Conservation measures: The species is legally protected in India, weavers in general are listed on Schedule IV of the Indian Wildlife (Protection) Act 1972. Trapping and trade of the species has been banned since 1991⁶. It has occurred in Manas National Park and Kaziranga National Park. In Nepal, there are records from Royal Sukla Phanta Wildlife Reserve.

References: 1. Baker 1922–1930; 2. Ali and Ripley 1978–1999 ; 3. Rashid 1967; 4. Bhargava 2000; 5.

Ahmed 1997; 6. R. Bhargava and A. R. Rahmani *in litt.* 1998

Finn's Weaver in some of the IBAs

West Bengal: 1. Jaldapara WLS, 2. Buxa Tiger Reserve; **Uttar Pradesh:** Hastinapur WLS; **Assam:** 1. Manas NP, 2. Dibru-Saikhowa NP+ KoboChapori+Amarpur Chapori-Maguri-Motapung Beels; 3. Kaziranga NP, 4. Nameri NP, 5. Pobitara WLS (?).

■ ■ ■

VULNERABLE

DALMATIAN PELICAN *Pelecanus crispus* Conservation Dependent

This species was formerly listed as Vulnerable. However, conservation measures have resulted in a population increase, particularly at the largest colony at Lake Mikri Prespa, such that the species no longer qualifies as threatened. The cessation of conservation measures would probably result in the species qualifying as threatened within five years and it is therefore listed as Conservation Dependent.

Distribution: The Dalmatian Pelican occupies a wide, fragmented range from Yugoslavia, Greece, Albania and Turkey in the west to China in the east, and south to the Indian subcontinent. The species is a winter visitor to India in small numbers; the main influx arrives from the west, while very small numbers are recorded in Assam^{1,2}. Several records initially were published or reported as “Spot-billed Pelican” or “*P. philippensis*”, but the most recent records of Spot-billed Pelican in Gujarat are the result of mistaken identity, or taxonomic and nomenclatural confusion with Dalmatian Pelican³. It is reported from Sultanpur National Park in Haryana, Okhla in Delhi, and Sariska Wildlife Sanctuary in Rajasthan.

Population: Following massive declines during the nineteenth and much of the twentieth centuries, the global population of this species has stabilised at 15,000–20,000 individuals (including 4,000–5,000 breeding pairs⁴, and several colonies are increasing⁵. Parasharya (in press) reports that the Dalmatian is still regular in small numbers in coastal regions of Kathiawar and on freshwater reservoirs inland, although he does not provide an estimate of numbers. Further localities are in the Little Rann of Kutch and neighbouring areas of Gujarat, where small numbers (usually up to 10) occur on lakes, usually amongst several hundred Great White Pelicans⁶. A few (again usually fewer than 10) regularly visit Keoladeo National Park in winter, and other small groups are scattered through Rajasthan. A small population (10–20) winters regularly in Kaziranga National Park, Assam^{2,7}, presumably from an eastern breeding population. The total population wintering in India is likely to be in the low hundreds.

Main threats: Past declines in the global population of this species were primarily caused by wetland drainage, shooting and persecution by fishermen⁵. Continuing threats include disturbance, wetland alteration and destruction, water pollution, collision with power-lines and over-exploitation of fish stocks⁸. The threats to this species in Asia include habitat loss and modification, hunting, disturbance and pollution.

Conservation measures: Conservation efforts have reduced the impact of the major threats in Europe⁵. The Dalmatian Pelican is listed on Appendix I of CITES and both Appendix I and Appendix II of the Bonn Convention. In mainland China it is a nationally protected species. This species is protected under the Indian Wildlife (Protection) Act 1972.

References: 1. Grimmett *et al.* 1998; 2. Choudhury 2000; 3. Parasharya in press; 4. Hatzilacou 1993; 5. Crivelli *et al.* 1997; 6. BirdLife International 2001; 7. Barua and Sharma 1999; 8. Hatzilacou 1993.

Dalmatian Pelican in some of the IBAs

Rajasthan: 1. Sariska NP, 2. Ajan Bandh (Part of Keoladeo NP), 3. Keoladeo NP, 4. Sambhar lake; **Gujarat:** 1. Chhari Dhand, 2. Gir NP, 3. Kaneval Reservoirs, 4. Khijadiya Bird Sanctuary, 5. Marine NP, 6. Nalsarovar WLS, 7. Thol Lake, 8. Wild Ass Sanctuary, 9. Hanj Tal (Banni), 10. Flamingo City; **West Bengal:** 1. Buxa Tiger Reserve; **Uttar Pradesh:** 1. National Chambal WLS; **Haryana:** 1. Sultanpur Jheel NP; **Assam:** 1. Burachapori WLS and Laokhowa WLS, 2. Panidihing Bird Sanctuary, 3. Kaziranga NP; **Madhya Pradesh:** 1. Madhav NP.

■ ■ ■

ANDAMAN CRAKE *Rallina canningi* Data Deficient

Distribution: The Andaman Crake is a rarely encountered endemic of the Andaman Islands, being absent from the Nicobars¹. It is mainly found in Middle and South Andaman². There appear to be no historical records from North Andaman; no encounter between 1993 to 1997², and it is therefore conceivable, if improbable, that it does not occur.

Population: No reliable estimates are available. It was initially thought either “excessively rare or... very seldom seen”³. More recently, it was reported to be common in Mount Harriet National Park, although encountered at two localities only⁴. Local information suggests, however, that it is less rare than had been feared⁵.

Main threats: Many of the Andaman endemics are threatened by their naturally limited distribution and scarcity⁶, coupled with the degradation and destruction of available habitat by people⁷. Anthropogenic factors include the conversion of natural habitat for agriculture, housing and roads; furthermore, logging and clearance for agriculture have already affected and continue to affect

the habitat of this species⁸.

Conservation measures: More than 16% of the total area (1,053.6 sq. km) of the Andaman Islands have been declared as protected areas, i.e. sanctuaries, national parks and marine national parks⁸. Awareness programmes are being initiated to inform local people of the precarious future of their native fauna⁸.

References: 1. Ali and Ripley 1978–1999; 2. Vijayan 1997; 3. Hume 1874; 4. Chandra and Rajan 1996; 5. R. Sankaran verbally 1998; 6. Davidar *et al.* 1995; 7. Collar *et al.* 1994; 8. BirdLife International 2001.

Andaman Crake in some of the IBAs

Andamans: 1. Landfall Island WLS, 2. Austin Strait, 3. Saddle Peak NP, 4. Patti Level, Cliff Bay, 5. Interview Island WLS, 6. Jarwa Reserve (Middle Andaman), 7. Chainpur and Hanspuri, 8. Mount Diavalo/ Cuthbert Bay, 9. Jarwa Reserve (South Andaman), 10. Barangtang-Rafters Creek, 11. Mount Harriet NP, 12. Kadakachang, 13. Mahatma Gandhi Marine NP, 14. North Sentinel, 15. South Sentinel (1 sq.km), 16. Little Andaman



NICOBAR SCOPS-OWL *Otus alius* Data Deficient

Distribution: The Nicobar Scops-owl is known only from a single locality on Great Nicobar, Nicobar Islands, India. It is recorded from Great Nicobar (Campbell Bay)¹.

The species may occur on other islands in the group, but equally it may be endemic to Great Nicobar, and indeed restricted in range on that island. The most likely other island where it may be found is Little Nicobar which, like Great Nicobar, is relatively poorly explored¹. The more northerly islands of the group have been well surveyed without evidence of this species being generated¹.

Population: There is no information. It is probable that the species is distributed throughout forest on Great Nicobar at moderate densities. However, the extent of forest is not known for the island; and it is possible that some ecological constraint operates on the species,

confining it to a particular habitat or elevation (it is currently known only from coastal forest presumably at sea-level).

Main threats: None is known, but it cannot be assumed that the forest environment on Great Nicobar is secure. Despite various apparent safeguards, including two national parks, the island faces various current and proposed threats, particularly to its coastal forests.

Conservation measures: Campbell Bay National Park (426 sq. km) presumably embraces the type locality.

References: 1. Rasmussen 1998e

NICOBAR SCOPS-OWL IN THE IBA SITES

Campbell Bay National Park (Great Nicobar), Little Nicobar.



DARTER *Anhinga melanogaster* **Criteria nearly met: A1b,c,d; A2b,c,d.**

It occurs in **Pakistan, India** (widespread resident, locally common in Assam), current status poorly known but apparently declining¹, **Nepal, Sri Lanka, Bangladesh, Myanmar, Thailand, Laos, Vietnam, Cambodia, Peninsular Malaysia, Brunei**. The species is generally uncommon and declining throughout Asia, although an estimate of 4,000 for South Asia² may be too low. It inhabits shallow inland wetlands including lakes, rivers, swamps and reservoirs, as well as estuaries, tidal inlets,

mangroves and coastal lagoons³, ascending to 1,400 m, at least in India and Java^{1,4}. In common with many other Asian waterbirds, it is primarily threatened by habitat loss, disturbance (at feeding grounds and colonies), hunting and pollution³.

References: 1. Grimmett *et al.* 1998; 2. Rose and Scott 1997; 3. del Hoyo *et al.* 1992; 4. MacKinnon and Phillipps 1993.

**PAINTED STORK** *Mycteria leucocephala* **Criteria nearly met: A1b,c,d; A2b,c,d**

It occurs in **Pakistan, Nepal, India** (widespread and locally common resident)^{1,2}, **Bangladesh, Sri Lanka, mainland China, Myanmar, Thailand, Vietnam, Cambodia** and Peninsular **Malaysia**. It frequents freshwater marshes, lakes and reservoirs, flooded fields, rice paddies, freshwater swamp forest, riverbanks, intertidal mudflats and saltpans^{2,3}. There are an estimated 15,000 individuals in South Asia and fewer than 10,000 in South-East Asia, with populations declining throughout⁴. Although it is thus considered “one of the

most numerous and secure of Asian storks”¹, this is more a reflection of the rarity and endangerment of most other storks in the region than of the security of this species. The increasing impact of habitat loss, disturbance, pollution and hunting of adults and collection of eggs and nestlings from colonies is cause for concern^{1,5}.

References: 1. del Hoyo *et al.* 1992; 2. Grimmett *et al.* 1998; 3. Robson 2000; 4. Rose and Scott 1997; 5. Mundkur *et al.* 1995a.

**BLACK-NECKED STORK** *Ephippiorhynchus asiaticus* **Criterion nearly met: C1**

It occurs in **Pakistan, Nepal, India** (still a widespread resident, but now generally rare and local)¹, **Bangladesh, Sri Lanka, Myanmar, Thailand, Laos, Cambodia, Indonesia, Papua New Guinea, Australia**. The combined populations of South and South-East Asia are thought not to exceed 400 individuals², while the former is in steep decline³ and the latter has dwindled disastrously to the brink of extinction⁴. It is probably stable or even increasing in Papua and Australia², although the situation needs further review. It frequents freshwater marshes, lakes, pools in open forest, large rivers, occasionally

mangroves and rarely coastal mudflats, up to 1,200 m^{1,4}, being highly susceptible to disturbance and tending to prefer areas least visited by humans⁵. It is threatened by a variety of factors across its range, including drainage of wetlands, felling of nest trees, development, encroachment of agriculture or aquaculture, overfishing, overgrazing, hunting and excessive capture for zoos^{3,5,6}.

References: 1. Grimmett *et al.* 1998; 2. Rose and Scott 1997; 3. Rahmani 1987; 4. Robson 2000; 5. del Hoyo *et al.* 1992; 6. Ahmed 1997.

**ORIENTAL WHITE IBIS** *Threskiornis melanocephalus* **Criteria nearly met: A1b,c,d; A2b,c,d.**

It occurs in **Japan, South Korea, mainland China, Hong Kong, Pakistan, Nepal, India** (widespread and locally common in the west, scarce in the east)¹; possibly increasing locally due to spread of man-made wetlands², **Sri Lanka, Bangladesh, Philippines, Myanmar,**

Thailand, Laos, Vietnam, Cambodia, Peninsular Malaysia, Indonesia. While the East Asian population is extremely small (<100), those in South-East Asia and South Asia probably number between 10,000 and 25,000 individuals each³. It inhabits freshwater marshes, lakes,

rivers, flooded grasslands, paddyfields, tidal creeks, mudflats, saltmarshes and coastal lagoons, usually in extreme lowlands, but occasionally up to 950 m, tending to be nomadic in response to water levels and feeding conditions¹. It is vulnerable to drainage, disturbance,

pollution, agricultural conversion, hunting and collection of eggs and nestlings from colonies⁴.

References: 1. Grimmett *et al.* 1998; 2. Rahmani 1995; 3. Rose and Scott 1997; 4. del Hoyo *et al.* 1992;



LESSER FLAMINGO *Phoenicopterus minor* **Criterion nearly met: A2c.**

It breeds mainly in the Rift Valley lakes of East Africa in **Ethiopia, Kenya and Tanzania**, and, in Asia, **India** (breeding in the Great and Little Ranns of Kutch, Gujarat); when not breeding, it ranges occasionally into virtually every sub-Saharan country and from the Arabian Peninsula to **Pakistan**^{1,2}. The global population is *c.* 5,000,000, including *c.* 150,000 (stable or even increasing) in Asia, but declines have been suggested for much of Africa^{3,4}. It breeds in huge colonies on large, undisturbed alkaline and saline lakes, and is adapted to respond to local environmental changes in sites by moving elsewhere, and thus depends on a network

of suitable areas; however, proposed soda-ash mining and hydroelectric power schemes in what is in effect the only breeding site in the Rift Valley, Lake Natron in Tanzania, could cause rapid overall population declines and permanently alter the ecosystem on which the species depends⁵. Other threats include land claim, water pollution, and disturbance. CMS Appendix II.

References: 1. del Hoyo *et al.* 1992; 2. Grimmett *et al.* 1998; 3. Simmons 1996; 4. Rose and Scott 1997; 5. Mari and Collar 2000



FERRUGINOUS POCHARD *Aythya nyroca* **Criteria nearly met: A1c; A2c.**

It breeds in Europe, Asia (east to mainland **China** and south to **India**) and North Africa, the wintering range overlapping with the breeding range but extending to the Middle East, West and north-east Africa and South-East Asia¹. The main part of the population occurs in Asia, although quantitative data are lacking. An estimate for North Africa and Asia of 10,000 individuals in 1991 appears too low². Recent surveys have found high numbers, perhaps into the tens of thousands, in Inner Mongolia, and it is apparently common on the Tibetan Plateau, mainland **China**³, and either scarce or locally common in winter in **Pakistan, India, Nepal, Bhutan, Bangladesh, Myanmar and Thailand**⁴. It is also

recorded from **Mongolia** and western **Russia**. Other large winter counts have been made in **Azerbaijan** (9,000 birds), **Turkmenistan** (20,833 birds) and **Uzbekistan** (7,000 birds), but numbers of breeding birds have declined in **Kazakhstan** and **Uzbekistan**⁵. The European population is now an estimated 13,000–24,000 pairs, and the key threat is the loss of its wetland habitat, of well vegetated shallow pools, including extensively managed fishponds, although hunting is also a serious threat.

References: 1. del Hoyo *et al.* 1992; 2. Perennou *et al.* 1994; 3. Scott 1993; 4. Robson 2000; 5. Kashkarov and Mukhina 1997.



WHITE-TAILED SEA-EAGLE *Haliaeetus albicilla* **Criterion nearly met: C2a.**

It has its strongholds in **Norway** (1,600–1,800 pairs) and **Russia**, and important populations in south-west Greenland (to **Denmark**), **Sweden, Poland and Germany** (301 pairs)¹. Smaller numbers breed in **Iceland, United Kingdom, Finland, Estonia, Latvia, Lithuania, Belarus, Austria, Czech Republic, Slovakia, Slovenia, Yugoslavia, Bulgaria, Romania, Hungary, Moldova, Greece, Turkey, Iran, Armenia, Georgia, Azerbaijan, Ukraine, Kazakhstan, Turkmenistan, Mongolia, mainland China**

and **Japan**². Small numbers winter south to **North Korea** and **South Korea**³, **Taiwan** (China), **Pakistan** (where it was once fairly common), **India**, especially Assam^{4,5}, and **Nepal**, while it is a vagrant to **Bangladesh** and **Thailand**. It is mainly migratory in the north and east of its breeding range but sedentary elsewhere. The population is estimated at 5,000–7,000 pairs but the size of the Russian population is poorly known. Loss and degradation of wetlands, increasing human disturbance, and the indiscriminate use

NEAR THREATENED

of poisons are continuing threats. It is susceptible to environmental pollution with the accumulation of mercury, organochlorine and other pesticide residues leading to reduced breeding success⁶.

References: 1. Hauff 1998; 2. Collar *et al.* 1994; 3. BirdLife International 2001; 4. Ali and Ripley 1978–1999; 5. Choudhury 2000; 6. Thiollay 1996.

■ ■ ■

LESSER GREY-HEADED FISH-EAGLE *Ichthyophaga humilis*
Criteria nearly met: A1b,c,e; A2b,c,e; C1; C2a.

It occurs in **India** (restricted to Himalayan foothills and north-east; declining in range and population^{1,2}, **Nepal** (rare and local in lowlands), **Bhutan** (very rare at lower altitudes), mainland **China** (rare visitor to Hainan), **Myanmar** (widespread, scarce to locally fairly common), **Thailand** (rare in west and south), **Laos** (small numbers persist in several catchments), **Cambodia** (four recent records), **Vietnam** (rare to locally fairly common in west Tonkin and south Annam), Peninsular **Malaysia** (previously common; now scarce to locally fairly common but declining) and East Malaysia, **Brunei**, **Indonesia** (uncommon in Sumatra and Borneo; locally

common in south-east Sulawesi, uncommon to rare elsewhere). It frequents large forested rivers and wetlands in the lowlands and foothills up to 2,400 m, but usually³ below 1,000 m. Loss of forest habitat along rivers, siltation, overfishing and increasing human disturbance of waterways are important threats that are causing widespread declines. It is also declining in Uttar Pradesh, partly because of pesticide use⁴ and this is presumably relevant throughout much of its range.

References: 1. Samant *et al.* 1995; 2. Grimmett *et al.* 1999; 3. Grimmett *et al.* 1998; 4. Naoroji 1997

■ ■ ■

GREATER GREY-HEADED FISH-EAGLE *Ichthyophaga ichthyaetus*
Criteria nearly met: A1b,c; A2b,c; C1.

It occurs in **India** (widespread and locally frequent in the north-east, scarce and local in the peninsula^{1,2}, **Nepal** (now rare and local, mainly below 250 m), **Sri Lanka** (rare in the dry lowlands), **Bangladesh** (widely distributed but uncommon and local), **Myanmar** (rare to scarce resident), **Philippines** (formerly quite common in the north and east, now rare and apparently declining), **Thailand** (formerly a widespread resident, now absent from the north and centre, rare and local in the south), **Laos** (now rare), **Vietnam** (scarce in the south, disappearing from the north), **Cambodia** (scarce), Peninsular **Malaysia** (previously common, now uncommon and sparse, perhaps 40 pairs remaining), East Malaysia, **Singapore** (scarce), **Brunei**, and the Greater

Sundas and Sulawesi, **Indonesia** (widely distributed but uncommon in Sumatra and Borneo, but now very rare in Java). Although widely distributed, historical and even recent records are difficult to interpret, in South-East Asia at least, owing to identification difficulties between this species and Lesser Fish-eagle *Ichthyophaga humilis*. It is found near slow-moving rivers and streams, lakes, reservoirs and tidal lagoons in wooded country, usually in lowlands but ascending to 1,525 m locally². The most pertinent threats are the loss of undisturbed wetlands, overfishing, siltation, pollution and persecution.

References: 1. Samant *et al.* 1995; 2. Grimmett *et al.* 1998

■ ■ ■

CINEREOUS VULTURE *Aegypius monachus* Criterion nearly met: C1.

It breeds in **Spain, Bulgaria, Greece, Turkey, Armenia, Azerbaijan, Georgia, Ukraine, Russia, Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, Kyrgyzstan, Iran, Afghanistan, north India, Russia, Mongolia** and mainland **China**, with a small re-introduced population in **France, Portugal, F.Y.R.O. Macedonia** and **Albania**, and wintering areas in **Sudan, Pakistan, north-**

west India, Nepal, Bangladesh (vagrant)¹, **Myanmar, North Korea** and **South Korea**. There are a few records from South-East Asia in **Thailand, Cambodia, Vietnam**, and Peninsular **Malaysia**. It has a small total population (probably over 10,000 birds) with decline occurring in some parts of its range. There are probably over 1,000 pairs in the Asian part of the former

Soviet Union and a further 1,760 pairs in mainland China². It is threatened by habitat alteration in its breeding areas, particularly the destruction of native forests, forest fires, poisoning and a shortage of food as a result of changes in traditional farming practices, and many

birds are trapped or shot in China for trade in their feathers.

References: 1. Grimmett *et al.* 1998; 2. BirdLife International 2001

RED-HEADED VULTURE *Sarcogyps calvus* **Criteria nearly met:** A1a,b,c,d,e; A2a,b,c,d,e.

It occurs in **Pakistan** (previously regular, now a rare straggler), **Nepal** (uncommon)¹, **India** (sparsely distributed and declining, now rare or absent from some areas, e.g. parts of Gujarat and the north-eastern states, but still fairly common in the Western Himalayan foothills)¹, **Bangladesh** (rare in the north-west), **Myanmar** (former resident, current status unknown), mainland **China** (very rare in south-west Yunnan and possibly occurs in south-east Tibet), **Thailand** (rare resident in remote portions of the west, now absent elsewhere), **Laos** (previously widespread and common, but now rare and restricted to the south), **Vietnam** (previously regular in central regions, now rare after a major decline), **Cambodia** (previously common, now

uncommon and restricted to the north-east), and Peninsular **Malaysia** (previously locally common in north, now absent). It frequents open country (often near human habitation), well-wooded hills and dry deciduous forest with rivers, usually below 2,500 m usually^{1,2}. The disappearance of vultures from Asia is linked to a suite of factors, amongst which can be listed the demise of wild ungulates, the intensification of agriculture, increased sophistication of waste disposal techniques, direct persecution and the spread of avian diseases (see Threats under White-rumped Vulture *Gyps bengalensis*).

References: 1. Grimmett *et al.* 1998; 2. Robson 2000.

SOUTH NICOBAR SERPENT-EAGLE *Spilornis klossi* **Criterion nearly met:** C1.

It (here treated as separate from “Nicobar [or Small] Serpent-eagle *S. minimus*”, which is instead provisionally placed with *S. cheela*) is endemic to the islands of Great Nicobar (including Pulo Kunji), Little Nicobar and Menchal in the South Nicobar island group, Nicobar islands, where it is most frequently found in the canopy of forest^{1,2}.

Increased settlement of the islands has led to increased pressure on natural resources, and planned development projects could severely affect the habitat of this species³.

References: 1. Abdulali 1978; 2. Sankaran 1998; 3. Stattersfield *et al.* 1998

ANDAMAN SERPENT-EAGLE *Spilornis elgini* **Criteria nearly met:** B1+2a,b,c,d,e; C1; C2b.

It is endemic to South Andaman island, where it is a common resident in inland forest clearings and hillsides with scattered trees, appearing to be ecologically separated from Crested Serpent-eagle *S. cheela*, which inhabits coastal forests on the same island^{1,2}. Although forest remains extensive on the Andamans, loss and fragmentation of cover continues and is perhaps accelerating. The human

population on larger islands is rising rapidly and habitat is consequently under mounting pressure from agriculture, grazing and logging³. Hunting is also apparently common on the islands³ and may affect this species.

References: 1. Davidar *et al.* 1996; 2. Grimmett *et al.* 1998; 3. Stattersfield *et al.* 1998

PALLID HARRIER *Circus macrourus* **Criteria nearly met:** A1c,d,e; A2c,d,e.

It breeds primarily in the steppes of Asiatic **Russia**, **Kazakhstan** and north-west mainland **China**; small populations breed in **Moldova**, **Ukraine** and **Turkey**. A few pairs breed in taiga and forest-tundra, north of its main

breeding range. The population is estimated at 20,000 pairs, having shown marked declines and range contractions: it has declined in southern Ukraine, south-west Russia and south-central Siberia¹. A minority winter in south-east

NEAR THREATENED

Europe, North Africa and the Middle East but most migrate to the Afrotropics (**Sudan, Eritrea, Djibouti, Ethiopia, Somalia, Kenya, Uganda, Rwanda, Burundi, Tanzania, Malawi, Zambia, Zimbabwe, Mozambique, Chad, Niger, Mali, Senegal, Gambia, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Democratic Republic of Congo, Angola, Namibia, Botswana and South Africa**) and the Indian subcontinent (**Afghanistan, Pakistan, India, Sri Lanka, Nepal, Bangladesh and Myanmar**)¹. It has occurred as a migrant in **Mongolia**, and there is apparently

an old sight record from **Vietnam**. Scrub, savanna and wetlands are used in winter. It is primarily threatened by the destruction and degradation of steppe grasslands through conversion to arable agriculture, intensive grazing of wet pastures and the clearance of shrubs and tall weeds. It may be affected by pesticides and rodenticides but this requires further research. In South Africa, wintering birds may be affected by poisoning, grassland destruction and persecution. CMS Appendix II.

Reference: 1. del Hoyo *et al.* 1994.

■ ■ ■
WHITE-CHEEKED HILL PARTRIDGE *Arborophila atrogularis*
Criteria nearly met: C1; C2a.

It is resident in north-east **India** (locally common in Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram and Tripura)¹, **Bangladesh** (very local in the north-east, but could still occur in the Chittagong Hill Tracts) and **Myanmar** (widespread, uncommon to common resident) and mainland **China** (local in Yingjiang area of west Yunnan to west of the Salween river). It inhabits dense undergrowth of broadleaved primary and secondary evergreen forest¹, sometimes adjacent scrub, bamboo, grassland and cultivation², most frequently below 750 m in India, but usually between 610 and 1,220 m in South-East Asia. It is principally

threatened by habitat loss and persecution: within its range, hill forests are diminishing rapidly in extent and becoming fragmented because of intense shifting agriculture and logging^{2,3} and hunting and snaring of galliforms is rife⁴. However, given the size of its range and the paucity of fieldwork conducted within it, the species is currently likely to be more abundant than records suggest and to exceed the threshold for classification as Vulnerable.

References: 1. Grimmett *et al.* 1998; 2. del Hoyo *et al.* 1994; 3. Stattersfield *et al.* 1998; 4. Choudhury 1991

■ ■ ■
SATYR TRAGOPAN *Tragopan satyra* **Criterion nearly met: C1.**

It occurs in the Himalayas of **Nepal** (uncommon)¹, **India** (uncommon)¹, **Bhutan** (fairly common and apparently stable)² and mainland **China** (local, with a limited range in south and south-east Tibet). The total population is not thought to exceed 20,000 individuals³. It is resident in moist oak and rhododendron forest with dense undergrowth and bamboo clumps, mixed forest, shrubberies and densely vegetated ravines, usually between 2,200 m and 4,250 m in the breeding season, sometimes moving down to 1,800 m in winter⁴. Major

threats include excessive hunting as well as habitat clearance and degradation due to timber harvesting, livestock-grazing, fuelwood and fodder collection³, such that its distribution is now fragmented in the Indian subcontinent¹. It occurs in several protected areas throughout its range³.

References: 1. Grimmett *et al.* 1998; 2. Inskipp *et al.* 1999a; 3. McGowan and Garson 1995; 4. MacKinnon and Phillipps 2000

■ ■ ■
TIBETAN EARED-PHEASANT *Crossoptilon harmani* **Criteria nearly met: C1; C2a.**

It has been recorded in south-east Tibet, mainland **China**, and at least one locality in extreme northern Arunachal Pradesh, where it occurs in tall dense scrub in dry river valleys, the borders of mixed broadleaf and coniferous forest, coniferous forest, and grassy hill slopes, from 3,000 to 5,000 m (rarely down to 2,400 m); it is locally common, and adaptable to disturbed habitats^{1,2}. Recent

surveys have indicated that its population must be greater than 10,000 individuals. Deforestation and hunting may, however, be significant threats in Tibet, and it is probably declining³.

References: 1. Ali and Ripley 1968–1998; 2. Grimmett *et al.* 1998; 3. McGowan and Garson 1995

LITTLE BUSTARD *Tetrax tetrax* **Criteria nearly met: A1c,d; A2c,d.**

It has two widely separated breeding populations: in its eastern range it occurs in **Russia** (9,000 displaying males), **Kazakhstan** (c.20,000 individuals), **Ukraine** (100–110 individuals), north-west mainland **China**, northern **Iran** and **Turkey** (20–100 pairs), while its western range covers **Spain** (100,000–200,000 displaying males) and **Portugal** (20,000 individuals), with smaller populations in **Italy** (1,500–2,200 individuals), **France** (1,087–1,256 displaying males) and possibly **Morocco**. Most birds disperse in winter but stay within the countries above, but at least **Azerbaijan** plays host to wintering populations, including one of 10,000–30,000 birds. It is a rare and erratic visitor to **Pakistan** and **India**¹ and a winter visitor to **Afghanistan**. The global population (excluding Kazakhstan) is estimated at a minimum of 240,000 individuals. Whilst it remains widespread and

numerous, in some parts of its range it has declined dramatically since the nineteenth century. It inhabits dry grassland and, in Europe, it also occurs in areas of low-intensity arable cultivation and pastoral land, selecting areas with a high diversity of ground cover such as mosaics of pasture, long-rotation fallow land and legume crops². The primary cause of its decline has been conversion of dry grassland and low-intensity cultivation to intensive arable agriculture, especially where this has included the planting of monocultures, irrigation or afforestation. This continues to be the primary threat and cause of continuing declines, but it also suffers from illegal hunting.

References: 1. Grimmett *et al.* 1998; 2. Tucker and Heath 1994.

HOUBARA *Chlamydotis undulata* **Criteria nearly met: A1c,d; A2c,d.**

It occurs over a huge range from the Canary Islands, **Spain**, to mainland **China**. The population has been estimated at 49,000–62,000 individuals, but it is likely to exceed 100,000 birds¹. *C. u. undulata* (9,800 birds) is resident in North Africa where it has declined in **Libya**, **Egypt** and **Tunisia**, and probably also in **Algeria**, **Mauritania**, **Morocco** and **Sudan**; *C. u. fuertaventurae* (700–750 birds) occurs on the Canary Islands, **Spain**². *C. u. macqueenii* is thought to occupy six sub-regions: resident and migratory birds occur in the Middle East (**Turkey**, **Jordan**, **Israel**, **Iraq**, **Kuwait**, **Bahrain**, **Oman**, **Qatar**, **Saudi Arabia**, **United Arab Emirates**, **Syria**, **Yemen**), and in **Russia** (including in the Asian region), **Iran**, **Pakistan**, **India**, **Afghanistan**, **Uzbekistan**, **Tajikistan**, from western **Kazakhstan** to **Turkmenistan**, and on the Mongolian plateau and in the Gobi desert of **Mongolia** and western **China**². The population of this subspecies is estimated at 39,000–52,000 individuals, mostly breeding in Kazakhstan (30,000–40,000), although numbers in China are likely to be far higher

than the current estimate of 500 birds. Declines are reported from Bahrain, Jordan, Iran, Iraq and India². Populations from some subregions are believed to mix on the wintering grounds. The main threats are habitat loss and degradation as desert areas are developed for agriculture and infrastructure projects; these are compounded by high hunting pressure from falconers, with new areas in Central Asia, close to breeding grounds, increasingly being exploited³. There are no reliable data for rates of decline, but given the substantial threats declines are likely to be significant and possibly widespread; moreover, they may accelerate if hunting pressure in Central Asia increases. **Taxonomy** There has been a suggestion that the two main races represent separate species⁴, but the differences are not great and the distributions unclear; this matter requires urgent attention.

References: 1. BirdLife International 2001; 2. Goriup 1997; 3. F. Launay *in litt.* 2000; 4. Gaucher *et al.* 1996.

GREAT SNIPE *Gallinago media* **Criteria nearly met: A1c,d; A2c,d.**

It breeds primarily in **Russia**, east to 95°E (150,000–250,000 pairs), with large numbers in **Belarus** (12,000–20,000 pairs) and **Norway** (5,000–15,000 pairs). It also breeds in **Poland**, **Finland**, **Sweden**, **Estonia** (500–700 males), **Latvia**, **Lithuania**, and **Ukraine**. From early

August, it migrates through **Turkey**, **Cyprus** and **Egypt**, with birds gathering in grasslands in **Ethiopia**. When these dry out in October, birds follow the rains south and west to **Sudan**, **Chad**, **Burkina Faso**, **Mali**, **Mauritania**, **Senegal**, **Sierra Leone**, **Liberia**, **Ivory Coast**, **Ghana**, **Togo**, **Benin**,

Nigeria, Cameroon, Gabon, Congo, Democratic Republic of Congo, Kenya, Uganda, Rwanda, Burundi, Tanzania, Malawi, Zambia, Zimbabwe, Mozambique, South Africa, Angola and Namibia¹. It occurs rarely in **India, Sri Lanka**², and **Myanmar**. Its range has contracted and numbers have declined since the late nineteenth century: although the Scandinavian population has stabilised, there are continuing rapid declines in the southern forest and forest-steppe zones

of Russia and Ukraine, largely as a result of the loss (to farmland and reservoirs) of nesting habitats—which include floodplain and tussock meadows, natural fens with scattered bushes, and peatlands up to 1,200 m—compounded by hunting in eastern Europe and in its wintering range¹. CMS Appendix II.

References: 1. del Hoyo *et al.* 1996; 2. Grimmett *et al.* 1998.

ASIAN DOWITCHER *Limnodromus semipalmatus*

Criteria nearly met: A1c,d,e; A2c,d,e; C1.

It has a disjunct breeding range in the steppe regions that extend from West to East Siberia in **Russia**, and south into **Mongolia** and Heilongjiang in north-east mainland **China**¹. It has been recorded as a non-breeding visitor to **Japan, North Korea, South Korea**, mainland **China, Hong Kong, Taiwan (China), Kazakhstan, Uzbekistan, India, Bangladesh, Sri Lanka, Myanmar, Thailand, Cambodia, Vietnam, Philippines, Malaysia, Singapore, Brunei, Indonesia, Papua New Guinea, Australia and New Zealand**^{2,3}. It breeds in extensive freshwater wetlands in the steppe and forest-steppe zones, and during the non-breeding season it occurs in sheltered coastal

environments, primarily estuarine and intertidal mudflats, lagoons, creeks and saltworks¹. Recent population estimates include 15,000–20,000 birds⁴. It is dependent on rather a small number of wetlands, notably the wintering sites at the Banyuasin delta on Sumatra, where up to 13,000 were estimated in 1988, and Ujung Pangkah in East Java. It may therefore be particularly vulnerable to habitat loss, hunting, pollution and other pressures on both the breeding and wintering grounds.

References: 1. del Hoyo *et al.* 1996; 2. Mundkur *et al.* 1995a; 3. Grimmett *et al.* 1998; 4. Rose and Scott 1997.

BEACH STONE-PLOVER *Esacus magnirostris* **Criterion nearly met:** C1.

It is widespread around coasts from the Andaman Islands, Mergui archipelago, **Myanmar**, islands off peninsular **Thailand**, and Peninsular **Malaysia and Singapore** through **Indonesia, the Philippines, Papua New Guinea, the Solomon Islands and Australia**¹. The range is, however, essentially linear so that, despite ranging from the farthest point west in Australia north round to south of

the farthest point east, its total population there may be as few as 1,000 birds²; it is very rare on and around Sumatra, and there appears to be extensive (but wholly unquantified) human disturbance of beach habitats in many areas¹.

References: 1. del Hoyo *et al.* 1996; 2. Marchant and Higgins 1993.

BLACK-BELLIED TERN *Sterna acuticauda* **Criteria nearly met:** A1a,c,d; A2a,c,d; C1.

It is known from southern mainland **China** (previously regular in Yunnan, now very rare), **Pakistan** (frequent in northern Sind and Punjab), **India** (widespread and locally fairly common; declining in Gujarat), **Nepal** (locally fairly common), **Bangladesh** (previously common; now a local breeder), **Myanmar** (previously abundant, now a scarce to uncommon resident, apparently fewer than 25 pairs surviving), **Thailand** (formerly resident in the north-west, now very rare and probably

extinct as a breeding species), **Laos** (previously bred in large numbers along the Mekong channel, now very rarely recorded), **Cambodia** (in the early 1960s apparently fairly common along the Mekong, but very few recent records) and **Vietnam** (formerly occurred regularly in Cochinchina, and occasionally in Annam, but no recent records)^{1,2,3,4}. It is found on large rivers (usually breeding on sandspits and islands) and marshes, occasionally on smaller pools and ditches, up to 730 m

in lowlands (but not on the coast)⁵. There has been an extremely rapid decline in South-East Asia and it is now almost extinct in the region. Nevertheless, the suggestion that the world population could be below 10,000 birds⁶ may be over-cautious given its status in South Asian countries. Threats include the destruction of breeding habitat (islands and sandspits in larger rivers are

increasingly cultivated), the collection of eggs for food, and natural or dam-determined flooding of nests⁷.

References: 1. Ali and Ripley 1978–1999; 2. del Hoyo *et al.* 1996; 3. Grimmett *et al.* 1998; 4. Robson 2000; 5. Inskipp and Inskipp 1991; 6. Rose and Scott 1997; 7. Collar *et al.* 1994



ANDAMAN WOOD-PIGEON *Columba palumboides* **Criterion nearly met: C1.**

It is endemic to the Andaman and Nicobar (including Great Nicobar, Nancowry, Car Nicobar and Batti Malv) archipelagos¹. It is uncommon in the Andamans². Pairs or small parties wander from island to island in search of fruiting figs and other trees in dense broadleaved evergreen forest³. Its highly restricted range and predilection for the densest portions of forest imply that it is potentially threatened by habitat loss and fragmentation⁴. Indeed, although forest remains fairly extensive on the Andamans and Nicobars, the human

population on larger islands is rising rapidly and habitat is consequently under pressure from agriculture, grazing and logging^{1,5}. Hunting is also apparently common on the islands and may affect this species, while planned development projects could seriously affect its habitat¹.

References: 1. Stattersfield *et al.* 1998; 2. Davidar *et al.* 1996; 3. Grimmett *et al.* 1998; 4. del Hoyo *et al.* 1997; 5. Pande *et al.* 1991.



ANDAMAN CUCKOO-DOVE *Macropygia rufipennis* **Criteria nearly met: B1+2a,b,c,d,e; C1.**

It is endemic to the Andaman and Nicobar (Nancowry subgroup and Great Nicobar) archipelagos, where it is locally frequent on the former and scarce on the latter. It frequents dense broadleaved primary and secondary evergreen forest, tolerating some degree of habitat degradation. While forest remains fairly extensive on the Andamans and Nicobars, the human population on larger

islands is rising rapidly and habitat is consequently under pressure from agriculture, grazing and logging. Hunting is also apparently common on the islands, possibly affecting this species, and planned development projects on the Nicobars could seriously affect its habitat¹.

References: 1. BirdLife International 2001



NICOBAR PIGEON *Caloenas nicobarica* **Criteria nearly met: A1c,d; A2c,d.**

It occurs on the Andaman and Nicobar Islands (**India**), Mergui Archipelago (Myeik Kyunzu) (**Myanmar**), islands off south-west peninsular **Thailand**, islands around Peninsular **Malaysia**, islands off southern **Vietnam**, islands around Sumatra, **Indonesia**, islands in Wallacea and West Papua, possibly also East Timor, many islands in the **Philippines**, islands in eastern **Papua New Guinea** and throughout the **Solomon Islands**, plus **Palau** (with endemic race *pelewensis*) in the Caroline Islands (**USA**)^{1,2}. It breeds, often in dense colonies, on normally extremely small wooded offshore islands, and forages *in situ* or (at

least at times) on adjacent mainland (or larger island) areas². Relentless trapping for food, the pet trade and perhaps still their (certainly once-prized) gizzard-stones seriously suppresses populations, as does clearance of small islands for plantations and, almost certainly, the colonisation of such islands by rats, cats and other alien predators³. The race *pelewensis* may still number up to 1,000 birds.

References: 1. Ali and Ripley 1978–1999; 2. del Hoyo *et al.* 1997; 3. Collar and Andrew 1988.



NICOBAR PARAKEET *Psittacula caniceps* **Criteria nearly met:** B1+2a,b,c,d,e; C1.

It is endemic to the Nicobar archipelago, where it inhabits tall forest on Great Nicobar, Little Nicobar, Menchal and Kondul islands, feeding in small groups in the canopy on the fruit of *Pandanus* palms¹. It is apparently common, but fairly large numbers are trapped for the cagebird trade². Furthermore, increased settlement of the islands

has led to increased pressure on natural resources, and planned development projects could severely affect the habitat of this species³.

References: 1. Grimmett *et al.* 1998; 2. del Hoyo *et al.* 1997; 3. Stattersfield *et al.* 1998.

RED-CHEEKED PARAKEET *Psittacula longicauda* **Criteria nearly met:** A1c,d; A2c,d.

It occurs in the Andaman, Cocos and Nicobar islands, peninsular **Thailand**, Sabah, Sarawak and Peninsular **Malaysia**, **Singapore**, Kalimantan (including the Natuna islands), Sumatra (including the Riau archipelago), **Indonesia** and **Brunei**, in coastal and lowland areas to at least 300 m^{1,2}, preferring extreme lowland swamp (including peatswamp) forest in the Thai-Malay

Peninsula¹, although it avoids primary forest in Borneo. Swamp-forest destruction in the Sundaic lowlands has been extensive, but the species remains numerous in a number of areas owing to its capacity to forage away from forested areas and nest communally¹.

References: 1. Wells 1999; 2. Robson 2000.

ANDAMAN SCOPS-OWL *Otus balli* **Criteria nearly met:** B1+2a,b,c,d,e.

It is an endemic resident in the Andaman islands, where it was common, at least early in the twentieth century, in trees in semi-open or cultivated areas and around human settlements^{1,2}. Its current status is unclear, although it appears to be easily found and therefore probably common². There seems little reason to expect its population to be under immediate threat given its

tolerance of disturbed areas; however, forest loss is accelerating on the Andamans and further research is required to clarify its ecological requirements, population size and trends^{2,3}.

References: 1. Grimmett *et al.* 1998; 2. del Hoyo *et al.* 1999; 3. Stattersfield *et al.* 1998.

ANDAMAN HAWK-OWL *Ninox affinis* **Criteria nearly met:** B1+2a,b,c,d,e.

It is endemic to the Andaman and Nicobar archipelagos, India, where it occurs in mangrove forest, lightly wooded areas and forest clearings, apparently hawking insects at dusk¹. Although its tolerance of degraded habitats gives cause for optimism, the human population on larger

islands in the Andaman group is rising rapidly and habitat is consequently under severe pressure from agriculture, grazing and logging^{2,3,4}.

References: 1. Grimmett *et al.* 1998; 2. Pande *et al.* 1991; 3. Sinha 1992; 4. Stattersfield *et al.* 1998.

WARD'S TROGON *Harpactes wardi* **Criteria nearly met:** C1; C2a.

It is known from the eastern Himalayas in **Bhutan** (uncommon and local, although recorded regularly in recent years), **India** (small numbers seen recently in Arunachal Pradesh, where it is apparently local and rare^{1,2}, **Myanmar** (formerly locally common in the north, but no recent records and thought to be generally uncommon), mainland **China** (three collected in north-west Yunnan, 1973) and **Vietnam** (previously common on Fan Si Pan, north-west Tonkin, but no recent records despite intensive searching). It is found

in the lower storey, undergrowth and bamboo between 1,500 and 3,200 m in tall broadleaf evergreen forest², perhaps moving downslope during the cold season to c. 1,220 m in some areas³. It is threatened by forest clearance and degradation in much of its range, particularly through logging and shifting cultivation⁴. It is also possibly susceptible to hunting.

References: 1. Singh 1994; 2. Grimmett *et al.* 1998; 3. Robson 2000; 4. Stattersfield *et al.* 1998.

BLYTH'S KINGFISHER *Alcedo hercules* **Criteria nearly met: C1; C2a.**

It ranges from eastern **Nepal** (vagrant), **Bhutan** (rare), north-east **India** (rare)¹, **Bangladesh** (vagrant), **Myanmar** (scarce to fairly common in the north, west and south)², mainland **China** (southern Yunnan, e.g. Mengyang Nature Reserve, and Hainan island), north-west **Thailand** (very rare visitor), **Laos** (uncommon to locally common in the north and Annamite mountains, scarce further south)³ and **Vietnam** (locally fairly common, at least historically, on Mount Fan Si Pan, west Tonkin and Annam)². It is found along streams in

evergreen forest at 200–1,200 m height⁴, mainly at 400–1,000 m. It is thus still widespread at low densities within its historical range, although deforestation is reducing and fragmenting its habitat and human disturbance and river pollution are possibly also threats. Given its linear distribution along rivers, and thus restricted extent of occurrence, the total population size is potentially modest.

References: 1. Grimmett *et al.* 1998; 2. Robson 2000; 3. Duckworth *et al.* 1999; 4. Ali and Ripley 1978–1999.

BROWN-WINGED KINGFISHER *Pelargopsis amauropterus*
Criteria nearly met: A1a,c,d; A2a,c,d; C1.

It occurs in **India** (locally common in West Bengal, rare in Orissa and Assam; largely resident but apparently also non-breeding visitor)¹, **Bangladesh** (locally common)¹, **Myanmar** (fairly common to locally common resident in the south-west and Tenasserim)², Peninsular **Thailand** (uncommon to locally fairly common on the west coast)² and Peninsular **Malaysia** (fairly common but restricted to islands of the north-west)². It is usually restricted to coasts,

favouring mangroves (particularly old growth), creeks and tidal rivers, although it has been recorded occasionally far inland^{1,2}. Despite being locally common, its total population may not be very large within its linear distribution and it is presumably negatively affected by the ongoing clearance and degradation of mangroves in South-East Asia.

References: 1. Grimmett *et al.* 1998; 2. Robson 2000.

MALABAR PIED-HORNBILL *Anthracoceros coronatus* **Criterion nearly met: C1.**

It is restricted to central and southern **India** (common in a few areas, but declining and confined to land under 300 m)¹ and **Sri Lanka** (local and moderately plentiful, but now restricted to more secluded forest of the dry lowlands)¹. It is subject to seasonal movements in open moist broadleaved deciduous and evergreen forests, visiting fruit trees in cultivated areas¹. Forest on Sri Lanka has suffered rapid degradation and fragmentation in the past decades through excessive gathering of fuelwood,

clearance for permanent agriculture, shifting cultivation, fire, urbanisation and logging². Closed-canopy forest is estimated to have declined from 29,000 sq. km (44% of the island's area) in 1956 to 12,260 sq. km in 1983. Similar losses are occurring in mainland India and the status of this species therefore requires monitoring.

References: 1. Grimmett *et al.* 1998; 2. Stattersfield *et al.* 1998.

GREAT PIED HORNBILL *Buceros bicornis* **Criteria nearly met: A1a,c,d; A2a,c,d; C1.**

It occurs in mainland **China** (rare resident in west and south-west Yunnan and south-east Tibet), **India** (locally fairly common, but declining), **Nepal** (local and uncommon, largely in protected areas), **Bhutan** (fairly common), **Bangladesh** (vagrant), **Myanmar** (scarce to locally common resident throughout), **Thailand** (widespread, generally scarce but locally common), **Laos** (formerly common; currently widespread but scarce, a major decline having clearly occurred), **Vietnam** (rare and declining resident), **Cambodia** (rare), Peninsular

Malaysia (uncommon to more or less common) and **Indonesia** (uncommon on Sumatra)^{1,2,3}. It frequents evergreen and mixed deciduous forests, ranging out into open deciduous areas to visit fruit trees, and ascending slopes to at least 1,560 m height³. The abundance of this species tends to be correlated with the density of large trees, and it is therefore commonest in unlogged forest and threatened by logging. It is particularly susceptible to hunting pressure as it is large, visits predictable feeding sites (such as fruiting trees) and casques are kept or sold

NEAR THREATENED

as trophies⁴. Hunting pressure has caused its extirpation from many areas.

References: 1. (Grimmett *et al.* 1998; 2. Wells 1999; 3. Robson 2000; 4. Duckworth *et al.* 1999.

■ ■ ■

BROWN HORNBILL *Anorrhinus tickelli* **Criterion nearly met: C1.**

It occurs in mainland **China** (rare; recorded in southern Xishuangbanna, south Yunnan and south-east Tibet), **India** (a small population is resident in hills bordering the Brahmaputra valley), **Myanmar** (uncommon to locally common in the west and Tenasserim), **Thailand** (generally uncommon in the west, north-west and north-east), **Laos** (historically numerous, currently widespread and locally common but declining), **Vietnam** (rare to uncommon in Tonkin and Annam) and **Cambodia** (scarce), where it inhabits evergreen broadleaved forest

in foothills up to 1,000 m in India and 1,500 m in South-East Asia and 1,800 m in China^{1,2}. It is threatened by forest loss through intensive shifting agriculture and widespread logging activities, and because of high levels of hunting in many portions of its range^{3,4}. However, its population probably exceeds 10,000 individuals, and it therefore fails to meet the thresholds for Vulnerable.

References: 1. Grimmett *et al.* 1998; 2. Robson 2000; 3. Round 1984; 4. Thewlis *et al.* 1998

■ ■ ■

YELLOW-RUMPED HONEYGUIDE *Indicator xanthonotus* **Criterion nearly met: C1.**

It occurs in **Pakistan** (possibly a seasonal or nomadic visitor, but there are no recent records), **Nepal** (local and uncommon), **India** (very rare and local), **Bhutan** (local and uncommon), mainland **China** (rare in south-east Tibet) and **Myanmar** (rare resident in the north), and occurs throughout in broadleaved or coniferous forest, usually between 1,450 and 3,500 m, males defending giant rock bee *Apis dorsata* nests that are usually attached to vertical cliffs^{1,2,3}. It is generally assumed to be a rare

species, but it is easily overlooked due to its inconspicuous behaviour, and it may be commoner than the paucity of records suggests; nevertheless, it has been suggested that over-exploitation of bees' nests for honey by human populations in the Himalayas might have a deleterious impact on its populations⁴.

References: 1. Cronin and Sherman 1976; 2. Grimmett *et al.* 1998; 3. Robson 2000; 4. Underwood 1992.

■ ■ ■

ANDAMAN BLACK WOODPECKER *Dryocopus hodgesi* **Criteria nearly met: B1+2a,b,c,d,e.**

It is endemic to the Andaman islands, where it is a common resident in large trees of evergreen forest^{1,2}. Although forest remains fairly extensive on the Andamans, the human population on larger islands is rising rapidly and habitat is consequently under severe

pressure from agriculture, grazing and logging^{3,4,5}.

References: 1. Davidar *et al.* 1996; 2. Grimmett *et al.* 1998; 3. Pande *et al.* 1991; 4. Sinha 1992; 5. Stattersfield *et al.* 1998.

■ ■ ■

NILGIRI PIPIT *Anthus nilghiriensis* **Criteria nearly met: B1+2a,b,c,d,e.**

It is endemic to the Western Ghats of Kerala and Tamil Nadu, where it is locally fairly common on grassy upland slopes interspersed with bushes and trees, mainly above 1,500 m, but sometimes descending to *c.* 1,000 m¹. Its range is small and its grassland habitat is gradually being

converted to plantations of tea, eucalyptus and wattle *Acacia dealbata*.

References: 1. Grimmett *et al.* 1998; 2. Stattersfield *et al.* 1998.

■ ■ ■

FIRETHROAT *Luscinia pectardens* **Criterion nearly met: C1.**

It breeds in Sichuan, Yunnan and south-east Tibet, mainland **China**, in dense scrub in valley bottoms, and

in mountain forest, at 2,800–3,700 m¹, and it is a non-breeding visitor to the mountains of Arunachal Pradesh

and Meghalaya, and **Bangladesh**². It appears to be very rare, with the only recent records on the breeding grounds from Wolong Biosphere Reserve in Sichuan, although it must be greatly under-recorded as much of its range is remote and seldom visited by ornithologists. It has

presumably been affected by deforestation on both the breeding and wintering grounds.

References: 1. Ali and Ripley 1978–1999; 2. Grimmett *et al.* 1998.



CHESTNUT-BACKED LAUGHINGTHRUSH *Garrulax nuchalis*

Criteria nearly met: C1; C2a.

It is resident in the hills of north-east (apparently rare in Assam, Manipur, Nagaland and Arunachal Pradesh)¹ and **Myanmar** (uncommon in the north)². It inhabits tall grass or dense bushes in stony scrub-covered ravines and hills, from the lowlands to *c.* 900 m^{1,2}. There have been very few recent records and its current status is poorly known,

although this is at least in part because much of its range is infrequently visited by ornithologists. Surveys are required to establish its current distribution and population size, the extent of its habitat and the threats it faces.

References: 1. Grimmett *et al.* 1998; 2. Robson 2000.



GREY-BREASTED LAUGHINGTHRUSH *Garrulax jerdoni*

Criteria nearly met: B1+2a,b,c,d,e.

It is endemic to the Western Ghats of southern Kerala, western Tamil Nadu and southern Karnataka, where it is locally common from 1,100 m to the summits^{1,2}. It frequents undergrowth and low bushes, raspberry and bracken thickets growing along banks of streams and edges of sholas, and tea and cardamom plantations; its distribution is apparently tied to that of the wild raspberry². While its range is small, its tolerance for disturbed habitats suggests that it is not immediately threatened by habitat modification. However, an

increasing human population has led to increased illegal encroachment into Western Ghat forests, livestock-grazing and the harvesting of fuelwood and huge quantities of forest products such as bamboo and canes; furthermore, hydropower development and road-building are causing reductions in forest cover in some areas³.

References: 1. Gaston and Zacharias 1996; 2. Grimmett *et al.* 1998; 3. Stattersfield *et al.* 1998.



RUFIOUS-THROATED WREN-BABBLER *Sphelaeornis caudatus*

Criteria nearly met: B1+2c; C1.

It occurs in **Nepal** (very rare in the east)¹, **Bhutan** (uncommon)² and **India** (where it is locally common in Sikkim, northern West Bengal and Arunachal Pradesh). It inhabits dense undergrowth of moist evergreen forest, often in steep gullies, especially where ferns, mossy rocks and fallen trees abound, from 1,500 m to 2,500 m, perhaps occasionally to 3,100 m^{1,3}. Within its small range, it is threatened by the destruction and fragmentation of forest,

chiefly through logging and shifting cultivation^{4,5}. However, as it is a highly skulking species and easily overlooked, further research will probably reveal it to be more widespread and abundant than current records imply.

References: 1. Grimmett *et al.* 1998; 2. Inskipp *et al.* 1999; 3. Ali and Ripley 1978–1999; 4. Singh 1999; 5. Stattersfield *et al.* 1998



WEDGE-BILLED WREN-BABBLER *Sphenocichla humei* **Criteria nearly met:** C1; C2a.

It occurs in mainland **China** (one record from Yunnan), **India** (Sikkim, West Bengal, Arunachal Pradesh, Nagaland, Manipur, but few recent records), **Bhutan** (two

recent records) and northern **Myanmar**, but it appears to be a rare and infrequently encountered species throughout, although this impression is at least partly

exaggerated because of the infrequency with which its range is visited by ornithologists^{1,2,3,4,5}. It inhabits the understorey and leaf-litter of broadleaved evergreen forest with large trees and bamboo, (usually between 1,500 m and 2,300 m, wintering down to 800 m)⁵. While the high altitudes favoured by this species are relatively free from habitat loss, shifting cultivation and logging are nevertheless reducing forest cover in Bhutan, north-east India and north Myanmar, posing the only major threat to this species^{3,4,6}. It has been recorded in

Thrumshingla National Park, Bhutan, and Namdapha National Park, India. **Taxonomy:** The two races *humei* and *roberti* are sufficiently morphologically distinct to be treated as two separate species⁷, which might qualify one or both for threatened status.

References: 1. Ali and Ripley 1978–1999; 2. Ghosh 1987; 3. Katti *et al.* 1990; 4. Singh 1999; 5. Grimmett *et al.* 1998; 6. Stattersfield *et al.* 1998; 7. BirdLife International 2001.

■ ■ ■

GIANT BABAX *Babax waddelli* Criteria nearly met: C1; C2a.

It occurs in southern Tibet, mainland **China**, and extreme north-eastern Sikkim, **India**, where it inhabits dense deciduous scrub above the treeline, particularly of *Hippophae rhamnoides*, and the edge of coniferous forest, at c. 2,700–4,400 m^{1,2}. Within its restricted range, it has been described as “locally common”³ but, more recently, “rather scarce”. It is presumably declining because of

deforestation, although extensive pine and mixed coniferous forests with prickly oak and rhododendron still remain to the east of Lhasa⁴.

References: 1. Grimmett *et al.* 1998; 2. Stattersfield *et al.* 1998; 3. Ali and Ripley 1978–1999; 4. Robson 1986.

■ ■ ■

LONG-TAILED PRINIA *Prinia burnesii* Criteria nearly met: A1c; A2c.

It has two disjunct populations, one (nominate *burnesii*) in the plains of the Indus, **Pakistan** (in Punjab and northern Sind; scarce in southern Sind) and adjacent north-west **India** (Punjab), and another (race *cinerascens*) in the plains of the Brahmaputra river, Assam, and western Bihar in north-east India and northern **Bangladesh**^{1,2}. The western population is locally common in its restricted habitat, as was the eastern population, although there have only been a few recent published records, mostly from Assam^{1,2,3}. There are no recent records from Bangladesh; it could still occur in any remaining suitable habitat in the north although these are now almost totally destroyed². It inhabits long grasses, sometimes where these are mixed with acacias and tamarisks, including *Saccharum* wet

grassland in monoculture or where mixed with *Typha*, *Phragmites* and bushes, mainly in the vicinity of large rivers². Although it is negatively affected by the destruction and modification of this habitat⁴ it has also apparently expanded its range northwards in Pakistan owing to the spread of man-modified wetlands and associated swamp vegetation. **Taxonomy:** The two races *burnesii* and *cinerascens* are sufficiently morphologically distinct to be treated as two separate species⁵, which might qualify one or both for threatened status.

References: 1. Ali and Ripley 1978–1999; 2. Grimmett *et al.* 1998; 3. Barua 1995; 4. Rahmani 1988; 5. BirdLife International 2001

■ ■ ■

LONG-BILLED BUSH-WARBLER *Bradypterus major* Criteria nearly met: C1, C2a.

It occurs in the western Himalayas, in Xinjiang, western mainland **China** (very rare, occurring in the Kunlun mountains of Xinjiang and west Tibet) and the eastern Pamir mountains in **Tajikistan** (perhaps only a vagrant), northern **Pakistan** (few recent records and distribution imperfectly known) and north-west **India** (fairly

common, but extremely local), breeding from 2,400 to 3,600 m (probably moving downslope in winter to 1,200 m) on open slopes in terraced cultivation, low thorny scrub, rank grass and bracken, often near forest edges^{1,2,3}. Its range is apparently contracting in Kashmir, possibly owing to changes in agricultural practices. It is poorly

known and infrequently recorded, but this is at least in part due to its highly secretive behaviour and the current inaccessibility of its range.

References: 1. Ali and Ripley 1978–1999; 2. Inskipp and Collins 1993; 3. MacKinnon and Phillipps 2000.



RUFOUS-RUMPED GRASSWARBLER *Graminicola bengalensis*

Criteria nearly met: A1c; A2c; C1; C2a.

It is found in the terai of northern **India** and southern **Nepal** (highly localised but common at a few sites from Uttar Pradesh eastwards to the Brahmaputra lowlands)¹, **Bangladesh** (rare and highly local in the north)¹, mainland **China** (rare resident in Guanxi, northern Guangdong, Hong Kong and Hainan), **Myanmar** (formerly resident in Tenasserim, current status unknown)², **Thailand** (former resident in central region, last record in 1923, probably extinct)² and **Vietnam** (former resident in east

Tonkin)². It occurs in tall emergent vegetation in or bordering freshwater swamps or along banks of rivers in the lowlands^{1,2}. Although still common at a few sites, including protected areas such as Chitwan National Park, Nepal, it must be suffering substantial long-term losses as its grassland and wetland habitat is steadily converted to agriculture, drained and overgrazed.

References: 1. Grimmett *et al.* 1998; 2. Robson 2000.



BLACK-AND-RUFOUS FLYCATCHER *Ficedula nigrorufa*

Criteria nearly met: B1+2a,b,c,d,e.

It is an endemic resident in the Western Ghats of southern **India**, where it is locally common from 700 m to the highest summits¹. It inhabits shola forests with dense undergrowth and plenty of leaf-litter, cardamom and coffee plantations, and moist thickets in ravines¹. While its range is small, its tolerance for modified habitats suggests that it is not immediately threatened. However, an increasing human population has led to increased illegal encroachment into Western Ghat forests, livestock

grazing and the harvesting of fuelwood and huge quantities of forest products such as bamboo and canes². Furthermore, hydropower development and road-building are causing reductions in forest cover in some areas². These factors require monitoring as, left uncontrolled, they will threaten the area's endemic avifauna.

References: 1. Grimmett *et al.* 1998; 2. Stattersfield *et al.* 1998.



NILGIRI FLYCATCHER *Eumyias albicaudata* **Criterion nearly met:** B1+2c.

It is an endemic resident in the Western Ghats of southern **India**, where it is common at forest edges, clearings, thick vegetation near streams, cardamom plantations and sholas, from 600 m to the summits¹. While its range is small, its tolerance of disturbed habitats suggests that it is not immediately threatened by habitat modification. However, an increasing human population has led to increased illegal encroachment into Western Ghat

forests, livestock-grazing and the harvesting of fuelwood and huge quantities of forest products such as bamboo and canes². Furthermore, hydropower development and road-building are causing reductions in forest cover in some areas².

References: 1. Grimmett *et al.* 1998; 2. Stattersfield *et al.* 1998.



ANDAMAN DRONGO *Dicrurus andamanensis* **Criteria nearly met:** B1+2a,b,c,d,e.

It is endemic to the Andaman archipelago, **India**, and Coco Island, **Myanmar**, where it is a common resident of forests^{1,2}. Although its range is very small, forested habitat is relatively intact on the Andamans and insufficiently disturbed or fragmented to be of immediate concern. However, there are signs that pressure on forests is increasing in the Andamans through increasing human

populations and consequent conversion of habitat to cultivation, grazing, increased logging and development^{3,4,5}.

References: 1. Davidar *et al.* 1996 2. Grimmett *et al.* 1998; 3. Pande *et al.* 1991; 4. Sinha 1992; 5. Stattersfield *et al.* 1998.

ANDAMAN TREEPIE *Dendrocitta bayleyi* **Criteria nearly met:** B1+2a,b,c,d,e.

It is endemic to the Andaman archipelago, where it is usually found in pairs or parties of up to 20 birds, or in mixed flocks in tall trees in dense broadleaved evergreen forest¹. It is uncommon² to locally fairly common, and although habitat on the Andamans remains relatively intact, there are indications that an increase in human populations and habitat loss is

occurring in the archipelago suggesting that the very small range of this species might rapidly shrink and fragment^{3,4,5}.

References: **1.** Grimmett *et al.* 1998; **2.** Davidar *et al.* 1996; **3.** Pande *et al.* 1991; **4.** Sinha 1992; **5.** Stattersfield *et al.* 1998.

■ ■ ■

NEAR THREATENED

REFERENCES

- Aarvak, T., Øien, I. J., Syroechkovski Jr, E. E. and Kostadinova, I. (1997) The Lesser White-fronted Goose Monitoring Programme. Annual Report 1997. Norwegian Ornithological Society Report 5, unpublished.
- Abdulali, H. (1949) Some peculiarities of avifaunal distribution in peninsular India. *Proc. Natn. Inst. Sci. India* 15: 387–393.
- Abdulali, H. (1965) The birds of the Andaman and Nicobar Islands. *J. Bombay Nat. Hist. Soc.* 61: 483–571.
- Abdulali, H. (1967) The birds of the Nicobar Islands, with notes on some Andaman birds. *J. Bombay Nat. Hist. Soc.* 64: 139–190.
- Abdulali, H. (1978) The birds of Great and Car Nicobars with some notes on wildlife conservation in the islands. *J. Bombay Nat. Hist. Soc.* 75: 744–772.
- Acharya, S. and Karr, S. K. (1996) Checklist of waders (Charadriiformes) in Chilika Lake, Orissa. *Newsletter for Birdwatchers* 36: 89–90.
- Ahmed, A. (1997) *Live bird trade in northern India*. Delhi: TRAFFIC-India.
- Ahmed, A. (1998) Some observations of the Green Avadavat in the Indian bird trade. *Oriental Bird Club Bull.*: 27: 21–25.
- Ahmed, A. (2000) Illegal bird trade in India. *Mistnet* January–March 2000: 1–6.
- Akhtar, A. (1976) The decline of raptors. *Newsletter for Birdwatchers* 16(9): 13.
- Ali, S. (1969) *Birds of Kerala*. Bombay: Oxford University Press.
- Ali, S. and Ripley, S. D. (1948) The birds of the Mishmi Hills. *J. Bombay Nat. Hist. Soc.* 48: 1–37.
- Ali, S. and Ripley, S. D. (1978-1999) *Handbook of the Birds of India and Pakistan. 10 Vol. (2nd Edition)*, Bombay: Oxford University Press.
- Ali, S. and Whistler, H. (1935–1937) The ornithology of Travancore and Cochin. *J. Bombay Nat. Hist. Soc.* 37: 814–843; 38: 61–92, 282–320, 484–514, 759–790; 39: 3–35, 320–342, 569–593.
- Ali, S. and Whistler, H. (1942–1943) The birds of Mysore. *J. Bombay Nat. Hist. Soc.* 43: 130–147, 318–341, 573–595; 44: 9–26, 206–220.
- Ali, S., Hussain, S. A., Gupta, P. K. and Subramanya, S. (1981) *Harike Lake avifauna project*. Bombay: Bombay Natural History Society.
- Ali, S., Daniel, J. C. and Rahmani, A. R. (1986) The Floricans: Annual Report 1, 1984–85 [of project entitled “Study of the ecology of certain endangered species of wildlife and their habitats”]. Bombay: Bombay Natural History Society.
- Allen, D. (1998) Report to the Indian Forestry Service concerning the Amarapur area of the Dibru-Saikhowa Biosphere Reserve. Unpublished.
- Alström, P. (1997) Field identification of Asian *Gyps* vultures. *Oriental Bird Club Bull.* 25: 32–49.
- Alström, P., Jirle, E., Jäderblad, M., Kjellén, N., Larsson, G., Paulsrud, A., Saellström, Smitterberg, P. and Ålind, P. (1994) Birds and mammals observed in Namdapha National Park, Arunachal Pradesh 6–14 February 1994. Unpublished.
- Anon. (1985) *Cygnus Wildlife Holidays. Northern India, February–March 1985*. Unpublished birdwatching report.
- Anon. (1990a) List of birds seen at Sailana and Dohad (from June to October). Pp.151–152 in *Status and ecology of the Lesser and Bengal Floricans, with reports on Jerdon’s Courser and Mountain Quail*. Bombay: Bombay Natural History Society.
- Anon. (1990b) Species list for Melghat Tiger Reserve. Unpublished.

- Anon. (1993) *Important fauna of tiger reserves*. New Delhi: Project Tiger, Ministry of Environment and Forests, Government of India.
- Archibald, G. and Mirande, C. (1999) Status and conservation of the Siberian Crane *Grus leucogeranus*. *Vogelwelt* 120: 377–381.
- Aspinall, S. (1996) Yellow-eyed Stock Dove. *Birding World* 9:148–149.
- Baker, E. C. S. (1908) *Indian ducks and their allies*. Bombay: Bombay Natural History Society.
- Baker, E. C. S. (1894–1901) The birds of North Cachar. *J. Bombay Nat. Hist. Soc.* 8: 162–211; 9: 1–24, 111–146; 10: 1–12, 161–168, 339–371, 539–567; 11: 222–233, 390–405; 12: 486–510.
- Baker, E. C. S. (1922–1930) *The fauna of British India, including Ceylon and Burma*. Second edition. London: Taylor and Francis.
- Baker, E. C. S. (1932–1935) *The nidification of birds of the British Empire* 1–4. London: Taylor and Francis.
- Balachandran, S. (1998) *Bird Migration Studies in India 1980–1992 Final Report*. Phase I Studies on the movement and population structure of Indian avifauna 1980–1986 Final Report. Phase II Bird Migration 1987–1992 Final Report. edition. Mumbai, India: Bombay Natural History Museum.
- Bandyopadhyay, S. and Gopal, B. (1990) Ecosystem study and management problem of a coastal lagoon, the Chilka. Pp.117–172 in B. Gopal and V. Asthana, eds. *Aquatic system in India*.
- Baral, H. S. (1997) Bristled Grassbirds *Chaetornis striatus* in Nepal. *Danphe* 6(2): 5–6.
- Baral, H. S. (1998) Hodgson's Bushchat in Nepal. Report to the Department of National Parks and Wildlife Conservation (HMG, Nepal), the Biodiversity Support Programme (USA) and Oriental Bird Club (UK). Netherlands: University of Amsterdam.
- Baral, H. S. (2000) Community structure and habitat associations of lowland grassland Birds in Nepal. PhD thesis, University of Amsterdam.
- Barua, M. (1995) Occurrence of the Rufous-vented Prinia (*Prinia burnesii*) in Pabitora Wildlife Sanctuary, Assam. *Newsletter for Birdwatchers* 35: 93–94.
- Barua, M. and Sharma, P. (1999) Birds of Kaziranga National Park. *Forktail* 15: 47–60.
- Bates, R. S. P. and Lowther, E. H. N. (1952) *Breeding birds of Kashmir*. Oxford: Oxford University Press.
- Battye, K. M. (1935) Notes on some birds observed between Yatung and Gyantse, Tibet. *J. Bombay Nat. Hist. Soc.* 38: 406–408.
- Bell, D. J. and Oliver, W. L. R. (1992) Northern Indian tall grasslands: management and species conservation with special reference to fire. Pp.109–123 in K. P. Singh and J. S. Singh, eds. *Tropical ecosystems: ecology and management*. New Delhi: Wiley Eastern Limited.
- Bhargava, R. (1996) Notes on Green Munia. *J. Bombay Nat. Hist. Soc.* 93: 588.
- Bhargava, R. (2000) A preliminary survey of the western population of Finn's Weaver in Kumaon terai, Uttar Pradesh, Northern India. *Oriental Bird Club Bull.* 32: 21–29.
- Bhattacharjee, P. C., Saikia, P., Singh, H. J., Barman, R., Talukdar, B. K. and Baruah, M. (1996) Report on Kaziranga bird survey. Animal Ecology and Wildlife Biology Laboratory, Department of Zoology, Gauhati University. Unpublished.
- Bhushan, B. (1992) Red data bird: Jerdon's Courser. *World Birdwatch* 14(4): 12.
- Bhushan, B. (1995) Jerdon's Courser – status and conservation perspectives. Pp.29–30 in L. Vijayan, ed. *Avian conservation in India*. Coimbatore: SACON.
- Biber, J.-P. (1996) Action plan for the lesser kestrel *Falco naumanni*. Pp 191–204 in B. Heredia, L. Rose and

- M. Painter, eds. *Globally threatened birds in Europe: action plans*. Strasbourg: Council of Europe.
- BirdLife International (2000) *Threatened birds of the world*. Cambridge, UK: BirdLife International.
- BirdLife International (2001) *Threatened Birds of Asia: the BirdLife International Red Data Book*, Cambridge, UK. BirdLife International.
- Blanford, W. T. (1895–1898) *Fauna of British India including Ceylon and Burma*, birds, 3–4. London: Taylor and Francis.
- Blyth, E. (1849–1852) *Catalogue of the birds in the Museum Asiatic Society*. Calcutta: J. Thomas, Baptist Mission Press.
- Bos, J. F. F. P., Essetti, I and Gilissen, N. L. M. (2000) Record counts of Marbled Teal in Tunisia, October 1999: consequences for population estimates and distribution. *Threatened Waterfowl Spec. Group News* 12: 49–53.
- Brown, L. and Amadon, D. (1968) *Eagles, hawks and falcons of the world*. London: Country Life Books.
- Bult, H. (1983) *Birding trip to northern India*. Unpublished.
- Burton, R. W. (1953) The Great Indian Bustard. *J. Bombay Nat. Hist. Soc.* 51: 506.
- Butler, A. L. (1899–1900) The birds of the Andaman and Nicobar Islands. *J. Bombay Nat. Hist. Soc.* 12: 386–403, 555–571, 684–696; 13: 144–154.
- Callaghan, D. A. and Green, A. J. (1993) Wildfowl at risk, 1993. *Wildfowl* 44: 149–169.
- Chakravarthy, A. K. and Tejasvi, K. P. P. C. (1992) *Birds of hill region of Karnataka: an introduction*. Bangalore: Narbarath Enterprises.
- Chan, S. (1999) *Atlas of key sites for cranes in the North East Asian Flyway*. Tokyo: Wetlands International Japan.
- Chandra, K. and Rajan, P. T. (1996) Observations on the avifauna of Mount Harriett National Park, South Andaman (A & N Islands). *Indian Forester* 122: 965–968.
- Chatterjee, S., Mookherjee, K., Bhattacharya, B. and Banerjee, A. (1995) Occurrence of Falcated Teal *Anas falcata* Georgi in West Bengal. *J. Bombay Nat. Hist. Soc.* 92: 262.
- Choudhury, A. (1990) *Checklist of the birds of Assam*. Guwahati: Sofia Publishers.
- Choudhury, A. (1991) Bird observations from Sibsagar District, Assam, India. *Forktail* 6: 35–42.
- Choudhury, A. (1992) Wildlife in Manipur – a preliminary survey. *Tigerpaper* 19(1): 20–28.
- Choudhury, A. (1995) A report on bird survey in Dibru-Saikhowa Wildlife Sanctuary, Assam, India. Report submitted to Oriental Bird Club.
- Choudhury, A. (1996a) Survey of White-winged Ducks and Bengal Florican in north-east India. *Oriental Bird Club Bull.* 23: 10.
- Choudhury, A. (1996b) Survey of the White-winged Duck and the Bengal Florican in Tinsukia District and adjacent areas of Assam and Arunachal Pradesh. Guwahati: The Rhino Foundation for Nature in North-East India.
- Choudhury, A. (1996c) On the trail of Blyth's Tragopan. *World Pheasant Assoc. News* 51: 14–16.
- Choudhury, A. (1997a) The status of birds of Dibru-Saikhowa Sanctuary, Assam, India. *Oriental Bird Club Bull.* 25: 27–31.
- Choudhury, A. (1997b) Current status of the Masked Finfoot in India. *Newsletter for Birdwatchers* 37: 90–91.
- Choudhury, A. (2000) *The birds of Assam*. Gauhati: Gibbon Books and World Wide Fund for Nature–India.
- Choudhury, B. C. (1998) Data on Sarus Crane. *Newsletter for Birdwatchers* 38: 69.

- Choudhury, B. C., Kaur, J. and Sundar, K. S. G. (1999) Sarus Crane count – 1999. Wildlife Institute of India.
- Collar, N. J. and Andrew, P. (1988) *Birds to watch: the ICBP world checklist of threatened birds*. Cambridge, UK: International Council for Bird Preservation (Techn. Publ. 8).
- Collar, N. J., Crosby, M. J. and Stattersfield, A. J. (1994) *Birds to watch 2: the world list of threatened birds*. Cambridge, UK: BirdLife International (BirdLife Conservation Series 4).
- Collins, N. M., Sayer, J. A. and Whitmore, T. C., eds. (1991) *The conservation atlas of tropical forests: Asia and the Pacific*. London: Macmillan.
- Cramp, S. and Simmons, K. E. L., eds. (1977) *The birds of the western Palearctic*, 1. Oxford: Oxford University Press.
- Crivelli, A. J. and Schreiber, R. W. (1984) Status of Pelecanidae. *Biol. Conserv.* 30: 147–156.
- Crivelli, A., Catsadorakis, G., Hatzilacou, D. and Nazirides T. (1997) *Pelecanus crispus*. Dalmatian Pelican. *BWP Update* 1: 149–153.
- Cronin, E. W. Jr. and Sherman, P. W. (1976) A resource-based mating system: the Orange-rumped Honeyguide. *Living Bird* 15: 5–32.
- Crowther, G., Raj, P. A. and Wheeler, T. (1987) *India, a travel survival kit*. Third edition. South Yatra, Victoria, Australia: Lonely Planet Publications.
- Davidar, P., Soubadra Devi, M., Yoganand, T. R. K. and Ganesh, T. (1995) Reserve size and implications for the conservation of biodiversity in the Andaman Islands. In T. J. B. Boyle and B. Boontawee, eds. *Measuring and monitoring biodiversity in tropical and temperate forests*. Indonesia: CIFOR.
- Davidar, P., Yoganand, T. R. K., Ganesh, T. and Joshi, N. (1996) An assessment of common and rare forest bird species of the Andaman Islands. *Forktail* 12: 99–105.
- Davison, W. (1883) Notes on some birds collected on the Nilghiris and in parts of Wynaad and southern Mysore. *Stray Feathers* 10: 329–419.
- Davison, W. (1888) (Letter about birds from Travancore and Anamullai). *Ibis* (5)6: 146–148.
- Delacour, J. (1929) [Three new subspecies from southern Indo-China.] *Bull. Brit. Orn. Club* 49: 49–50.
- Delany, S., Reyes, C., Hubert, E., Pihl, S., Rees, E., Haanstra, L. and van Strien, A. (1999) Results from the International Waterbird Census in the Western Palearctic and Southwest Asia 1995 and 1996. Wageningen, the Netherlands: Wetlands International Publication 54.
- Duckworth, J. W., Salter, R. E. and Khounboline, K. (1999) Wildlife in Lao PDR: 1999 status report. Vientiane: IUCN, Wildlife Conservation Society, Department of Forestry.
- Eames, J. C. (1997) A preliminary survey for the Bengal Florican in Cambodia. *Nat. Hist. Bull. Siam Soc.* 45: 99–106.
- Evans, T. D. and Timmins, R. J. (1995) The status of the Green Peafowl *Pavo muticus* in Laos. *Forktail* 11: 11–32.
- Evans, T. D., Robichaud, W. G. and Tizard, R. J. (1997) The White-winged Duck *Cairina scutulata* in Laos. *Wildfowl*. 44: 81–96.
- Finn, F. (1898) (Letter about the validity of *Calophasis burmannicus*.) *Ibis* (7)4: 311–312.
- Flint, V. E. and Kondrat'ev, A. Ya. (1977) [An attempt to estimate the total population of rare stenotopic species (using as an example the Spoonbill Sandpiper *Eurynorhynchus pygmaeus*).] *Tez. Dokl. VII Vsesoyuz. orn. Konf. (Cherkassy)* Pt.2: 250. Kiev: Naukova dumka. (In Russian.)
- Ganguli-Lachungpa, U. (1998) Attempted breeding of the Blacknecked Crane *Grus nigricollis* Przevalski in north Sikkim. *J. Bombay Nat. Hist. Soc.* 95: 341.

- Gaston, A. J. (1985) Is habitat destruction in India and Pakistan beginning to affect the status of endemic passerine birds? *J. Bombay Nat. Hist. Soc.* 82: 636–641.
- Gaston, A. J. and Zacharias, V. J. (1996) The recent distribution of endemic and disjunct birds in Kerala State: preliminary results of an ongoing survey. *J. Bombay Nat. Hist. Soc.* 93: 389–400.
- Gaston, A. J., Hunter, M. L. and Garson, P. J. (1981) *The wildlife of Himachal Pradesh, western Himalayas*. Orono, U. S. A.: School of Forest Resources, University of Maine (Report of the Himachal Wildlife Project. Technical Notes no. 82.)
- Gaston, A. J., Islam, K. and Crawford, J. A. (1983) The current status of the Western Tragopan *Tragopan melanocephalus*. *World Pheasant Assoc. J.* 8: 40–49.
- Gaucher, P., Paillat, P., Chappuis, C., Saint Jalme, M., Lotfikhah, F. and Wink, M. (1996) Taxonomy of the Houbara Bustard *Chlamydotis undulata* subspecies considered on the basis of sexual display and genetic divergence. *Ibis* 138: 273–282.
- Gauntlett, F. M. (1986) The birds of Durgapur and the Damodar Valley. *J. Bombay Nat. Hist. Soc.* 82: 501–539.
- George, J., ed. (1994) *Annotated checklist of the birds of Bangalore*. Bangalore: Birdwatchers' Field Club of Bangalore.
- Ghosh, A. K. (1987) *Qualitative analysis of faunal resources of proposed Namdapha Biosphere Reserve, Arunachal Pradesh*. Calcutta: Zoological Survey of India.
- Godwin-Austen, H. H. (1874) Fourth list of birds principally from the Naga Hills and Munipur, including others from the Khasi, Garo and Tipperah Hills. *J. Asiatic Soc. Bengal* 43(2): 151–180.
- Goes, F., Hong Chamnan, Suon Mean, Luon Keang and Meas Rethy (1998) Waterbird counting and survey at Prek Toal and Boeng Chhma/Moat Khla. Phnom Penh: Tonle Sap Technical Coordination Unit, Ministry of Environment.
- Gokula, V. and Vijayan, L. (1996) Birds of Mudumulai Wildlife Sanctuary, India *Forktail* 12: 107–116.
- Gole, P. (1989) *The status and ecological requirements of Sarus crane*. Phase I. Pune, India: Ecological Society.
- Goriup, P. D. (1983) The decline of the Great Indian Bustard (*Ardeotis nigriceps*): a literature review. Pp.20–38 in P. D. Goriup and H. Vardhan, eds. *Bustards in decline*. Jaipur: Tourism and Wildlife Society of India.
- Goriup, P. D. (1997) The world status of the Houbara Bustard *Chlamydotis undulata*. *Bird Conserv. Internatn.* 7: 373–397.
- Goriup, P. D. and Karpowicz, Z. J. (1985) A review of the past and recent status of the Lesser Florican. *Bustard Studies* 3: 163–182.
- Green, A. J. (1992) *The status and conservation of the White-winged Wood Duck Cairina scutulata*. Slimbridge: IWRB (Special Publication No. 17).
- Green, A. J. (1993a) Status and habitat of the White-winged Duck *Cairina scutulata*. *Bird Conserv. Internatn.* 3: 119–143.
- Green, A. J. (1993b) The status and conservation of the Marbled Teal *Marmaronetta angustirostris*. Slimbridge: IWRB (Special Publication No. 23).
- Green, A. J. (1996) International action plan for the Marbled Teal (*Marmaronetta angustirostris*). Pp.99–117 in B. Heredia, L. Rose and M. Painter, eds. *Globally threatened birds in Europe: action plans*. Strasbourg: Council of Europe.
- Green, A. J. (2000) The habitat requirements of the Marbled Teal (*Marmaronetta angustirostris*), Ménétr., a review. Pp. 131–140 in F. A. Comín, J. A. Herrera and J. Ramírez, eds. *Limnology and aquatic birds: monitoring, modelling and management*. Mérida: Universidad Autónoma del Yucatán (Proc. 2nd SIL Int. Cong.).
- Green, A. J. and Anstey, S. (1992) The status of the White-headed Duck *Oxyura leucocephala*. *Bird Conserv. Internatn.* 2: 185–200.

- Green, A. J. and El Hamzaoui, M. (1998) The status and biology of threatened waterfowl in Morocco. *Threatened Waterfowl Spec. Group News* 11: 25–27.
- Green, A. J. and Hughes, B. (1996) Action Plan for the White-headed Duck (*Oxyura leucocephala*). Pp.119–145 in B. Heredia, L. Rose and M. Painter, eds. *Globally threatened birds in Europe: action plans*. Strasbourg: Council of Europe.
- Green, A. J. and Hunter, J. (1996) The declining White-headed Duck: a call for information. *Threatened Waterfowl Spec. Group News* 9: 19–21.
- Grimmett, R. (1979) Notes on a birdwatching visit to the Khasi Hills, North Cachar and Assam. Unpublished.
- Grimmett, R., Inskipp, C. and Inskipp, T. (1998) *Birds of the Indian subcontinent*. London: A. & C. Black/Christopher Helm.
- Grimmett, R., Inskipp, C. and Inskipp, T. (1999) *Birds of Nepal*. London: Christopher Helm.
- Grubb, R. B. (1983) The status of vultures in the Indian Subcontinent. Pp.107–112 in S. R. Wilbur and J. A. Jackson, eds. *Vulture biology and management*. University of California Press, Berkeley and Los Angeles.
- Grubb, R. B. (1986) A comparative study of ecology and distribution of Indian Whitebacked Vulture *Gyps bengalensis* and Long-billed Vulture *G. indicus* in the Indian region. Abstracts of XIX Congressus Internationalis Ornithologicus, Ottawa, Canada.
- Hancock, J. (1989) Extinction stalks the storks of Asia. *World Birdwatch* 11(1): 1.
- Hancock, J. A., Kushlan, J. A. and Kahl, M. P. (1992) *Storks, ibises and spoonbills of the world*. London: Academic Press.
- Hancock, J. and Kushlan, J. (1984) *The herons handbook*. London: Croom Helm.
- Harrington, H. H. (1914–1915) Notes on Indian Timeliides and their allies (laughing thrushes, babblers, &c.). *J. Bombay Nat. Hist. Soc.* 23: 44–72, 311–340, 417–453, 614–657.
- Harrap, S. (1986) South India (Kerala, Karnataka and Tamil Nadu). Unpublished notes.
- Harrap, S. and Quinn, D. (1996) *Tits, nuthatches and treecreepers*. London: A. & C. Black/Christopher Helm.
- Harrap, S. C. and Redman, N. J. (1990) Some observations of scarce birds in Kerala and Tamil Nadu. *J. Bombay Nat. Hist. Soc.* 86: 460–461.
- Hatzilacou, D. (1993) *The distribution of the globally endangered Dalmation Pelican Pelecanus crispus in Greece: threats pertaining to its habitats and recommendations for protection*. Sandy, UK: Royal Society for the Protection of Birds.
- Hauff, P. (1998) Bestandsentwicklung des Seeadlers *Haliaeetus albicilla* in Deutschland seit 1980 mit einem Rückblick auf die vergangenen 100 Jahre. *Vogelwelt* 119: 47–63.
- Henry, G. M. (1955) *A guide to the birds of Ceylon*. Colombo: K. V. G. De Silva and Sons.
- Heredia, B. (1996) International action plan for the Imperial Eagle (*Aquila heliaca*). Pp.159–174 in B.
- Hornbuckle, J. (1998a) Northeast India: 20 February–13 March 1998. Unpublished birdwatching report.
- Hornbuckle, J. (1998b) Vietnam: 24 March–14 April 1998. Unpublished birdwatching report.
- del Hoyo, J., Elliott, A. and Sargatal, J. eds. (1992) *Handbook of birds of the world*, 1. Barcelona: Lynx Edicions.
- del Hoyo, J., Elliott, A. and Sargatal, J. eds. (1994) *Handbook of birds of the world*, 2. Barcelona: Lynx Edicions.
- del Hoyo, J., Elliott, A. and Sargatal, J. eds. (1996) *Handbook of birds of the world*, 3. Barcelona: Lynx Edicions.

- del Hoyo, J. Elliott, A. and Sargatal, J. eds. (1997) *Handbook of birds of the world*, 4. Barcelona: Lynx Edicions.
- del Hoyo, J. Elliott, A. and Sargatal, J. eds. (1999) *Handbook of birds of the world*, 5. Barcelona: Lynx Edicions.
- Hume, A. O. (1874) Contributions to the ornithology of India: The islands of the bay of Bengal. *Stray Feathers* 2: 29–324, 490–501.
- Hume, A. O. (1888) Detailed list of species observed in Manipur, together with notices of all other species observed in Assam, Sylhet and Cachar. *Stray Feathers* 11: 1–353.
- Hume, A. O. and Marshall, C. H. T. (1879–1881) *The game birds of India, Burmah and Ceylon*. Calcutta: published by the authors.
- Husain, K. Z. (1979) *Birds of Bangladesh*. Dacca: Government of Bangladesh.
- Hussain, S. A. (1991) *Bird migration project. Annual report 1990–91*. Bombay: Bombay Natural History Society.
- Hussain, S. A. (1993) The distribution, status and conservation of hornbills in India. Pp.296–314 in P. Poonswad and A. C. Kemp, eds. *Manual to the conservation of Asian hornbills*. Bangkok: Hornbill Project, Faculty of Science, Mahidol University.
- Ichida, N. (1994) The proposed international network of wetland reserves. Pp.176–181 in H. Higuchi and J. Minton, eds. *The future of cranes and wetlands. Proceedings of the international symposium held in Tokyo and Sapporo, Japan, June 1993*. Tokyo: Wild Bird Society of Japan.
- Inglis, C. M. (1951–1969) Birds of the Duars. *J. Bengal Nat. Hist. Soc.* 24: 71–76; 25: 121–127, 164–169, 196–200; 26: 1–8, 47–56, 93–99, 149–156; 27: 9–12, 55–58, 83–95, 129–155; 28: 18–51, 102–115, 153–161; 29: 16–25, 88–94, 150–160; 30: 35–42, 81–97, 166–181; 31: 14–32, 49–60; 32: 1–9, 69–73; 33: 121–125, 181–184; 34: 1–4, 85–87; 35: 1–5, 49–63.
- Inskipp, C. and Collar, N. J. (1984) The Bengal Florican: its conservation in Nepal. *Oryx* 18: 30–35.
- Inskipp, T. and Collins, L. (1993) *World checklist of threatened birds*. Peterborough, UK: Joint Nature Conservation Committee.
- Inskipp, C. and Inskipp, T. P. (1977) Notes on birds in India and Nepal, October–December 1977. Unpublished.
- Inskipp, C. and Inskipp, T. P. and Grimmett, R. (1999) *Birds of Bhutan*. London: A. & C. Black/ Christopher Helm.
- Inskipp, T. P. (1996) Little known Oriental bird: Bristled Grassbird *Chaetornis striatus*. *Oriental Bird Club Bull.* 24: 46–47.
- Ishtiaq, F. (1999) The Forest Spotted Owlet *Athene blewitti*—an update. *Hornbill* 1999(3): 26–28.
- Ishtiaq, F. (2000a) Red Data Bird: the enigmatic Forest Owlet. *World Birdwatch* 22(3): 24–26.
- Ishtiaq, F. (2000b) Enigma of the Forest Owlet. *Sanctuary (Asia)* 20(3): 32–39.
- Ishtiaq, F. and Rahmani, A. R. (2000) Further information on the status and distribution of the Forest Owlet *Athene blewitti* in India. *Forktail* 16: 125–130.
- Islam, K. (undated) Status and distribution of the Western Tragopan in northeastern Pakistan. Pp.44–50 in C. D. W. Savage and M. W. Ridley, eds. *Pheasants in Asia 1982*. Reading, UK: World Pheasant Association.
- Islam, M. A. (1985) Ecology of the laughing thrushes of India with special reference to the endemic species. Ph.D. thesis. University of Bombay.
- Islam, M. A. (1987) Food and feeding habits of the south Indian laughing thrushes *Garrulax cachinnans* and *Garrulax jerdoni* (Aves: Muscicapidae). *Bangladesh J. Zool.* 15: 197–204.
- Islam, M. A. (1990) Satpura Hypothesis and the distribution of laughing thrushes *Garrulax* Lesson of India. *J. Bombay Nat. Hist. Soc.* 86: 318–322.

- Jamdar, N. (1987) Additions to the birds of Point Calimere, s. India. *J. Bombay Nat. Hist. Soc.* 84: 206.
- Jathar, G. (2002) The Forest Owlet *Heteroglaux blewitti* in Western Khandesh. MISTNET, VOL.3, # 3. Page 3.
- Javed, S. and Rahmani, A. R. (1991) Swamp Francolin in the north Indian terai. *World Pheasant Assoc. News* 34: 15–18.
- Javed, S., Kaul, R. and Khan, S. B. (1999a) Status, distribution and ecology of the Western Tragopan *Tragopan melanocephalus* in the Western Himalayas. Aligarh, India: Department of Wildlife Sciences, Aligarh Muslim University.
- Javed, S., Qureshi, Q. and Rahmani, A. R. (1999b) Conservation status and distribution of swamp francolin in India. *J. Bombay Nat. Hist. Soc.* 96: 16–23.
- Jerdon, T. C. (1839–1840) Catalogue of the birds of the peninsula of India, arranged according to the modern system of classification; with brief notes on their habits and geographical distribution, and description of new, doubtful and imperfectly described species. *Madras J. Lit. Sci.* 10: 60–91, 234–269; 11: 1–38, 207–239; 12: 1–15, 193–227.
- Jerdon, T. C. (1862–1864) *The birds of India*. Calcutta: privately published.
- Jerdon, T. C. (1871–1872) Supplementary notes to 'The birds of India'. *Ibis* (3)1: 234–247, 335–356; (3)2: 1–22, 114–139, 297–310.
- Johnsgard, P. A. (1981) *The plovers, sandpipers and snipes of the world*. Lincoln, USA: University of Nebraska Press.
- Johnson, J. M., Perennou, C. and Crivelli, A. (1993) Towards the extinction of the Spot-billed Pelican (*Pelecanus philippensis*). Pp.92–94 in M. Moser and J. van Vesseem, eds. *Wetland and waterfowl conservation in south and west Asia*. IWRB Spec. Publ. No. 25, AWB Publ. no. 85.
- Kalsi, R. S. (1998) Birds of Kalesar Wildlife Sanctuary, Haryana, India. *Forktail* 13: 29–32.
- Kalsi, R. S. (1999) Status and habitat of Cheer Pheasant in Himachal Pradesh. *World Pheasant Assoc. -SARO News* 1(1): 2–4.
- Kannan, R. (1985) Occurrence of Baer's Pochard (*Aythya baeri*) in Bharatpur, Rajasthan. *J. Bombay Nat. Hist. Soc.* 82: 403–404.
- Kannan, R. (1992) Yellowthroated Bulbul in Anaimalai Hills. *Newsletter for Birdwatchers* 32(7–8): 19.
- Kannan, R. (1998) Avifauna of the Anaimalai Hills (Western Ghats) of southern India. *J. Bombay Nat. Hist. Soc.* 95: 193–214.
- Kanoje, R. (1996) Flocks of Green Avadavat in Kanha Tiger Reserve. *Newsletter for Birdwatchers* 36: 14.
- Karthikeyan, S. and Athreya, V. R. (1993) Kashmir Redbreasted Flycatcher *Muscicapa subrubra* Hartert and Steinbacher at Ooty. *JBNHS*. 89: 376–377.
- Kashkarov, D. and Mukhina, E. (1997) Status of the Ferruginous Duck in Uzbekistan. *Threatened Waterfowl Spec. Group News* 10: 21–24.
- Katti, M., Manjrekar, N., Mukherjee, S. and Sharma, D. (1990) A report on wildlife survey in Arunachal Pradesh with special reference to Takin. Unpublished report to the Wildlife Institute of India.
- Kaul, R., Raza, R. and Kalsi, R. (1995) Pheasant surveys in Arunachal Pradesh. Pp.28–34 in D. Jenkins, ed. *Ann. Rev. World Pheasant Assoc.* 1993/94. Reading: World Pheasant Association.
- Kear, J. and Williams, G. (1978) Waterfowl at risk. *Wildfowl* 29: 5–21.
- Khacher, L. (1995) Comments on some contributions to *Newsletter*. *Newsletter for Birdwatchers* 35: 116.
- Khan, M. A. R. (1984) Conservation of storks and ibises in Bangladesh. *Tigerpaper* 11(4): 2–4.
- King, B. F. and Rasmussen, P. C. (1998) The rediscovery of the Forest Owlet *Athene (Heteroglaux) blewitti*. *Forktail* 14: 51–53.

- King, B. F., Dickinson, E. C. and Woodcock, M. W. (1975) *A field guide to the birds of South-East Asia*. London: Collins.
- Kolosov, A. M., ed. (1983) *Krasnaya kniga RSFSR: zhivotnye* [*Red Data Book of the RSFSR: animals*]. Moscow: Rossel'khozizdat. (In Russian.)
- Kumar, R. S. and Singh, P. (1998) Status and distribution of pheasants in Arunachal Pradesh, Eastern Himalayas, India. Paper presented at the National Seminar on Wildlife conservation, research and management, Wildlife Institute of India, Dehra Dun.
- Kumar, R. S. and Singh, P. (1999) Discovery of a new monal from Arunachal Pradesh. *Oriental Bird Club Bull.* 30: 35–38.
- Kumar, S. and Singh, P. (2000) More news on the monal discovered from Arunachal Pradesh. *Oriental Bird Club Bull.* 32: 63–65.
- Kushlan, J. A. and Hafner, H. (2000) *Heron conservation*. London: Academic Press.
- Lawton, J. H., Bignell, D. E., Bolton, B., Bloemers, G.F., Eggleton, P., Hammond, P.M., Hodda, M., Holt, R. D., Larsen, T.B., Mawdsley, N.A., Stork, N.E., Srivastava, D.S. and Watt, A.D. (1998). Biodiversity inventories, indicator taxa and effects of habitat modification in tropical forest. *Nature* 391: 72-76.
- Lorentsen, S., Øien, I. J. and Aarvak, T. (1998) Migration of Fennoscandian lesser white-fronted geese *Anser erythropus* mapped by satellite telemetry. *Biol. Conserv.* 84: 47–52.
- Luthin, C. S. (1987) Status of and conservation priorities for the world's stork species. *Colonial Waterbirds* 10: 181–202.
- MacKinnon, J., Meng Sha, Cheung, C., Carey, G., Zhu Xiang and Melville, D. (1996) *A biodiversity review of China*. Hong Kong: WWF International.
- MacKinnon, J. and Phillipps, K. (1993) *A field guide to the birds of Borneo, Sumatra, Java and Bali*. Oxford: Oxford University Press.
- MacKinnon, J. and Phillipps, K. (2000) *A field guide to the birds of China*. Oxford: Oxford University Press.
- Madge, S. and Burn, H. (1988) *Wildfowl*. London: Christopher Helm.
- Madsen, J. (1996) International action plan for the Lesser White-fronted Goose *Anser erythropus*. Pp.67–78 in B. Heredia, L. Rose and M. Painter, eds. *Globally threatened birds in Europe: action plans*. Strasbourg: Council of Europe, and BirdLife International.
- Magyar, G., Hadarics, T., Waliczky, Z., Schmidt, A., Nagy, T. and Bankovics, A. (1998) *Magyarország madarainak nevjegyzéke*. [An annotated list of the birds of Hungary.] Budapest: BirdLife Hungary.
- Marchant, S. and Higgins, P. J., eds. (1993) *Handbook of Australian, New Zealand and Antarctic birds*, 2. Melbourne: Oxford University Press.
- Mari, C. and Collar, N. (2000) *Pink Africa*. London: Harvill Press.
- Mauro, I. and Vercruyssen, E. (2000) Rusty-bellied Shortwing *Brachypteryx hyperythra* at Lava, Darjeeling, India in April and June 1996. *Forktail* 16: 176–177.
- McGowan, P. J. K. and Garson, P. J. (1995) *Pheasants: status survey and conservation action plan 1995–1999*. Gland, Switzerland: IUCN–The World Conservation Union.
- McGowan, P., Ding Chang-qing and Kaul, R. (1999) Protected areas and the conservation of grouse, partridges and pheasants in east Asia. *Animal Conserv.* 2: 93–102.
- Meine, C. D. and Archibald, G. W., eds. (1996) *The cranes: status survey and conservation action plan*. Gland, Switzerland, and Cambridge, UK: IUCN–The World Conservation Union.
- Meyburg, B.-U., Haraszthy, L., Strazds, M. and Schäffer, N. (1997) European species action plan for Greater Spotted Eagle (*Aquila clanga*). Europa: the European Union On-Line. Retrieved insert date accessed from

- the World Wide Web [http://europa.eu.int/comm/environment/nature/directive/birdactionplan]
- Miyabayashi, Y. and Mundkur, T. (1999) *Atlas of key sites for Anatidae in the East Asian Flyway*. Tokyo and Kuala Lumpur: Wetlands International.
- Mukherjee, A. K. (1981) The Bengal Florican *Houbaropsis bengalensis bengalensis* (Gmelin) in eastern India. Pp.119–120 in *Proc. Wildlife Workshop Dehra Dun, 1979*. Calcutta: Zoological Survey of India.
- Mundkur, T. and Taylor, V. (1993) *Asian waterfowl census 1993*. Kuala Lumpur: Asian Wetland Bureau and International Wetlands and Waterfowl Research Bureau.
- Mundkur, T., Carr, P., Sun Hean and Chhim Somean (1995a) *Survey for large waterbirds in Cambodia March–April 1994*. Gland: IUCN.
- Mundkur, T., Carr, P., Sun Hean and Chhim Somean (1995b) Annotated checklist of birds observed in Cambodia during surveys of 20 March–30 April 1994. Unpublished.
- Naoroji, R. (1990) Predation by *Aquila* eagles on nestling storks and herons in Keoladeo National Park, Bharatpur. *J. Bombay Nat. Hist. Soc.* 87: 37–45.
- Naoroji, R. (1997) Contamination in egg shells of Himalayan Greyheaded Fishing Eagle *Ichthyiaetus nana plumbea* in Corbett National Park, India. *J. Bombay Nat. Hist. Soc.* 94: 398–400.
- Narayan, G. (1995) Conservation of Bengal Florican. Pp.20–22 in L. Vijayan, ed. *Avian conservation in India*. Coimbatore: SACON.
- Negi, I. S. (1992) Is Mountain Quail extinct? *Cheetal* 31: 15–18.
- Nichols, E. G. (1943–1945) Occurrence of birds in Madura district. *J. Bombay Nat. Hist. Soc.* 44: 387–407, 574–584; 45: 122–132.
- Oates, E. W. (1898) On a new species of pheasant from Burma. *Ibis* (7)4: 124–125.
- Olson, S. L. (1980) The significance of the distribution of the Megapodiidae. *Emu* 80: 21–24.
- Pande, P., Kothari, A. and Singh, S., eds. (1991) *Directory of national parks and sanctuaries in Andaman and Nicobar Islands, management status and profiles*. New Delhi: Centre for Public Policy, Planning, and Environmental Studies, Indian Institute of Public Administration.
- Pandey, S. (1993) Pheasant surveys and the conservation of protected areas in the Upper Beas valley, Himachal Pradesh, India. Pp.58–61 in D. Jenkins, ed. *Pheasants in Asia 1992*. Reading, UK: World Pheasant Association.
- Parasharya, B. M. (in press) Status of Spotted-billed Pelican *Pelecanus philippensis philippensis* in Gujarat. *JBNHS*.
- Parr, J. W. K., Laothong, P. and Ruangsree, G. (1993) *A survey of the White-winged Wood Duck Cairina scutulata in Thailand*. Bangkok: Royal Forest Department and Slimbridge, UK: Wildfowl and Wetlands Trust.
- Peet, N. B. (1997) Biodiversity and management of tall grasslands in Nepal. PhD thesis. University of East Anglia, Norwich.
- Peet, N. B., Watkinson, A. R., Bell, D. J. and Kattel, B. J. (1999a) Plant diversity in the threatened sub-tropical grasslands of Nepal. *Biol. Conserv.* 88: 193–206.
- Peet, N. B., Watkinson, A. R., Bell, D. J. and Sharma, U. R. (1999b) The conservation management of *Imperata cylindrica* grassland in Nepal with fire and cutting: an experimental approach. *J. Appl. Ecol.* 36: 374–387.
- Perennou, C. and Mundkur, T. (1991) *Asian waterfowl census 1991. Mid-winter waterfowl counts, January 1991*. Slimbridge, UK: International Waterfowl and Wetlands Research Bureau, and Kuala Lumpur: Asian Wetland Bureau.
- Perennou, C., Mundkur, T. and Scott, D. A. (1994) *The Asian Waterfowl Census 1987–91: distribution and status of Asian waterfowl*. Kuala Lumpur: Asian Wetland Bureau, and Slimbridge, UK: International Waterfowl and Wetlands Research Bureau.

- Pfister, O. (1998) The breeding ecology and conservation of the Black-necked Crane (*Grus nigricollis*) in Ladakh/India. Unpublished.
- Prakash, V. (1988) Greater Spotted Eagle (*Aquila clanga*) breeding in Keoladeo National Park, Bharatpur. *J. Bombay Nat. Hist. Soc.* 85: 418.
- Pramod, P., Daniels, R. J. Ranjit, Joshi, N. V. and Gadgil, M. (1997) Evaluating bird communities of Western Ghats to plan for a biodiversity friendly development. *Current Science* 73(2): 156–162.
- Prasad, S. N., Vijayan, L, Balachandaran, S., Ramachandran, V.S. and Verghese, C. P. A. (1998) Conservation planning for the Western Ghats of Kerala: I. A GIS approach for location of biodiversity hot spots. *Current Science* 75(3): 211–219.
- Price, T. D. (1979) Some observations on the warbler (Aves: Sylviinae) populations of the upland perennial wetlands in the Eastern Ghats. *J. Bombay Nat. Hist. Soc.* 75: 488–490.
- Rahmani, A. R. (1987) Is the Blacknecked Stork threatened? *Hornbill* 1987 (4): 18–19.
- Rahmani, A. R. (1988) Grassland birds of the Indian subcontinent: a review. Pp.187–204 in P. D. Goriup, ed. *Ecology and conservation of grassland birds*. Cambridge, UK: International Council for Bird Preservation (Techn. Publ. 7).
- Rahmani, A. R. (1989) The Greater Adjutant Stork. *Newsletter for Birdwatchers* 29(11–12): 2–3.
- Rahmani, A. R. (1992) Threatened fauna of the Indian grasslands. Pp.143–150 in K. P. Singh and J. S. Singh, eds. *Tropical ecosystems: ecology and management*. New Delhi: Wiley Eastern.
- Rahmani, A. R. (1995) Indogangetic plains. Pp.59–60 in L. Vijayan, ed. *Avian conservation in India*. Coimbatore: SACON.
- Rahmani, A. R. (1996) Status and distribution of Stoliczka's Bushchat *Saxicola macrorhyncha* in India. *Forktail* 12: 61–77.
- Rahmani, A. R. (1997) The effect of the Indira Gandhi Nahar Project on the avifauna of the Thar Desert. *J. Bombay Nat. Hist. Soc.* 94: 233–256.
- Rahmani, A. R. (1998) A possible decline of vultures in India. *Oriental Bird Club Bull.* 28: 40–41.
- Rahmani, A. R. (2001) The Godawan Saga: Great Indian Bustards in decline. *Sanctuary (Asia)* 21(1): 24–28.
- Rahmani, A. R. and Islam, M. Z. (1997). Prioritization of the Indian Grasslands for Conservation of Biodiversity. Final Report. Bombay Natural History Society. Funded by Biodiversity Support Program. Pp. 162.
- Rahmani, A. R. and Manakadan, R. (1985) Present status of the Great Indian Bustard. *Bustard Studies* 3: 123–131.
- Rahmani, A. R. and Manakadan, R. (1990) The past and present distribution of the Great Indian Bustard *Ardeotis nigriceps* (Vigors) in India. *J. Bombay Nat. Hist. Soc.* 87: 175–194.
- Rahmani, A. R. and Prakash, V. (2000a) Technical note on the catastrophic decline in vulture populations in India. Unpublished.
- Rahmani, A. R. and Prakash, V. (2000b) A brief report on the International Seminar on Vulture Situation in India, organised by Bombay Natural History Society, 18–20 September 2000. Unpublished.
- Rahmani, A. R. and Qurieshi, Q. (1991) The threatened terai. *Sanctuary (Asia)* 11(4): 12–29, 65–71.
- Rahmani, A. R., Narayan, G., Sankaran, R. and Rosalind, L. (1988) *The Bengal Florican, status and ecology, annual report 1986–87*. Bombay: Bombay Natural History Society.
- Rahmani, A. R., Narayan, G. and Rosalind, L. (1990) Status of the Greater Adjutant Stork (*Leptoptilos dubius*) in the Indian subcontinent. *Colonial Waterbirds* 13: 138–142.
- Rahmani, A. R., Narayan, G., Rosalind, L., Sankaran, R. and Ganguli-Lachungpa, U. (1991) Status of the

- Bengal Florican *Houbaropsis bengalensis* in India. *J. Bombay Nat. Hist. Soc.* 88: 349–375.
- Raman, T. R. Shankar (1998) Observations on the vocalizations and display of the Broadtailed Grass Warbler (*Schoenicola platyura*) (Jerdon). *Newsletter for Birdwatchers* 38: 6.
- Rao, V. V., Anjaneyulu, M., Nagulu, V., Srinivasulu, C. and Satyanarayana, D. (1996) Waterfowl status at Coringa Wildlife Sanctuary, Andhra Pradesh *Pavo* 34 (1/2): 71–86.
- Rashid, H. (1967) *Systematic list of the birds of East Pakistan*. Asiatic Society of Pakistan (Publ. 20).
- Rasmussen, P. C. (1998a) The tracking of the Forest Spotted Owlet. *Hornbill* 1998(1): 4–9.
- Rasmussen, P. C. (1998b) In search of the Forest Spotted Owlet. *Sanctuary (Asia)* 18(2): 22–25.
- Rasmussen, P. C. (1998c) Rediscovery of an Indian enigma: the Forest Owlet. *Oriental Bird Club Bull.* 27: 50–52.
- Rasmussen, P. C. (1998d) Forest Owlet *Athene blewitti* rediscovered after 113-year hiatus. *Bird Conserv. Internatn.* 8: 109.
- Rasmussen, P. C. (1998e) A new scops-owl from Great Nicobar Island. *Bull. Brit. Orn. Club* 118: 141–153.
- Rasmussen, P. C. and Collar, N. J. (1998) Identification, distribution and status of the Forest Owlet *Heteroglaux (Athene) blewitti*. *Forktail* 14: 41–49.
- Rasmussen, P. C. and Ishtiaq, F. (1999) Vocalizations and behaviour of the Forest Owlet *Athene (Heteroglaux) blewitti*. *Forktail* 15: 61–65.
- Reid, G. (1881) The birds of the Lucknow Civil Division. *Stray Feathers* 9: 491–504; 10: 1–88.
- Rieger, I. and Walzthony, D. (1990) Searching for Mountain Quails, *Ophrysia superciliosa*. Unpublished.
- Ripley, S. D. (1952) Vanishing and extinct bird species of India. *J. Bombay Nat. Hist. Soc.* 50: 902–904.
- Ripley, S. D. (1982) *A synopsis of the birds of India and Pakistan; together with those of Nepal, Sikkim, Bhutan and Sri Lanka*. Second edition. Bombay: Bombay Natural History Society.
- Ripley, S. D. and Beehler, B. M. (1989a) Systematics, biogeography, and conservation of Jerdon's Courser *Rhinoptilus bitorquatus*. *J. Yamashina Inst. Orn.* 21: 165–174.
- Roberts, T. J. (1991–1992) *The birds of Pakistan*. Karachi: Oxford University Press.
- Robson, C. R. (1986) Notes on a birdwatching visit to Sichuan, Yunnan, Kwangsi and Tibet. Unpublished.
- Robson, C. (2000) *A field guide to the birds of South-East Asia*. London: New Holland.
- Rose, P. M. and Scott, D. A. (1997) *Waterfowl population estimates*. Second edition. Wageningen, the Netherlands: Wetlands International (Publ. 44).
- Round, P. D. (1984) The status and conservation of the bird community in Doi Suthep-Pui National Park, north-west Thailand. *Nat. Hist. Bull. Siam Soc.* 32(1): 21–46.
- Round, P. D. (1988a) *Resident forest birds in Thailand: their status and conservation*. Cambridge, UK: International Council for Bird Preservation (Monograph 2).
- Saikia, P. (1995) Ecobiology of adjutant storks with special reference to *Leptoptilos javanicus* (Horsfield) in the Brahmaputra valley, Assam. Ph.D. thesis, Gauhati University.
- Saikia, P. and Bhattacharjee, P. C. (1990) The present status of waders and other water birds of Brahmaputra Valley, Assam (India). *Stilt* 17: 65–70.
- Samant, J. S., Prakash, V. and Naoroji, R. (1995) *Ecology and behaviour of resident raptors with special reference to endangered species. Final report 1990–1993*. Bombay: Bombay Natural History Society.

- Sankaran, R. (1991) Some aspects of the breeding behaviour of the Lesser Florican *Sypheotides indica* (J. F. Miller) and the Bengal Florican *Houbaropsis bengalensis* (Gmelin). Ph.D. thesis, University of Bombay.
- Sankaran, R. (1993) Red data bird: Lesser Florican. *World Birdwatch* 15(4): 18–19.
- Sankaran, R. (1994) Status of the Lesser Florican in 1994. Coimbatore: SACON. Unpublished.
- Sankaran, R. (1995a) The distribution, status and conservation of the Nicobar Megapode *Megapodius nicobariensis*. *Biol. Conserv.* 72: 17–25.
- Sankaran, R. (1995b) The status and conservation of the Lesser Florican. Pp.22–24 in L. Vijayan, ed. *Avian conservation in India*. Coimbatore: SACON.
- Sankaran, R. (1995c) A fresh initiative to conserve the Lesser Florican. *Oriental Bird Club Bull.* 22: 42–45.
- Sankaran, R. (1997) Developing a protected area network in the Nicobar islands; The perspective of endemic avifauna. *Biodiversity and Conservation* 6: 797–815.
- Sankaran, R. (1998) An annotated list of the endemic avifauna of the Nicobar islands. *Forktail* 13: 17–22.
- Sankaran, R. (2000) The status of the Lesser Florican *Sypheotides indica* in 1999. Coimbatore: SACON, and Bombay: BNHS.
- Sankaran, R. and Manakadan, R. (1990) Recent breeding records of the Lesser Florican *Sypheotides indica* (Miller) from Andhra Pradesh. *J. Bombay Nat. Hist. Soc.* 87: 294–296.
- Sankaran, R. and Rahmani, A. R. (1986) The Lesser Florican: Annual Report 2, 1985–86 [of project entitled “Study of the ecology of certain endangered species of wildlife and their habitats”.] Bombay: Bombay Natural History Society.
- Sankaran, R. and Rahmani, A. R. (1990) Status of the Lesser Florican in western India. Pp.101–111 in *Status and ecology of the Lesser and Bengal Floricans with reports on Jerdon’s Courser and Mountain Quail: final report*. Bombay: Bombay Natural History Society.
- Sankaran, R., Rahmani, A. R. and Ganguli-Lachungpa, U. (1992) The distribution and status of the Lesser Florican *Sypheotides indica* (J. F. Miller) in the Indian subcontinent. *J. Bombay Nat. Hist. Soc.* 89: 156–179.
- Sarker, S. U. (1986) Adaptability of the pheasants of Bangladesh to disturbed habitats. In M. Ridley, ed. *Pheasants in Asia 1986*. Basildon, UK: World Pheasant Association.
- Sarker, S. U. and Sarker, N. J. (1985) Birds of prey and their conservation in the Sundarbans mangrove forests, Khulna, Bangladesh. Pp.205–209 in I. Newton and R. D. Chancellor, eds., *Conservation studies on raptors*. Cambridge, UK: International Council for Bird Preservation (Techn. Publ. 5).
- Satheesan, S. M. (1988) Unusual vulture gatherings in different regions of India. *Vulture News* 20: 16.
- Satheesan, S. M. (1999) The vanishing skylords. *WWF-India Network Newsletter* 9(4): 13–18.
- Satheesan, S. M. (2000) Vultures in Asia. Pp.165–174 in R. D. Chancellor and B.-U. Meyburg. *Raptors at risk. Proceedings of the Fifth World Conference on Birds of Prey and Owls*. Surrey, UK: Hancock House Publishers.
- Savage, C. D. W. and Mackenzie, M. J. S. (1967) Wetlands and wildfowl of Upper Assam. Unpublished.
- Scott, D. A., ed. (1989) *A directory of Asian wetlands*. Gland, Switzerland, and Cambridge, UK: International Union for Conservation of Nature and Natural Resources.
- Scott, D. A. and Rose, P. M. (1989) *Asian waterfowl census 1989. Mid-winter waterfowl counts in southern and eastern Asia, January 1989*. Slimbridge: International Waterfowl and Wetlands Research Bureau.

- Sharma, V. (1993) Ecological status of pheasants in Himachal Pradesh, Western Himalayas. *World Pheasant Assoc. J.* 17/18: 76.
- Sharma, S. K. and Tehsin, R. (1994) Birds of southern Rajasthan. *Newsletter for Birdwatchers* 34: 109–113.
- Sharma, R. K., Sharma, S. and Mathur, R. (1995) Faunistic survey of river Mahanadi vis-à-vis environmental condition in Madhya Pradesh. *Tigerpaper* 22(3): 21–26.
- Simmons, R. E. (1996) Population declines, viable breeding areas, and management options for flamingos in southern Africa. *Conserv. Biol.* 10: 504–514.
- Singh, A. P. (2000) Birds of the lower Garhwal Himalayas: Dehra Dun valley and neighbouring hills. *Forktail* 16: 101–123.
- Singh, G. (1992) Status of Harike wetland. *Tigerpaper* 19(3): 26–28.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh. *Forktail* 10: 65–104.
- Singh, P. (1999) Bird survey in selected localities of Arunachal Pradesh, India. Dehradun: Wildlife Institute of India.
- Singh, S., Kothari, A. and Pande, P., eds. (1991) *Directory of national parks and sanctuaries in Himachal Pradesh, management status and profiles*. New Delhi: Indian Institute of Public Administration.
- Sinha, A. R. P. (1992) Impacts of growing population and tourism on the endemic flora of Andaman and Nicobar Islands. *Envir. Conserv.* 19: 174–175, 182.
- Singha, H., Rahmani, A. R., Coulter, M. C. and Javed, S. (in press) Present status and conservation of Greater Adjutant Stork in the Brahmaputra Valley, Assam, India. *Forktail*.
- Smythies, B. E. (1986) *The birds of Burma*. Third edition. Liss, UK: Nimrod Press, and Pickering, Ontario: Silvio Mattachione and Co.
- Stanford, J. K. and Ticehurst, C. B. (1938–1939) On the birds of northern Burma. *Ibis* (14)2: 65–102, 197–229, 391–428, 599–638; (14)3: 1–45, 211–258.
- Stattersfield, A. J., Crosby, M. J., Long, M. J. and Wege, D. C. (1998) *Endemic bird areas of the world: priorities for biodiversity conservation*. Cambridge, UK: BirdLife International (Conservation Series 7).
- Stevens, H. (1914–1915) Notes on the birds of upper Assam. *J. Bombay Nat. Hist. Soc.* 23: 234–268, 547–570, 721–736.
- Subramanya, S., Prasad, J. N. and Karthikeyan, S. (1995) In search of the Yellow-throated Bulbul. *Sanctuary (Asia)* 15(5): 68–70.
- Sugathan, R. (1985) Observations on Spoonbilled Sandpiper (*Eurynorhynchus pygmeus*) in its wintering ground at Point Calimere, Thanjavur District, Tamil Nadu. *J. Bombay Nat. Hist. Soc.* 82: 407–408.
- Sundar, K. S. G. and Choudhury, B. C. (1999) Red Data Book for birds of India—Indian Sarus Crane (*Grus antigone antigone*). Unpublished report to BirdLife International.
- Sundar, K. S. G., Kaur, J. and Choudhury, B. C. (in press) Distribution, demography and conservation status of the Indian Sarus Crane (*Grus antigone antigone*) in India. *J. Bombay Nat. Hist. Soc.*
- Sykes, W. H. (1832) Catalogue of birds of the raptorial and insessorial orders (systematically arranged) observed in the Dukhun. *Proc. Zool. Soc. London* 1832: 77–99, 149–172.
- Thewlis, R. M., Timmins, R. J., Evans, T. D. and Duckworth, J. W. (1998) The conservation status of birds in Laos. *Bird Conserv. Internatn.* 8 (Suppl.): 1–159.
- Thiollay, J.-M. (1996) The raptor community of Nias Island, Sumatra: survey and conservation. *Kukila* 8: 113–116.

- Tiwari, J. K. and Rahmani, A. R. (1996) The current status and biology of the White-naped Tit *Parus nuchalis* in Kutch, Gujarat, India. *Forktail* 12: 79–85.
- Tolvanen, P. (1998) Occurrence and conservation of the Lesser White-fronted Geese (*Anser erythropus*) in the White Sea region. In Proceedings of the RECMAB workshop “Studies of Arctic bird migration in the region of the north Baltic and White Sea”, 2–4 April, 1998. Helsinki, Finland: Finnish Environmental Institute.
- Tomkovich, P. S. (1991) Three-year study of the Spoon-billed Sandpiper. *Asian Wetland News* 4: 17.
- Tucker, G. M. and Heath, M. F. (1994) *Birds in Europe: their conservation status*. Cambridge, UK: BirdLife International (BirdLife Conservation Series 3).
- Turin, R., Heegaard, M. and Priemé, A. (1987) Northern part of the Indian subcontinent 87. Unpublished birdwatching report.
- Underwood, B.A. (1992) Notes on the Orangerumped Honeyguide *Indicator xanthonotus* and its association with the Himalayan Honey Bee *Apis laboriosa*. *J. Bombay Nat. Hist. Soc.* 89: 290–295.
- UNEP/CMS (1999) *Conservation measures for the Siberian Crane*. Bonn: UNEP/CMS Secretariat (CMS Techn. Ser. Publ.1).
- Uthaman, P. K. (1993) Birds of the Wayanad Wildlife Sanctuary. *Blackbuck* 9(1): 1–17.
- Vijayan, L. (1997) Endemic birds of the Andaman Islands and their conservation. In *Proceedings of a Seminar on the Environmental Education Needs of the Andaman Nicobar Islands*. CPR Environmental Education Centre, Chennai and Dept. of Education, Andaman and Nicobar Islands.
- Vijayan, L. and Gokula, V. (1999) Impact of human interference on some of the rare endemic birds of the Upper Nilgiris. In *Proceedings of the National Seminar on the Endemic and Endangered Plants and Animals of the Eastern and Western Ghats*. Forest Department of Tamil Nadu.
- Vincent, J. (1966–1971) *Red Data Book, 2: Aves*. Morges, Switzerland: International Union for Conservation of Nature and Natural Resources.
- Wang Qishan (1999) [Current status of waterbirds in China wetlands.] Pp.1–11 in [*Proceedings of International Workshop on the Crested Ibis Conservation '99, Hanzhong, China*]. (In Chinese.)
- Wang Qishan and Coulter, M. (1995) Statement of the working group on Oriental White Storks. Pp.202–204 in C. Halvorson, J. H. Harris and S. M. Smirenski, eds. *Cranes and storks of the Amur River. The Proceedings of the International Workshop Khabarovsk-Poyarkovo-Khabarovsk July 3–12, 1992*. Moscow: Arts Literature Publishers.



INDEX
ENGLISH NAME

A		Greater Adjutant	20
Andaman Crane	68	Greater Grey-headed Fish-Eagle	71
Andaman Cuckoo-dove	76	Greater Spotted Eagle	34
Andaman Drongo	82	Green Munia	65
Andaman Hawk-owl	77	Green Peafowl	42
Andaman Scops-owl	77	Grey-breasted Laughingthrush	80
Andaman Serpent-eagle	72	Grey-crowned Prinia	60-61
Andaman Treepie	83	Grey-headed Fish-eagle	71
Andaman Woodpecker	79	Grey-sided Thrush	53
Andaman Wood-pigeon	76		
Asian Dowitcher	75	H	
Austen's Babbler	58	Himalayan Quail (ex?)	13-14
		Hodgson's Bushchat	55-56
B		Hooded Crane	44
Baer's Pochard	32-33	Houbara	74
Baikal Teal	31	Hume's Pheasant	41
Beach Stone-plover	75		
Beach Thick-knee	75	I	
Beautiful Nuthatch	64	Imperial Eagle	35
Bengal Florican	24	Indian Skimmer	47-48
Black-and-rufous Flycatcher	82		
Black-bellied Tern	75-76	J	
Black-breasted Parrotbill	60	Jerdon's Babbler	58-59
Black-necked Crane	69	Jerdon's Courser	17
Black-necked Stork	69		
Blyth's Kingfisher	78	K	
Blyth's Tragopan	39-40	Kashmir Flycatcher	63
Bristled Grass-warbler	61-62	Khasi Hills Swift	50
Broad-tailed Grassbird	62		
Brown Hornbill	79	L	
Brown-winged Kingfisher	78	Lesser Adjutant	29
		Lesser Flamingo	70
C		Lesser Florican	24-25
Cheer Pheasant	40-41	Lesser Grey-headed Fish-Eagle	71
Chestnut-backed Laughingthrush	80	Lesser Kestrel	35-36
Chestnut-breasted Partridge	38	Lesser White-fronted Goose	30
Cinereous Vulture	71-72	Little Bustard	74
		Long-billed bush-warble	81-82
D		Long-billed Vulture	15
Dalmatian Pelican	67	Long-tailed Parakeet	77
Dark-rumped Swift	50	Long-tailed Prinia	81
Darter	69		
		M	
E		Malabar Pied-hornbill	78
Eastern Imperial Eagle	35	Manipur Bush-quail	37-38
Eastern Stock Pigeon	48	Marbled Teal	31-32
		Marsh Babbler	56
F		Masked Finfoot	44-45
Ferruginous Duck	70	Mishmi Wren-babbler	57
Finn's Weaver	65-66	Mrs. Hume's Pheasant	41
Firethroat	79-80		
Forest Owllet	17-18	N	
		Narcondam Hornbill	51
G		Nicobar Bulbul	52-53
Giant Babax	81	Nicobar Megapode	36-37
Great Indian Bustard	23-24	Nicobar Parakeet	77
Great Pied Hornbill	78-79	Nicobar Pigeon	76
Great Snipe	74-75	Nicobar Scops-Owl	68

Nicobar Serpent-eagle	72
Nicobar Sparrowhawk	30-31
Nilgiri Flycatcher	82
Nilgiri Laughingthrush	26-27
Nilgiri pipit	79
Nilgiri Wood-pigeon	48-49
Nordmann's Greenshank	25-26

O

Oriental Stork	20
Oriental White Ibis	69-70

P

Painted Stork	69
Pale-backed Pigeon	48
Pale-capped Pigeon	49-50
Pallas's Fish-eagle	33
Pallid Harrier	72-73
Pied Tit	63-64
Pink-headed Duck (ex?)	13
Purple Wood-Pigeon	49-50

R

Red-breasted Hill Partridge	38
Red-cheeked Parakeet	77
Red-headed Vulture	72
Rufous-breasted Laughingthrush	26-27
Rufous-necked Hornbill	50-51
Rufous-rumped Grassbird	82
Rufous-rumped Grasswarbler	82
Rufous-throated Wren-warbler	80
Rufous-vented Prinia	81
Rusty-bellied Shortwing	53-54
Rusty-throated Wren-babbler	57

S

Sarus Crane	42-43
Satyr Tragopan	73

Slater's Monal	40
Siberian Crane	16-17
Slender-billed Babbler	59
Slender-billed Vulture	15-16
Snowy-throated Babbler	58
Sociable Lapwing	45
South Nicobar Serpent-eagle	72
Spoon-billed Sandpiper	46-47
Spot-billed Pelican	28-29
Spotted Greenshank	25-26
Stoliczka's Bushchat	55
Swamp Francolin	37

T

Tawny-breasted Wren-babbler	57-58
Tibetan Eared-pheasant	73

W

Ward's Trogon	77
Wedge-billed Wren-babbler	80-81
Western Tragopan	39
White-backed Vulture	14-15
White-bellied Heron	19-20
White-bellied Shortwing	54
White-browed Bushchat	55
White-cheeked Hill Partridge	73
White-cheeked partridge	73
White-headed Duck	21-22
White-naped Tit	63-64
White-tailed Eagle	70-71
White-throated Bushchat	55-56
White-winged Duck	22-23
Wood Snipe	46

Y

Yellow Weaver	65-66
Yellow-rumped Honeyguide	79
Yellow-throated Bulbul	52

INDEX

SCIENTIFIC NAME

A	
<i>Accipiter butleri</i>	30-31
<i>Aceros narcondami</i>	51
<i>Aceros nipalensis</i>	50-51
<i>Aegypius monachus</i>	71-72
<i>Alcedo hercules</i>	78
<i>Amandava formosa</i>	65
<i>Anas formosa</i>	31
<i>Anhinga melanogaster</i>	69
<i>Anorrhinus tickelli</i>	79
<i>Anser erythropus</i>	30
<i>Anthracoceros coronatus</i>	78
<i>Anthus nilghiriensis</i>	79
<i>Apus acuticauda</i>	50
<i>Aquila clanga</i>	34
<i>Aquila heliaca</i>	35
<i>Arborophila atrogularis</i>	73
<i>Arborophila mandellii</i>	38
<i>Ardea insignis</i>	19-20
<i>Ardeotis nigriceps</i>	23-24

<i>Athene blewitti</i>	17-18
<i>Aythya baeri</i>	32-33
<i>Aythya nyroca</i>	70

B

<i>Babax waddelli</i>	81
<i>Brachypteryx hyperythra</i>	53-54
<i>Brachypteryx major</i>	54
<i>Bradypterus major</i>	81-82
<i>Buceros bicornis</i>	78-79

C

<i>Cairina scutulata</i>	22-23
<i>Caloenas nicobarica</i>	76
<i>Catreus wallichi</i>	40-41
<i>Chaetornis striatus</i>	61-62
<i>Chlamydotis undulata</i>	74
<i>Chrysomma altirostre</i>	58-59
<i>Ciconia boyciana</i>	20
<i>Circus macrourus</i>	72-73

<i>Columba elphinstonii</i>	48-49	<i>Mycteria leucocephala</i>	69
<i>Columba eversmanni</i>	48		
<i>Columba palumboides</i>	76	N	
<i>Columba punicea</i>	49-50	<i>Ninox affinis</i>	77
<i>Crossoptilon harmani</i>	73		
		O	
D		<i>Ophrysia superciliosa</i>	13-14
<i>Dendrocitta bayleyi</i>	83	<i>Otus Alius</i>	68
<i>Dicrurus andamanensis</i>	82	<i>Otus balli</i>	77
<i>Dryocopus hodgעי</i>	79	<i>Oxyura leucocephala</i>	21-22
E		P	
<i>Ephippiorhynchus asiaticus</i>	69	<i>Paradoxornis flavirostris</i>	60
<i>Esacus magnirostris</i>	75	<i>Parus nuchalis</i>	63-64
<i>Eumyias albicaudata</i>	82	<i>Pavo muticus</i>	42
<i>Eurynorhynchus pygmeus</i>	46-47	<i>Pelargopsis amauropterus</i>	78
		<i>Pelecanus crispus</i>	67
F		<i>Pelecanus philippensis</i>	28-29
<i>Falco naumanni</i>	35-36	<i>Pellorneum palustre</i>	56
<i>Ficedula nigrorufa</i>	82	<i>Pedicula manipurensis</i>	37-38
<i>Ficedula subrubra</i>	63	<i>Phoenicopterus minor</i>	70
<i>Francolinus gularis</i>	37	<i>Ploceus megarhynchus</i>	65-66
		<i>Prinia burnesii</i>	81
G		<i>Prinia cinereocapilla</i>	60-61
<i>Gallinago media</i>	74-75	<i>Psittacula caniceps</i>	77
<i>Gallinago nemoricola</i>	46	<i>Psittacula longicauda</i>	77
<i>Garrulax cachinnans</i>	26-27	<i>Pycnonotus xantholaemus</i>	52
<i>Garrulax jerdoni</i>	80		
<i>Garrulax nuchalis</i>	80	R	
<i>Graminicola bengalensis</i>	82	<i>Rallina canningi</i>	68
<i>Grus antigone</i>	42-43	<i>Rhinoptilus bitorquatus</i>	17
<i>Grus leucogeranus</i>	16-17	<i>Rhodonessa caryophyllacea</i>	13
<i>Grus monacha</i>	44	<i>Rynchops albigollis</i>	47-78
<i>Grus nigricollis</i>	43-44		
<i>Gyps bengalensis</i>	14-15	S	
<i>Gyps indicus</i>	15	<i>Sarcogyps calvus</i>	72
<i>Gyps tenuirostris</i>	15-16	<i>Saxicola insignis</i>	55-56
		<i>Saxicola Macrorhyncha</i>	55
H		<i>Schoenicola platyura</i>	62
<i>Haliaeetus albicilla</i>	70-71	<i>Sitta formosa</i>	64
<i>Haliaeetus leucoryphus</i>	33	<i>Spelaeornis badeigularis</i>	57
<i>Harpactes wardi</i>	77	<i>Spelaeornis caudatus</i>	80
<i>Heliopais personata</i>	44-45	<i>Spelaeornis longicaudatus</i>	57-58
<i>Heteroglaux blewitti</i>	17-18	<i>Spenocichla humei</i>	80-81
<i>Houbaropsis bengalensis</i>	24	<i>Spilornis elgini</i>	72
<i>Hypsipetes nicobariensis</i>	52-53	<i>Spilornis minimus</i>	72
		<i>Stachyris oglei</i>	58
I		<i>Sterna acuticauda</i>	75-76
<i>Ichthyophaga humilis</i>	71	<i>Sypheotides indica</i>	24-25
<i>Ichthyophaga ichthyaeus</i>	71	<i>Syrmaticus humiae</i>	41
<i>Indicator xanthonotus</i>	79		
		T	
L		<i>Tetrax tetrax</i>	74
<i>Leptoptilos dubius</i>	21	<i>Threskiornis melanocephalus</i>	69-70
<i>Leptoptilos javanicus</i>	29	<i>Tragopan blythii</i>	39-40
<i>Limnodromus semipalmatus</i>	75	<i>Tragopan melanocephalus</i>	39
<i>Lophophorus sclateri</i>	40	<i>Tragopan satyra</i>	73
<i>Luscinia pectardens</i>	79-80	<i>Tringa guttifer</i>	25-26
		<i>Turdoides longirostris</i>	59
M		<i>Turdus feae</i>	53
<i>Macropygia rufipennis</i>	76		
<i>Marmaronetta angustirostris</i>	31-32	V	
<i>Megapodius nicobariensis</i>	36-37	<i>Vanellus gregarius</i>	45

Indian Bird Conservation Network (IBCN)

The Indian Bird Conservation Network is set up by the BNHS in collaboration with BirdLife International and the Royal Society for the Protection of Birds (RSPB) (BirdLife partner in UK).

Mission of the IBCN

The mission of the Network is to promote conservation of birds and their habitat through development of a national network of individuals, organisations and Government.

The Network invites two types of partnership-individual and organisational. To join the Network, write to IBCN/IBA team at BNHS.

PUBLICATIONS OF THE BNHS

<i>Title & Author</i>	<i>Price</i>	<i>Price for Members</i>
The Book of Indian Birds (12th Edition) – Salim Ali	425.00	320.00
The Book of Indian Animals (3rd Edition) – S.H. Prater	275.00	210.00
The Book of Indian Reptiles and Amphibians – J.C. Daniel	Under preparation	
The Book of Indian Shells – Deepak Apte	295.00	225.00
The Book of Indian Trees – K.C. Sahl	275.00	210.00
Some Beautiful Indian Trees (2nd Edition) – E. Blatter & W.S. Millard	295.00	225.00
Some Beautiful Indian Climbers and Shrubs (2nd Edition) – N.L. Bor & M.B. Raizada	525.00	390.00
Illustrated Flora of Keoladeo National Park, Bharatpur – V.P. Prasad, Daniel Mason, Joy E. Marburger & C.R. Ajithkumar	695.00	525.00
A Pictorial Guide to the Birds of the Indian Subcontinent (2nd Edition) – Salim Ali & S.D. Ripley	370.00	278.00
Encyclopedia of Indian Natural History – R.E. Hawkins	1250	1125
Salim Ali's India – A.S. Kothari & B.F. Chhappgar	1200	900
A Week with Elephants – Proceedings of the June 1993 Seminar on Asian Elephants (Eds. J.C. Daniel & Hemant Datye)	450	338
Conservation in Developing Countries – Problems and Prospects (Eds. J.C. Daniel & J.S. Serrao)	400	300
A Guide to the Cranes of India – Prakash Gole	75	67
Common Indian Wild Flowers – Issac Kehlmar	375	280
Calls of Indian Birds (Set of two audio cassettes with an explanatory booklet)	160	120
A Field Guide to Indian Butterflies – N. Chaturvedi & Issac Kehlmar	Under preparation	
Seaside Stories – B.F. Chhappgar	Under preparation	

Donations to BNHS are exempt under Sections 80G and 35(1)(ii) of I.T. Act, 1961
