THE STATE OF Nepal's Birds 2010

Indicators for our changing world

Bird Conservation Nepal (BCN)

THE STATE OF

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PUBLISHED BY
Bird Conservation Nepal
PO Box 12465, Lazimpat, Kathmandu, Nepal

Department of National Parks and Wildlife Conservation
PO Box 860, Babarmahal, Kathmandu, Nepal

BirdLife International
Wellbrook Court, Girton Road, Cambridge CB3 0NA, UK

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The Suggested Citation:
BCN and DNPWC, 2011. *The State of Nepal's Birds 2010.* Bird Conservation Nepal and Department of National Parks and Wildlife Conservation, Kathmandu.

ISBN: 978-9937-2-3359-0

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Dedicated to Jack Cox Jr who died prematurely in 2010. Jack will be remembered for his love of Nepal, its people and birds, his passion for bird conservation and trekking more widely in search of Nepal birds than anyone else to date.

Front Cover photo: Sarus Crane *by Jyotendra Jyu Thakuri*
Back Cover photo: Lesser Shortwing *by Nelson Khor*

Designed and Processed by: PrintCommunication, 4782746

Printed in Jagadamba Press

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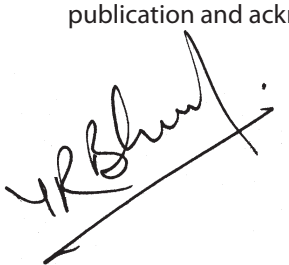
FOREWORD

Birds are found nearly everywhere and so serve as valuable indicators for global environmental change. Over the past 20 years the status of the world's 10,000 bird species has deteriorated significantly with more species slipping closer to extinction. Today, one in eight bird species is threatened with global extinction, including Asian birds which are vanishing rapidly largely because of our activities. For example, expanding and intensifying agriculture and forestry are destroying and degrading habitats. Inadequately managed fisheries, ever-spreading infrastructure, invasive alien species, pollution and overexploitation all pose serious problems. The impacts of climate change on birds are already visible which could be the most serious threat of all.

Global environmental commitments are in place but now must be linked more clearly to people's livelihoods and well-being through the benefits provided by ecosystem services, to build constituencies that will look after both key sites and the wider landscape. Most of the world lies outside protected areas—as do most of the world's birds. The fate of this wider environment is crucial for conservation: to link buffer sites, to meet the requirements of wide-ranging species, and to maintain the familiar species that we know and value. Conservation at this scale requires policies that promote genuinely sustainable development, and that take nature into account alongside the needs of people.

Nepal's birds are better known and better monitored than in most countries in Asia. Since the early 1980s, a growing cadre of ornithologists and conservationists have surveyed and recorded the nation's birds. Based on this, *The State of Nepal's Birds 2010* by Bird Conservation Nepal (BCN) has painted an alarming picture of many species in decline, and on the verge of extinction, in the country. This deterioration in our bird life is certain to be matched by other fauna and flora. The Government of Nepal has placed high priority on the conservation of birds including through the effective implementation of the Nepal Biodiversity Strategy Plan prepared in 2002. Ensuring the conservation of the 27 Important Bird Areas identified in Nepal would make an enormous contribution towards maintaining not just birds but much other biodiversity.

The timely publication of *The State of Nepal's Birds 2010* is a major step forward for bird conservation in Nepal. But the key thing now is to implement its recommendations for action. I am confident that it will guide conservationists and practitioners effectively as they seek to target their efforts and resources towards safeguarding biodiversity. I would like to commend BCN and BirdLife International for this important publication and acknowledge everyone involved in this work for their valuable contributions.



Yuba Raj Bhusal
Secretary
Ministry of Forest and Soil Conservation

Government of Nepal
Ministry of Forest and Soil Conservation
Department of National Parks and Wildlife Conservation

FOREWORD

Nepal is blessed with remarkably rich biodiversity. The amazingly diverse climatic and topographic variations within the country have provided a variety of forest and ecosystem types with unique wildlife and birdlife habitats. With the designation of Chitwan National Park in 1973, Nepal initiated biodiversity conservation and has now been successful in developing a well established network of protected areas covering over 23% of the landmass of the country, from the plain Terai to the High Himalayas.

These protected areas are home to over 181 species of mammals, many of them globally threatened, such as Royal Bengal Tiger, Greater One-horned Rhinoceros, Asian Wild Elephant, Snow Leopard, Red Panda and Gangetic River Dolphin. Nepal's unique habitats also provide homes to over 867 species of birds – resident as well as migratory species, including the endemic Spiny Babbler.

The Government of Nepal has placed high priority on biodiversity conservation including its birdlife. Out of 27 Important Bird Areas, 15 IBAs are well-known, with a good track record of conservation activities. However, 12 IBAs are still unprotected and these special areas require more attention.While formal protection often remains the preferred option, there are many other, often innovative, approaches that can also be highly effective. These include ensuring effective application of safeguard policies and environmental assessments for development projects. In all cases, maximising the involvement of local communities and stakeholders, and a commitment to long-term engagement, are keys to success.

Birds have unique roles in forests and other ecosystems, including as predators, pollinators, scavengers and seed dispersers. Even though only nine species are listed in the National Parks and Wildlife Conservation Act, we have to protect all birds, as protected areas can only provide the last refuge for many species. Despite our enormous efforts, many birds remain threatened, some even critically endangered.

The State of Nepal's Birds 2010 updates a previous review and provides a new scientific basis to its readers. I hope that this latest information will be helpful for the effective conservation and management of the nation's birds and their ecosystems as a whole. This report will certainly raise awareness amongst planners, policy makers, conservationists and the general public. I would like to thank Bird Conservation Nepal, BirdLife International and all conservation partners who were involved for their enormous efforts in bringing out this publication.

Krishna Prasad Acharya
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Bird Conservation Nepal (BCN)

नेपाल पंक्षी संरक्षण संघ

Government Regd. Charity No. 77/049/050, Social Welfare Council Afiliation No. 5130

FOREWORD

As a Partner of BirdLife International, Bird Conservation Nepal (BCN) is engaged in monitoring the status of Nepal's birds and ensuring their protection. With the identification of 27 critical sites for birds known as Important Bird Areas (IBAs)—occurring in forests, grasslands and freshwater ecosystems—BCN is playing a key role in conserving our feathered friends, especially those which are nationally and globally threatened.

The State of Nepal's Birds 2010 is a scientific report which has identified the state of Nepal's birds, the pressures upon them and the key responses needed to tackle the new challenges and issues which have emerged since the publication of State of Nepal's Birds in 2004. The depletion of forests, grasslands and wetlands is posing a threat to the survival of the Nepalese birds. Human demands are putting increasing pressure on species, sites and habitats resulting in the loss of biodiversity and, subsequently, leading to ecosystem degradation and the disruption of essential 'ecosystem services' such as food, water, energy and raw materials. Also, a new set of issues and challenges has emerged including climate change, which is certain to have an impact on birds.

BCN is well aware that conservation objectives cannot be met by a stand-alone mode. Our philosophy is to work together with communities, conservation partners, government agencies, civil society and the general public. From influencing policy to implementing action at the grassroots, BCN is working with all.

I believe that this pioneer publication will help us to raise awareness, share knowledge and fine-tune our future strategies to protect the Nepalese birds. BCN is committed to effectively implementing the recommendations made in this report. I am thankful to the Government of Nepal and other national and international conservation partners for working with us to improve the status of our birds and biodiversity, and for their unrelenting support for BCN.

Shree Ram Subedi
President

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PREFACE

The State of Nepal's Birds 2010 (BCN and DNPWC 2011) aims to raise awareness amongst policymakers, the general public and conservation organisations of the plight of Nepal's birds and the responses needed to help secure their conservation.

It is 15 years since the publication of the first assessment of the threat status of Nepal's birds: *Threatened Birds of Nepal* by the Department of National Parks and Wildlife Conservation (DNPWC) and Bird Conservation Nepal (BCN) in 1996. This report was succeeded by *The State of Nepal's Birds 2004* published by IUCN Nepal, DNPWC and BCN eight years later. Better documentation on species' status enabled the latter to be a much more detailed report than the 1996 report. It included an account of the threats to Nepal's birds, an assessment of national threat status for individual species considered to qualify for IUCN Categories Vulnerable, Endangered and Critically Endangered categories and a comprehensive review of all Endangered and Critically Endangered species.

The generosity of many more bird observers in Nepal in providing their unpublished records has led to *The State of Nepal's Birds 2010* being a more complete assessment of species' threat status than was possible previously. One of the most notable changes since the 2004 report is that there are now16 more species on the threatened list. Other significant and worrying changes are that 21 additional species are considered Critically Endangered and six more Endangered compared to 2004.

Species listed as threatened in *The State of Nepal's Birds 2010* should be treated as priority species for conservation. However, many more bird species are also known to be declining, but were not considered to have reached the level of being nationally threatened.

An important feature of this new report is the Response section, which covers the conservation approaches that BCN, other NGOs, individuals and the Government of Nepal are taking or can take to tackle the threats facing Nepal's birds.

Limitations of this report and the two previous assessments of Nepal's threatened birds are that not all species have been comprehensively assessed to identify those that might qualify for Near-threatened status. In addition, passage migrants and vagrants have been excluded because it was considered that the main threats to these species may lie elsewhere. However, some passage migrants may use important stop-over sites where threats may be high. A new study is currently underway under the auspices of the Zoological Society of London that is considering the threat status of all bird species recorded in Nepal to produce a *National Red Data Book of Nepal's Birds*. The work undertaken to produce this report will be used for this more comprehensive review.

Much remains to be understood about the status and distribution of birds in Nepal. Please send in your bird records so that knowledge of birds in this country can be improved further and documented. This will enable policymakers and the general public to be made aware of the status of Nepal's birds and lead to the implementation of measures to prevent birds becoming extinct in the country and ensure their conservation.

Carol Inskipp, Hem Sagar Baral and Tim Inskipp

Bird Conservation Nepal (BCN)

नेपाल पंक्षी संरक्षण संघ

Government Regd. Charity No. 77/049/050, Social Welfare Council Afiliation No. 5130

ACKNOWLEDGEMENTS

Bird Conservation Nepal (BCN) is very grateful to the Jensen Foundation, Darwin Initiative and BirdLife International for generously supporting this publication.

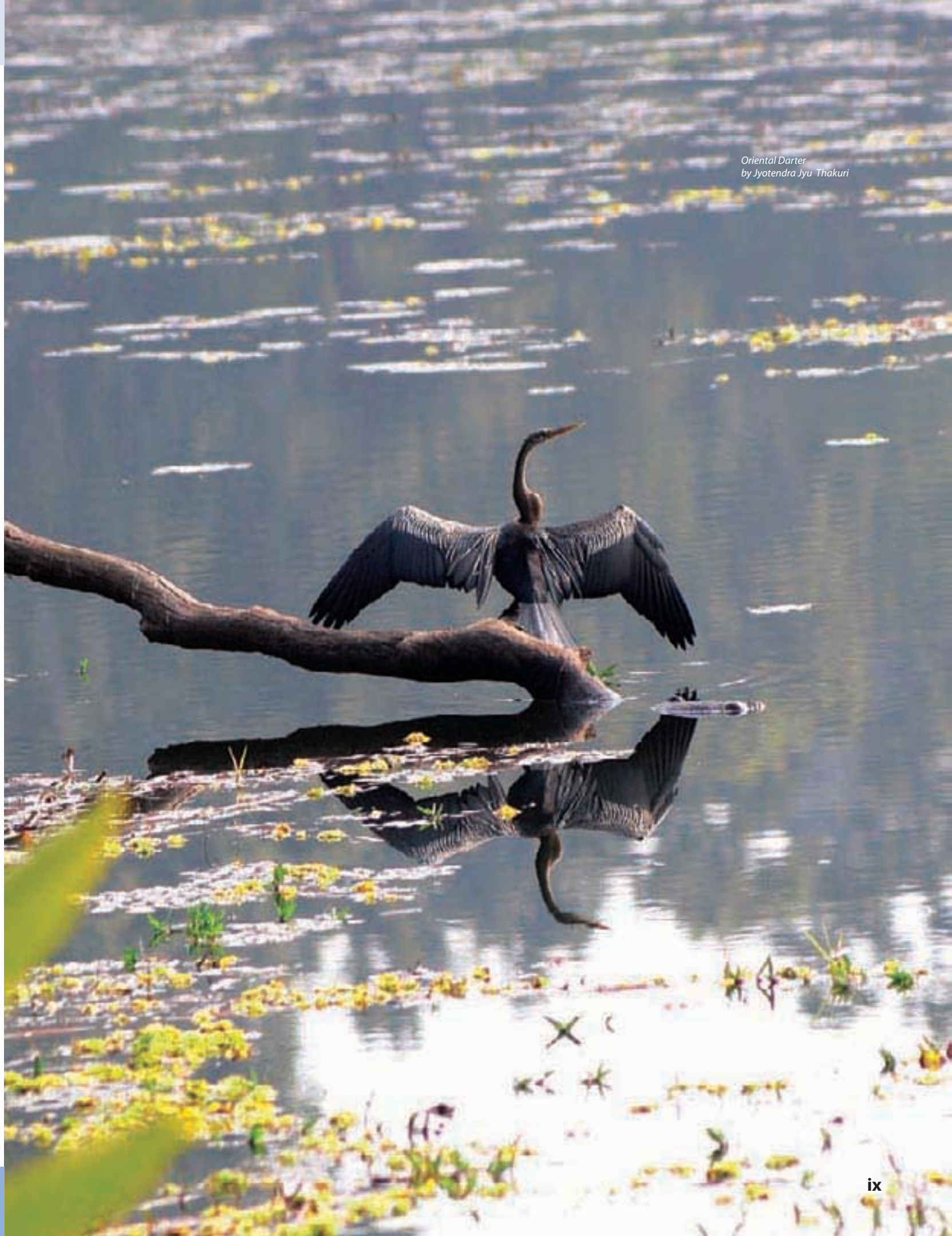
Compiling the data for *The State of Nepal's Birds 2010* would not have been possible without the help of numerous bird observers who generously provided us with their unpublished records: Raju Acharya, Nabin Baral, Suchit Basnet, Yub Raj Basnet, Basu Bidari, Krishna Bidari, Anand Chaudhary, Dheeraj Chaudhary, Badri Chaudhary, DB Chaudhary, Madhu Chetri, Hathan Choudhary, Bhagawan Raj Dahal, Som GC, Ramji Gautam, Yadav Ghimirey, Dinesh Giri, Tika Giri, Martin Naylor, Mitra Pandey, Laxman Paudyal, Arend van Riessen, Ram Bahadur Shahi, Paras Singh, Hem Subedi, Jyotendra Jyu Thakuri, and Anish Timsina. We give special thanks to all of them.

Several BCN staff contributed to the report: Ishana Thapa, Anand Chaudhary, Mitra Pandey, Jyotendra Jyu Thakuri, Sushma Shrestha and Menuka Basnyat. BCN is very grateful to Gopal Prasad Upadhyay, former Director General of Department of National Parks and Wildlife Conservation, Raju Acharya, Tej Basnet, Suchit Basnet, Richard Cuthbert, Yadav Ghimirey, Haris Rai, Arend van Riessen, Karan Shah, Shree Ram Subedi, Bhesh Raj Ghimire, Vimal Thapa, Krishna Tamrakar, Sarbendra Pachhai, Rajendra Gurung, Dibya Gurung, Dipak Raj Joshi, Gopal Kumar Jha, Maheshwar Dhakal and Uba Raj Regmi for their useful comments on the draft. We warmly thank Jyotendra Jyu Thakuri, Paul Sterry, Tim Loseby, Ishana Thapa, Anand Chaudhary, Bhagawan Dahal, Raj Kamal Phukan, Prasad Ganpule, Mitra Pandey, David Cottridge, Satyendra Sharma, Nelson Khor, Vimal Thapa, Bed Bahadur Khadka, Jenny Birch and Carol Inskipp for the use of their photographs.

BCN would like to thank the tireless team work efforts of the research and compilation team members. BCN is privileged to acknowledge Carol and Tim Inskipp for their outstanding contribution and dedication to Nepalese ornithology and pioneering research and documentation on birds of Nepal. They have been instrumental in supporting BCN from its inception and establishing international networks to promote bird conservation in Nepal. BCN is also thankful to Hem Sagar Baral for his pioneering work in bird conservation in Nepal.

The support and encouragement of Yuba Raj Bhusal, Secretary of Ministry of Forest and Soil Conservation and Krishna Prasad Acharya, Director General of Department of National Parks and Wildlife Conservation are greatly acknowledged for writing the Foreword. BCN also thanks its Founder President Hari Saran Nepali 'Kazi' for his continued support. The publication would not have been possible without the technical support of Alison Stattersfield, Head of Science, BirdLife International and her support is greatly appreciated.

Hum Bahadur Gurung, Ph.D.
Chief Executive Officer



Oriental Darter
by Jyotendra Jyu Thakuri

SUMMARY

STATE: What do we know about Nepal's birds?

In 2010, the alarming number of 149 bird species (17%) of Nepal's birds is considered nationally threatened. As many as 61 species are thought to be Critically Endangered, 38 Endangered and 50 Vulnerable. An additional 16 species are considered threatened in 2010 compared to 2004. However, the more detailed analysis carried out in 2010 revealed that some species were much more threatened in 2004 than considered at that time. Over half of Nepal's nationally threatened birds inhabit forests, with over a quarter in wetlands, and smaller numbers in grasslands. Most of these species occur in the lowlands.

PRESSURE: Why are birds declining?

Human activities leading to habitat loss and damage are the major threats, with agriculture being the root cause. Pesticides could be a significant threat to many species, especially birds of prey and large wading birds, while the over-use of fertilisers is harmful to all freshwater life. Poisoning by diclofenac, a drug used to treat livestock ailments, has been identified as responsible for the threatened status of vultures. Conversion for agriculture is also the major cause of deforestation, while over-grazing by livestock and over-harvesting for fodder are the major causes of forest degradation. Wetlands and their birds face a wide range of threats, including drainage, unsustainable harvesting, diversion and abstraction of water, overgrazing, pollution, hunting, trapping, disturbance and destruction of feeding and nesting sites, mining of river beds for gravel and the possibility of new dams on rivers. The spread of cultivation in Nepal's lowlands has lead to the once extensive lowland grasslands becoming greatly reduced and fragmented. Nepal's specialist grassland birds are now almost entirely confined to protected areas where their populations are isolated. Within protected areas these species and other grassland birds are suffering from inappropriate grassland management, including untimely and intensive annual cutting, burning and ploughing. Some threatened birds have other specialist habitat needs, such as bamboo, and are now only locally distributed because of habitat losses. Over-exploitation affects many nationally threatened species, especially wetland birds, pheasants and owls, and over-fishing is a major threat to fish-eating birds, notably some raptors, owls and terns. Serious threats are posed by some invasive alien weeds, for instance Water Hyacinth in wetlands and recently the climber ***Mikania micrantha,*** which can very rapidly smother all terrestrial habitats. The impacts of climate change on Nepal's birds are likely to be significant and may already be affecting some species, such as Ibisbill.

RESPONSE: What has been done?

There are many Government policies, such as the National Conservation Strategy and Sustainable Development Agenda, as well as obligations under international treaties, such as the Convention on Biological Diversity and Convention on Wetlands, which set the national framework for conservation activities. Nepal already has a protected areas network that covers over 23% of the country, including some newly established areas. However, there are still gaps including 12 Important Bird Areas that are currently unprotected and may require consideration. As well as conserving key sites for biodiversity, sustaining birds and biodiversity in the wider landscape is also needed. For forests, the involvement of local communities has resulted in effective conservation in some areas, while providing livelihood benefits at the same time. For wetlands, Nepal has designated nine Ramsar sites and through its National Wetland Policy aims to conserve, manage and promote the wise and sustainable use of wetlands, particularly with community involvement. For grasslands, new guidelines for management in lowland Protected Areas are currently in development. Across all habitats, the banning of persistent chemical pesticides for use in agriculture and health is a significant advance, but illegal use remains a serious concern. For specific globally threatened species, there have been targeted surveys and action, notably for vultures, which have provided much useful information on their conservation needs. Raising awareness of the importance of conserving biodiversity is a fundamental response, and there are some excellent examples of activities being carried out by a range of Non-Governmental Organisations. These include working closely with local communities and farmers' groups, producing materials on birds and conservation, organising birdwatching for the general public, and running clubs for schools.

KEY RESPONSES FROM BIRD CONSERVATION NEPAL

Saving species

- Undertake conservation activities for selected bird species in order to prevent extinctions (for example, BCN's Vulture Conservation Programme).
- Conduct systematic surveys of key species, especially those that are: declining e.g. Lesser Adjutant *Leptoptilos javanicus,* Swamp Francolin *Francolinus gularis;* good indicators or flagships e.g. Bengal Florican *Houbaropsis bengalensis*, Sarus Crane *Grus antigone*, Great Hornbill *Buceros bicornis*; or species that have not been recorded for at least 10 years e.g. Yellow-cheeked Tit *Parus spilonotus,* Silver-eared Mesia *Leiothrix argentauris* (to the best of our knowledge), poorly known e.g. Great Slaty Woodpecker *Mulleripicus pulverulentus* and Spotted Wren Babbler *Spelaeornis formosus*.
- Provide continuing support and expertise to ensure that Nepal's protected bird list is up-to-date and enforced.
- Coordinate regular reviews of the status of Nepal's birds and use results to shape conservation activities.

Safeguarding sites

- Establish monitoring at all Important Bird Areas (IBAs), in order to have up-to-date information on the condition of the sites, the pressures on them, and the actions in place (including through community involvement), and use results to advocate priority actions.
- Promote appropriate protection of IBAs for example Dharan Forests and potential IBAs like Resunga Forest and notably those in the lowland grasslands such as Khadara Phanta.
- Advocate suitable management for birds in protected IBAs, especially in lowland grasslands in order to support the diversity of threatened birds dependent on this habitat.
- Assess the importance (and value) of ecosystem services at IBAs, and promote the conservation of biodiversity and delivery of ecosystem services together (Shivapuri Nagarjun National Park, Koshi Tappu Wildlife Reserve, Rara National Park, Phulchowki).
- Assess the impacts of climate change on the likely changes in the distribution of birds and develop an adaptation strategy for the best management of IBAs.

Conserving habitats

- Advocate enforcement of existing pesticide regulations and promote the use of Integrated Pest Management (IPM) and more training of farmers in use of IPM and Effective Microorganisms (EM) technology.
- Seek to ensure north-south landscape level bird conservation, providing and improving habitats for altitudinal migrants that connect IBAs. For example Sagarmatha National Park-Koshi Tappu Wildlife Reserve, Annapurna Conservation Area-Chitwan National Park, Rara National Park-Bardia National Park and Shukla Phanta Wildlife Reserve.

Empowering people and raising awareness

- Promote community activities which support livelihoods and reduce pressures on natural resources.
- Encourage widespread participation in conservation through, for example, the Nepalese Bird Conservation Network and the establishment of Local Conservation Groups.
- Encourage school children to participate in bird conservation by providing an extra class in bird identification techniques, forming an eco club.

Fire-tailed Sunbird
by Jyotendra Jyu Thakuri

INTRODUCTION

Nepal is renowned for its rich diversity of birds

Nepal is renowned internationally for its rich diversity of bird species. The high total of 867 species has been recorded, over 8% of the world's known birds. Many species have strong habitat preferences and can be used to pinpoint Important Bird Areas (IBAs) which are key sites for conservation. In Nepal, 27 such sites have been identified covering forests, grasslands and freshwater ecosystems.

How many bird species are there?

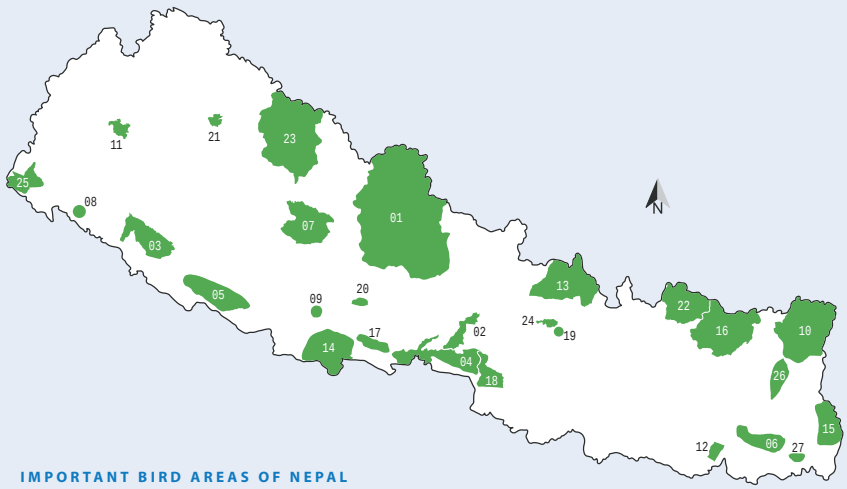
Although Nepal possesses an area of just 147,181 km^2 (0.1% of the world's total landmass), it accounts for about 8% of the world's bird species, with a total of 867 species recorded to date.

Tawny Fish Owl
by Nelson Khor

Important Bird Areas are key sites for conservation

A total of 27 Important Bird Areas (IBAs) has been identified in Nepal covering forests (22 IBAs), grasslands (four) and freshwater ecosystems (10). IBAs are key sites for bird conservation which are identified using standardised global criteria: 24 IBAs support globally threatened species, 13 have restricted-range species, 24 have biome-restricted species and eight qualify as IBAs because they hold large congregations of waterbirds.

The four most important IBAs are Annapurna Conservation Area, Chitwan National Park, Koshi Tappu Wildlife Reserve and Koshi Barrage and Shukla Phanta Wildlife Reserve, when numbers of globally threatened, biome-restricted and congregatory species are considered. Most of Nepal's IBAs (14 out of 27) lie at relatively low altitude (78–1000 m), including three of the most important (Chitwan, Koshi and Shukla Phanta) (Baral and Inskipp 2005).



IMPORTANT BIRD AREAS OF NEPAL

01 Annapurna Conservation Area
02 Barandabhar Forest and Wetlands
03 Bardia National Park
04 Chitwan National Park
05 Dang Deukhuri Foothill Forests and West Rapti Wetlands
06 Dharan Forests
07 Dhorpatan Hunting Reserve
08 Ghodaghodi Lake
09 Jagdishpur Reservoir
10 Kanchenjunga Conservation Area
11 Khaptad National Park
12 Koshi Tappu Wildlife Reserve and Koshi Barrage
13 Langtang National Park
14 Farmlands in Lumbini Area
15 Mai Vally Forests
16 Makalu Barun National Park
17 Nawalparasi Forests
18 Parsa Wildlife Reserve
19 Phulchoki Mountain Forests
20 Rampur Valley
21 Rara National Park
22 Sagarmatha National Park
23 Shey-Phoksundo National Park
24 Shivapuri Nagarjun National Park
25 Shukla Phanta Wildlife Reserve
26 Tamur Valley and Watershed
27 Urlabari Forest Groves

Source: Baral and Inskipp (2005)

Species characteristic of different habitat types

BirdLife International has identified biomes across the world, six of which lie in Nepal, a remarkably high number for such a small country. There are extensive areas of these biomes which support significant populations of species characteristic of the respective biomes in the following Nepal IBAs:

Large areas of **alpine zone** (Eurasian High Montane biome) occur in Annapurna Conservation Area (ACA), Dhorpatan Hunting Reserve, Kanchenjunga Conservation Area, and Langtang, Makalu Barun, Rara, Sagarmatha and Shey-Phoksundo National Parks. ACA and Shey-Phoksundo National Park also have large Trans-Himalayan **semi-desert areas** (Eurasian High Montane biome). Characteristic species include Lammergeier *Gypaetus barbatus,* Himalayan Griffon *Gyps himalayensis*, Wood Snipe *Gallinago nemoricola,* and Ibisbill *Ibidorhyncha struthersii*.

Extensive areas of **temperate forest** (Sino-Himalayan Temperate Forest biome) occur in ACA, Dhorpatan Hunting Reserve, Kanchenjunga Conservation Area, Khaptad and Langtang National Parks, Mai valley, Makalu Barun National Park, Phulchoki Mountain, Sagarmatha and Shey-Phoksundo National Parks, and Tamur valley and watershed. Associated bird species include Satyr Tragopan *Tragopan satyra*, Yellow-rumped Honeyguide *Indicator xanthonotus*, Gould's Shortwing *Brachypteryx stellata,* Golden-breasted Fulvetta *Alcippe chrysotis,* Great Parrotbill *Conostoma oemodium,* Brown Parrotbill *Paradoxornis unicolor,* and Fulvous Parrotbill *P. fulvifrons*.

Large areas of **subtropical moist forests** (Sino-Himalayan Subtropical forest biome) occur in Makalu Barun National Park and some in the Mai valley and on Phulchoki Mountain. Extensive dry subtropical forests (Sino-Himalayan Subtropical forest biome) occur in Bardia and Chitwan National Parks, and Dang Deukhuri foothill forests. Associated species include Blyth's Kingfisher *Alcedo hercules,* Blue-naped Pitta *Pitta nipalensis,* Purple Cochoa *Cochoa purpurea,* Grey-sided Laughingthrush *Garrulax caerulatus,* Blue-winged Laughingthrush G. *squamatus,* Cutia *Cutia nipalensis* and Black-headed Shrike Babbler *Pteruthius rufiventer.*

Some areas of **tropical moist forest** (Indo-Chinese Tropical Moist Forest biome) lie in Dharan forests and in the Mai valley. Characteristic species include Pale-headed Woodpecker *Gecinulus grantia,* Rufous-necked Laughingthrush *Garrulax ruficollis,* and Sultan Tit *Melanochlora sultanea.*

Large areas of **semi-arid woodland and scrub** (Indo-Malayan Tropical Dry Zone biome) occur in Bardia, and Chitwan National Parks, Parsa and Shukla Phanta Wildlife Reserves, Dang Deukhuri foothill forests, Dharan forests, and Farmlands in Lumbini area. Typical species include Dusky Eagle Owl *Bubo coromandus,* Indian Nightjar *Caprimulgus asiaticus,* Red-necked Falcon *Falco chicquera,* Yellow-wattled Lapwing *Vanellus malarbaricus,* Indian Courser *Cursorius coromandelicus* and Tawny-bellied Babbler *Dumetia hyperythra.*

Bees Hazari Tal
by Vimal Thapa

Extensive areas of **grasslands** (Indo-Gangetic Plains biome) occur in Chitwan National Park, Shukla Phanta Wildlife Reserve and Koshi Tappu and Koshi Barrage. Characteristic species include Swamp Francolin *Francolinus gularis,* Bengal Florican *Houbaropsis* bengalensis, Jerdon's Bushchat *Saxicola jerdoni,* Jerdon's Babbler *Chrysomma altirostre,* Slender-billed Babbler *Turdoides longirostris,* and Bristled Grassbird *Chaetornis striata.*

Important **wetlands** can be found in Chitwan, Ghodaghodi Lake area and Jagdishpur Reservoir, with the largest concentrations of waterbirds occurring at Koshi Tappu Wildlife Reserve and Koshi Barrage. Species associated with wetlands include Cotton Pygmy-goose *Nettapus coromandelianus,* Eurasian Curlew *Numenius arquata,* Black-bellied Tern *Sterna acuticauda,* Indian Skimmer, *Rynchops albicollis,* Lesser Adjutant *Leptoptilos javanicus,* Pheasant-tailed Jacana *Hydrophasianus chirurgus* and Baillon's Crake *Porzana pusilla* (Baral and Inskipp 2005).

INTRODUCTION

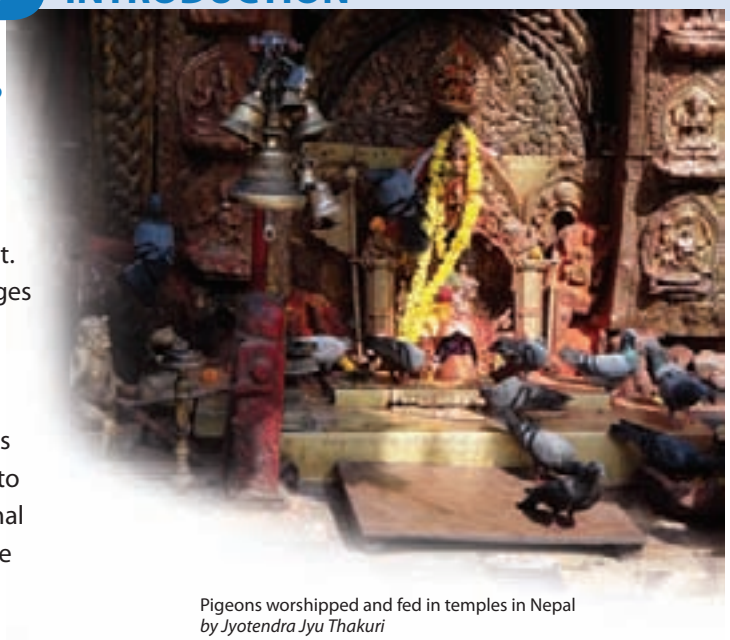
It is important to conserve birds for many reasons

Birds have high cultural significance in Nepal and most people enjoy seeing and hearing birds around them. They deserve respect on moral and religious grounds. They are also of invaluable economic importance because they eat crop pests, pollinate flowers, disperse seeds and clear up waste by scavenging. Finally, they are good indicators of environmental health as they are sensitive to change.

Why conserve birds?

Moral, religious and cultural reasons

All forms of life deserve respect. The Nepalese culture encourages respect for birds and other wildlife. Whether numerous bird species survive depends on the decisions of people. This brings people a responsibility to protect wildlife. Many traditional practices have helped conserve the birds and other wildlife. As modernisation continues, unfortunately such practices are being given up in many areas and, as a result, threats to wildlife are increasing.



Pigeons worshipped and fed in temples in Nepal *by Jyotendra Jyu Thakuri*

Folk tales about birds

In Nepal there are numerous folk tales about birds. Birds symbolise the season, weather, news, danger and good luck.

- For instance, the calls of cuckoos indicate the arrival of spring. Nepalese Hindu communities regard crows as messengers of the God of death, Yama. The peacock is the carrier of God Kumar or Kartikey. A white swan is the carrier of the Goddess of education, Saraswati. The pigeon is regarded as a symbol of peace and fed in houses and temples by many Nepalis. The sighting of Demoiselle Crane *Grus virgo* in April / May is taken by farmers as an indication of season for growing vegetables like cucumber/pumkin.
- Swallows, martins and swifts are given traditional respect and people allow them to nest under house eaves and other areas. A fine example was in Kopundole, Lalitpur, where the "Home of Swallows" was located; here up to 1000 swallows nested for many years, although recently the site has been destroyed to make way for the construction of a new house. Similarly, at Thapathali, holes have been made in a house wall for facilitating the nesting of sparrows.
- In the north of the country, Buddhist communities pay great respect to all the animal beings. A good example of this can be seen in Sagarmatha National Park where Sherpas strictly follow the principle of Ahimsa (no killing).
- Nepal's national bird, Danphe (Himalayan Monal *Lophophorus impejanus*), is respected widely.
- Poets, painters, writers and music composers have been inspired by the nature around them. A pair of Ruddy Shelduck *Tadorna ferruginea* features as an example of ideal conjugal life and is often mentioned in love songs or other stories.

Enjoyment

Most people enjoy having birds around them and their homes. They like to see birds and hear their songs. As there are birds of some type around us all the time in Nepal, we cannot imagine an environment without birds. In the mid-hills and lowland towns and villages, most people are aware of the presence of Oriental Magpie Robin *Copsychus saularis,* the common songbird in the area. Higher in the mountain villages, rosefinches and accentors abound.

Economic reasons

Although some bird species may eat some crop seeds and grains, overall they are invaluable to farmers as they feed on huge numbers of harmful insect pests. For example, Asian Openbill *Anastomus oscitans,* Lesser Adjutant *Leptoptilos javanicus* and Sarus Crane *Grus antigone,* that feed in agricultural fields, control many harmful insects and other invertebrates that would otherwise be harmful to crops. Not only this, birds like Crested Serpent Eagle *Spilornis cheela*, Short-toed Snake Eagle *Circaetus gallicus* and others feed on snakes and help to control their populations.

The main source of animal protein to human beings in Nepal comes from birds. Chickens, which originate from the wild Red Junglefowl *Gallus gallus,* form the most important source of animal protein for human beings in Nepal. Similarly, ducks, turkeys and, increasingly, several other farmed birds have become regular sources of protein in the country.

Pollinators and dispersers of seeds

Birds' roles as pollinators and in the dispersal of seeds are very important. There are several plant species that are exclusively pollinated by birds. Without a healthy number of these pollinators, propagation of these trees would be impossible. For example, flowerpeckers are important in the dispersal of mistletoe Viscaceae.

Scavengers

Vultures, such as the once common and widespread White-rumped Vulture *Gyps bengalensis* and Slender-billed Vulture *G. tenuirostris* are important as scavengers of corpses and other wastes, especially around human habitation.

Monitors of the environment

Birds are good indicators of environmental health because they occur in almost all habitats and are sensitive to environmental change. Peregrine Falcon *Falco peregrinus* gave a clear warning about the dangers of using the pesticide, DDT, for instance. The species declined dramatically in many countries in Europe and North America in the 1960s due to poor breeding success. This was due to the birds laying eggs with unusually thin shells and the eggs then breaking. This shell thinning was closely linked to the use of DDT. The chemical was found to be building up in the bodies of many other bird species, as well as in humans, and even being passed onto babies through their mothers' milk.

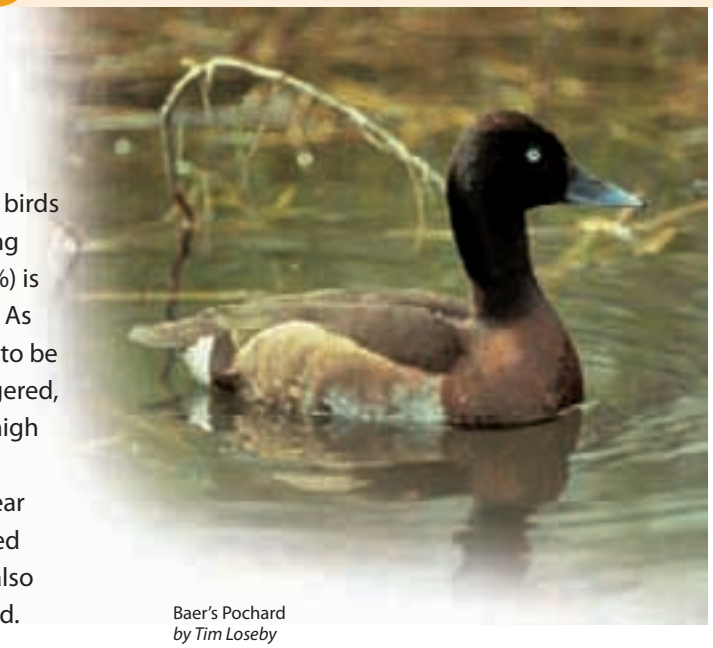
White-crested Laughingthrush
by BCN photo archieve.

Bird species are becoming more threatened

Changes in the IUCN Red List for birds show that over the last six years (2004–2010) the state of Nepal's bird species has deteriorated. Nearly one in five are considered threatened at the national level and over 100 species are thought to be on the very edge of extinction.

What is the status of Nepal's birds?

A review of the status of Nepal's birds in 2010 showed that the alarming number of 149 bird species (17%) is threatened at the national level. As many as 99 species are thought to be Critically Endangered or Endangered, meaning there is an extremely high or very high risk of their becoming extirpated in Nepal in the near future. All the globally threatened species that occur in Nepal are also considered nationally threatened.



Baer's Pochard
by Tim Loseby

IUCN Red List Categories and Criteria

The IUCN Red List is widely recognized as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species.

Species are classified in nine categories, based on criteria such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

- Extinct (EX) - No individuals remaining.
- Extinct in the Wild (EW) - Known only to survive in captivity, or as a naturalized population outside its historic range.
- Critically Endangered (CR) - Extremely high risk of extinction in the wild.
- Endangered (EN) - Very high risk of extinction in the wild.
- Vulnerable (VU) - High risk of extinction in the wild.
- Near Threatened (NT) - Likely to become threatened in the near future.
- Least Concern (LC) - Lowest risk. Does not qualify for higher risk categories. Widespread and abundant species are included in this category.
- Data Deficient (DD) - Not enough data to make an assessment of its risk of extinction.
- Not Evaluated (NE) - Has not yet been evaluated against the criteria.
- Regionally Extinct (RE) - Still exists elsewhere and may re-colonise or be reintroduced into the region.

When discussing the IUCN Red List, the official term "threatened" is a grouping of the three categories: Critically Endangered, Endangered, and Vulnerable.

There are also guidelines on the application of the criteria at the national level. These cover which species should be assessed, how to take account of populations outside the region that may affect the risk of extinction within national boundaries, and how to handle visiting populations.

Is the situation getting worse?

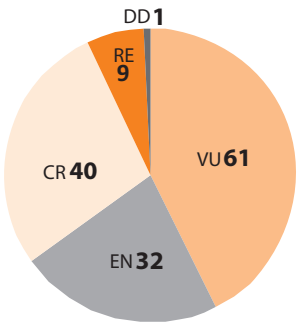
The 2010 assessment of the state of Nepal's birds concludes that 16 additional species are nationally threatened compared to the 2004 assessment of 133 threatened species. There is considered to be a much a higher number of Critically Endangered species (61) in 2010 than in 2004 (40 species) and also significantly higher numbers of Endangered species (38) compared to the 2004 total of 32 species. The number of species categorised as Vulnerable was higher in 2004 (61) compared to 50 in 2010. There was also one Data Deficient species in 2004. Does this mean the situation is getting worse?

Overall, the situation for birds is getting worse. For example, the last known records of several species have been noted since the compilation of *The State of Nepal's Birds 2004*. These are Tawny Fish Owl *Ketupa flavipes* in 2003, Blue-eared Barbet *Megalaima australis* in 2007 and Gould's Shortwing *Brachypteryx stellata* in 2008. Searches have been made for all of these species during the period. However, declines are not taking place as quickly as a simple comparison of the figures between the two assessments, in 2004 and 2010, indicates. More time was available for the 2010 study and, significantly, more records have been received from a larger number of contributors, revealing a truer picture of the state of Nepal's birds. The more detailed analysis carried out in 2010 revealed that some species were much more threatened in 2004 than considered at that time owing to this improved knowledge, and should have warranted Critically Endangered or Endangered status instead of Vulnerable that they were assigned.

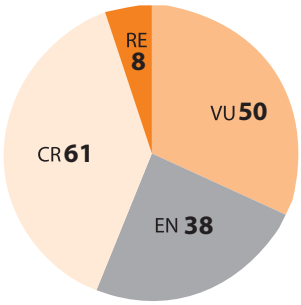
Since 2004, more research work has been carried out to identify threats and the extent of their impact on Nepal's birds, and so we understand them better: for example, the impacts of diclofenac on White-rumped Vulture *Gyps bengalensis* and Slender-billed Vulture G. *tenuirostris;* finding new vulture nesting sites, including in Arghakhanchi District where five vulture species breed (Bhusal 2010); research work on owls which has revealed the threats from trade; and a recent desk study which has shown the high impacts of agricultural changes.

It's clear that some threats are certainly worsening, for example loss and degradation of forests, pressure on grasslands, the spread and intensification of agriculture and, most especially, the wide range of threats facing wetlands. However, positive responses are increasing too, for instance the raising of conservation awareness, spread of community forestry and some projects benefiting local livelihoods.

THREATENED BIRD SPECIES ASSESSMENTS IN 2004



THREATENED BIRD SPECIES ASSESSMENTS IN 2010



Eurasian Spoonbill
by Paul Sterry

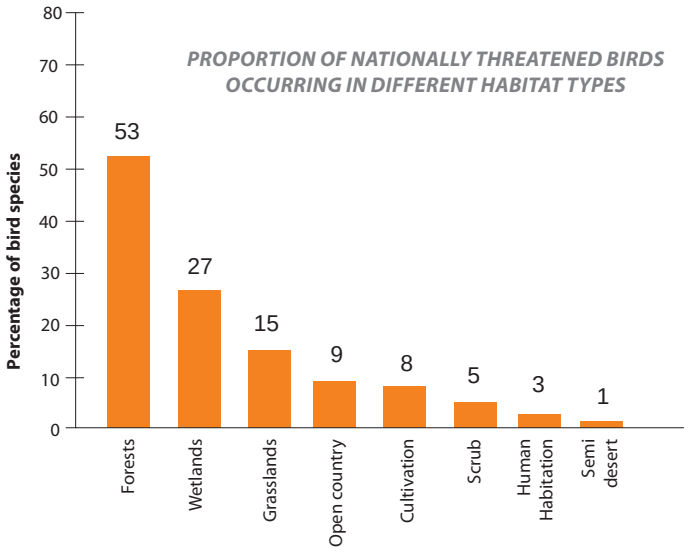
Birds that rely on wetlands are particularly at risk

Over half of Nepal's nationally threatened birds inhabit forests, over a quarter occur in wetlands, and a smaller proportion in grasslands. Although there is a larger number of threatened forest compared to wetland birds, this is because the majority of Nepal's birds depend on forests. Wetland species undoubtedly face the greatest threats. One example is Black-bellied Tern which occurs on lakes and rivers in the lowlands.

Asian Openbill
by Paul Sterry

What are the habitat preferences of Nepal's threatened birds?

Over half (53%, 79 species) of Nepal's nationally threatened birds inhabit forests. Nationally threatened species inhabiting wetlands total 40 (27%), grasslands 23 (15%), cultivation 12 (8%), scrub seven (5%), open country 14 (9%), near human habitation four (3%), and semi-desert one (1%).



N.B. Figures are not cumulative because several species are found in more than one habitat type.

An example of a threatened bird species

Black-bellied Tern *Sterna acuticauda*

Global status: Near Threatened
National status: Critically Endangered

Black-bellied Tern is a small tern that was formerly 'fairly common' on ponds and rivers of the Terai. Up to around 1990 it was considered a locally common resident and summer visitor but has suffered a sharp decline since (see graph). The species breeds on islands and sand spits in larger rivers. The species particularly favoured Koshi Barrage and the maximum of 60 was noted there in February 1984. It was observed breeding at Koshi from 1998 (although it may well have been breeding there before this date) and last recorded breeding in May 2008. An adult was seen carrying food and a pair defended breeding territory on a small sandy island with 20 pairs of nesting Little Terns S. *albifrons* in the Koshi River.

Most records in the last 20 years have been from the Koshi Barrage area and neighbouring Koshi Tappu Wildlife Reserve. There are very few reports from elsewhere in Nepal, and all are of singles or small groups of up to four birds. Known records comprise four from Chitwan National Park, two from Bardia National Park, one from Shukla Phanta Wildlife Reserve and one from Chimdi, an unprotected lake in Sunsari District in the east.

Like other terns in Nepal, Black-bellied is believed to be suffering from widespread food shortages. These are thought to be partly caused by over-fishing and partly by Epizootic Ulcerative Syndrome (EUS), a disease caused by fungus in fish which has caused high fish mortality. EUS disease is suspected to be caused by over-use of fertilisers in adjacent farmlands. Many wetlands at Koshi are now eutrophic due to nutrient accumulation from both natural and human activities. This has led to reduced water transparency which makes it more difficult for fish-eating birds like Black-bellied Tern to locate their prey. High human disturbance on rivers, as well as hunting in some places, are other major factors in the tern's decline.

Outside protected areas, islands in rivers are now often cultivated which, together with the high risk of egg-collecting, would deter any breeding attempts. Black-bellied Tern faces similar threats throughout its range and has become very rare or disappeared altogether in southern China and South-East Asian countries where it formerly occurred. The species is also declining in South Asia where it was thought to be surviving better, but it is also rare in India and Bangladesh and uncommon in Pakistan.

Birds found in the lowlands are also highly threatened

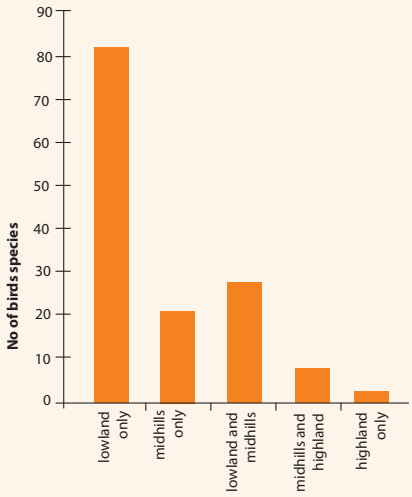
The majority of Nepal's nationally threatened birds are found in the lowlands, showing the high degree of threat to these species. Examples include Great Slaty Woodpecker which is found in lowland forest, White-throated Bushchat which inhabits lowland grasslands, and Brahminy Kite which hunts over the lowlands and lower hills.

Altitudinal preferences of nationally threatened birds

Over half (56%, 83 species) of Nepal's nationally threatened species are only found in the lowlands (75–1000 m). Some 19% (28 species) occur in the lowlands as well as in the middle hills (75–3050 m), 13% (20 species) only in the middle hills (1000–3050 m), 5% (8 species) in the middle hills and higher altitudes and just 1% (2 species) only at higher altitudes.

Brahminy Kite
by Nelson Khor

NUMBERS OF NATIONALLY THREATENED BIRDS OCCURRING AT DIFFERENT ALTITUDES



Some examples of threatened bird species

Great Slaty Woodpecker *Mulleripicus pulverulentus*

Global status: Vulnerable
National status: Endangered

Great Slaty Woodpecker is the world's third largest woodpecker and occurs in South-East Asia east to the Philippines and in South Asia. The species is now a rare and local resident found up to 245 m in Nepal. Estimates of the decline of the Great Slaty Woodpecker population throughout its range were made recently based on studies of population density (outside of Nepal) and forest cover. It was estimated that the original Nepal population was 78,708 birds, had dropped to 14,951 by 1985 and 6,051 by 2005, but it was also stated that the current population was probably substantially lower than the estimated figure.

This conclusion is borne out by field observations in Nepal. Great Slaty Woodpecker has recently been observed almost entirely from three protected areas. The species has been regularly seen at Bardia where flocks of up to seven birds have been observed. It has also been recorded quite regularly from Shukla Phanta with a maximum of nine together in July 2010 and up to six on other occasions. The species was proved breeding at Chitwan in March 1998 and 2001, when an adult with chicks was seen, but available records indicate that it is rare in the park. There are two other recent sightings of single birds from unprotected areas, both in 2009.

Great Slaty Woodpecker has a preference for large diameter trees for both foraging and nesting and, in Nepal, inhabits mature sal forests. The species is threatened by both deforestation and loss of large trees, which are often selectively felled.

White-throated (Hodgson's) Bushchat *Saxicola insignis*

Global status: Vulnerable
National status: Endangered

White-throated Bushchat is a very local winter visitor to Nepal, mainly recorded up to 250 m. The species breeds in alpine and subalpine meadows with scrub in mountains of Mongolia and adjacent parts of Russia and Kazakhstan. The species winters in northern India and Nepal, and in Nepal it inhabits open grassland and reeds and tamarisks by rivers, using stems 3-5 m high as perching posts. Prior to burning of grassland the birds have been found to concentrate on areas close to the dirt road or small areas with bare ground. Given a choice, most birds prefer burnt grassland patches to unburnt ones. They are frequently observed in association with Common Stonechat S. *torquatus* and White-tailed Stonechat S. *leucurus*.

White-throated Bushchat is fairly common at Shukla Phanta, which has the largest known wintering population of the species throughout its range. During a 1997 survey, a maximum of 26 birds was found there in December and, additionally, three birds were found at Chitwan. Extrapolation from these figures to the amount of suitable habitat available gives a maximum total of 110 individuals likely to winter in Nepal. A survey in 2009/2010 recorded 17 birds in December 2009 and 29 in April 2010.

Koshi Barrage, a former stronghold has suffered habitat loss and alteration. Up to ten birds were noted at Koshi in 1982, but there are only a few later reports from this site. At Chitwan there are a few recent reports of one or two birds since 1990. There are recent reports of single birds from only two other sites, both unprotected. The major threats to the species are extensive loss and modification of grasslands in its wintering grounds, as well as inappropriate grassland management, such as overgrazing and ploughing.

Brahminy Kite *Haliastur indus*

Global status: Least Concern
National status: Critically Endangered

Brahminy Kite is a medium-sized bird of prey which is now very rare in Nepal. In the 19th century it was 'very common in plains and terai where it may constantly be seen hunting over rice fields and marshy ground'. In 1949-50 it was 'a common kite of the lowlands, usually near water and singly or in pairs'. In 1976 the species was reported to be frequent over grain fields and ponds. In the 1980s the species was regularly seen at Koshi. By 1990, however, it appeared to have declined and was described as an uncommon resident most frequent in the eastern lowlands, especially the Koshi marshes, and was no longer regularly seen over cultivation. Since 1991 the species has been reported less than annually, mainly single birds from east to west Nepal, although two immatures were observed around Begnas Tal fish farms in winters 2006 to 2008.

Brahminy Kite must have suffered from loss and deterioration of its wetland habitats; the Koshi marshes have been almost entirely converted to agriculture, for example. Part of the reason for the species's decline could well be the result of high pesticide applications on the crops where it used to commonly hunt. Many other birds of prey have declined in recent years in Nepal, including Pallas's Fish Eagle *Haliaeetus leucoryphus* and White-tailed Eagle *H. albicilla,* which are also both considered Critically Endangered in Nepal. Scientific analysis is needed to prove whether pesticides are to blame. Brahminy Kite has a very large range, occurring in China, South and South-East Asia and extending to Australasia. Although the global population trend appears to be decreasing it is not believed to be rapid enough to qualify as Near Threatened or Vulnerable, and is consequently listed as Least Concern.

Agriculture destroys and degrades more habitat than any other factor

Human factors leading to habitat loss and damage are the main reasons why so many birds are at risk, with agriculture being the major root cause. Pesticides could be a significant threat to many species, especially birds of prey and large wading birds, while the over-use of fertilisers leads to eutrophication of water which is harmful to freshwater life, including birds. Poisoning by diclofenac, a drug used to treat livestock ailments, has been identified as responsible for the threatened status of vultures.

The impacts of agriculture

Human activities are putting enormous pressure on Nepal's bird populations. Those that lead to habitat loss and damage are the major threat affecting a total of 128 (86%) of the birds at risk nationally, at least to some degree as a result.

A recent study of the impacts of agriculture on Nepal's birds concluded that the spread of agriculture and changes in agricultural practices are the major root causes of loss and damage to natural habitats – grasslands, wetlands and forests and their bird species (Inskipp and Baral 2011).

Lesser Adjutant
by Paul Sterry

Overgrazing by livestock and collection of fodder are the most important factors leading to degradation of forests and present major problems to lowland reserves, which protect almost all of Nepal's remaining lowland grasslands. Livestock overgrazing is also responsible for damage to wetlands and the low biodiversity of upland grasslands. The use of diclofenac as a veterinary medication on cattle is believed to have affected populations of all vulture species in Nepal.

Pesticides

Pesticides are widely used in agriculture in the terai and lower and middle hills of Nepal and could be a significant threat to many species.

During an investigation of threats to Sarus Crane *Grus antigone* in the Lumbini area, Paudel (2009a,b) carried out a survey of local markets. As many as 71 pesticides, including 23 that were moderately hazardous and seven that were highly hazardous according to World Health Organization standards, were found.

As well as being direct poisons, some pesticides e.g. DDT, also mimic hormones and disrupt biological processes. Some hormone-disrupting chemicals are very persistent and build up in the environment (Lyons 1999). The diet of insect eaters and top predators, like birds of prey, means they are particularly at risk from pesticide pollution, as they store up and concentrate contaminants that they have ingested with their prey in their body fats (BirdLife International *et al.* 1997).

Pesticides can also harm birds indirectly. Insecticides may deplete birds' invertebrate food supplies. Herbicides may eliminate weed species which provide food for herbivorous and seed-eating species. In addition, herbicides may kill non-crop plants that are hosts for invertebrates on which farmland birds feed. Although these indirect effects are very difficult to demonstrate, there is a large body of evidence in the UK suggesting these effects are key problems (Central Science Laboratory *et al.* 2005).

According to Government of Nepal statistics (Central Bureau of Statistics 2007), there has been a large increase in cultivation of vegetables to meet demand from Nepal's urban population, especially since 1991/92. This has led to marked increases of pesticide levels in the environment as pesticide use on vegetables is especially high compared to other crops (Shrestha and Neupane 2002).

Proof of pesticide impacts on birds can only be determined by analysis of eggs or bodies, and has not been carried out on Nepal's birds to date. Pesticide poisoning is listed here as a possible threat to 21 nationally threatened species, mainly birds of prey and large wading birds, but more could be affected.

Fertilisers

Over-use of fertilisers leads to eutrophication of lowland wetlands and a chain of events which is harmful to freshwater life including birds.

Extensive growth of macrophytes may be promoted in nutrient-rich water. For example, Nakhrodi Lake in the Ghodaghodi Lake complex has been severely affected. After dying back these plants have contributed to organic material on the lake bottom and the lake is now changing to marshland. Changes in bird populations have been marked with egrets, storks and jacanas replacing waterfowl (IUCN 2004).

White-throated Kingfisher
by Jyotendra Jyu Thakuri

When growth of algae and other aquatic plants die they are broken down by bacteria, using up vital oxygen in the water. Low oxygen levels eventually lead to deaths of aquatic life that form essential food supplies for wetland birds.

Epizootic Ulcerative Syndrome (EUS), a disease caused by a fungus in fish has been reported in the Koshi Tappu Wildlife Reserve since 1983 where it has caused high mortality of native fish. It is suspected that the source of EUS is the excessive use of inorganic fertilisers on cultivated land adjacent to the reserve (IUCN 2004, Kafle *et al.* 2008).

Poisoning by diclofenac

Poisoning by diclofenac, a drug used for livestock ailments has led to drastic declines in vulture populations in the Indian subcontinent, including Nepal (Oaks *et al.* 2004). White-rumped Vulture *Gyps bengalensis* (formerly the most common Nepal vulture up to 1000 m) and the once fairly common and widespread Slender-billed Vulture *G. tenuirostris* have declined to such a level and so sharply that both species are now categorised as nationally Critically Endangered. White-rumped Vulture is showing signs of recovery in a few places in Nepal in response to conservation measures (see case study p36). However, there is no evidence for any recovery in Slender-billed Vulture to date; in 2009 there were only a handful of records of one or two birds throughout Nepal.

Formerly, both Egyptian Vulture *Neophron percnopterus* and Red-headed Vulture *Sarcogyps calvus* were fairly common in Nepal, but are now considered nationally Endangered and Critically Endangered respectively. Sharp declines of both species in India have been attributed to the use of diclofenac on livestock and it seems likely this is also causing the species's decline in Nepal (Cuthbert *et al.* 2006).

Massive declines of two other vulture species have been recorded in Upper Mustang. A decrease of 84% of active nests of Himalayan Griffon *Gyps himalayensis* was recorded there between 2002 and 2005 and thought highly likely to be due to diclofenac poisoning (Acharya *et al.* 2009). The numbers of Lammergeier *Gypaetus barbatus* recorded per day and per kilometre decreased by 73% and 80% respectively between 2002 and 2008. Although the cause is unknown, diclofenac is suspected because the species's range overlaps with that of other vulture species known to be affected (Acharya *et al.* 2010).

Forests are being destroyed and degraded

A quarter of Nepal's remaining forest area was lost between 1990 and 2005 and in some areas, especially in the lower and middle hills, remaining patches are no longer linked. Conversion for agriculture is the major cause of deforestation, while over-grazing by livestock and over-harvesting for fodder are the major causes of degradation. Most threatened forest birds inhabit tropical, subtropical and lower temperate zones, where forests have been most depleted. A total of 14 species has not been recorded for at least ten years.

The many reasons why forests are being lost

Timber logging in Dang Deukhuri IBA
by Jyotendra Jyu Thakuri

The high proportion of forest birds at risk can be partly attributed to forests comprising the major natural habitat in Nepal and also because forest depletion is considered one of the major environmental issues in the country (HMG Nepal 2001, South Asia Co-operative Environment Programme 2010). Over three quarters of Nepal's breeding bird species (77%) and 67% of wintering species utilise forests or shrubs (Inskipp 1989).

According to the 2005 FAO Global Forest Resources Assessment, 25% of Nepal was covered in forest in 2005. The total loss of forest area between 1990 and 2005 was 25%. The rate of decrease of primary forests was even higher. During 1990-2000, Nepal lost 700 ha of primary forest per year, but this figure rose by 10 times to 7000 ha/year between 2000 and 2005. However, other wooded areas (with tree canopy 5-10%), i.e. degraded forest, increased from 1,180,000 ha to 1,897,000 ha during the same period (Forestry Nepal 2005).

The conversion of land to agriculture is the major cause of deforestation in Nepal. Forest is also being encroached by the growth of settlements and infrastructure. Illicit tree felling and the transboundary timber trade are other causes of deforestation (South Asia Co-operative Environment Programme 2010).

The majority of Nepalis depend on the country's forests for their essential requirements for fuel, livestock fodder and other basic materials. However, the ever-increasing demand of the livestock population for grazing and fodder is putting forest resources under great pressure. Over-grazing by livestock and over-harvesting for fodder are major causes of forest degradation (Wallace 1988) leading to a severely reduced

Loss of invaluable habitat linkages

Forest losses have been so widespread and extensive in the lower and middle hills that invaluable habitat linkages between forests in the high Himal and lowlands have been lost. As a result many bird species no longer have available the continuum of habitats that they require to move altitudinally with the seasons and their distributional range is restricted. Furthermore the loss of a continuum of habitats across a high altitudinal gradient means that many species are much less able to shift their distribution according to climate change and are therefore much more at risk.

understorey and a thinned, drier forest with fewer epiphytes (Inskipp 1989, Inskipp and Baral 2011). Eventually trees are prevented from regenerating (Wallace 1988). Selective felling of trees for building materials and over-lopping for fuelwood also contribute significantly to forest degradation (Inskipp 1989, Inskipp and Baral 2011). During the dry season some forests are burned deliberately to stimulate early growth of grass for livestock to graze (Bajracharya 1983). This favours the spread of fire-resistant species, such as pines. Frequent fires prevent the natural succession from pines to broadleaved trees, and greatly reduce the development of forest understorey, leading to an open pine forest with relatively low bird diversity (Inskipp 1989).

Threatened forest bird species

Most threatened forest birds inhabit the tropical and subtropical and lower temperate zones where forests have been most depleted, Yellow-vented Warbler *Phylloscopus cantator,* Abbott's Babbler *Malacocincla abbotti,* and White-naped Yuhina *Yuhina bakeri*, for instance. Many of the threatened forest birds require dense, moist conditions, a well-developed understorey or epiphytic growth, for example Broad-billed Warbler *Tickellia hodgsoni,* Rufous-throated Wren Babbler *Spelaeornis caudatus* and Himalayan Cutia *Cutia nipalensis*.

A total of 14 forest species from these zones have not been recorded for at least ten years: Pale-headed Woodpecker *Gecinulus grantia,* Blyth's Kingfisher *Alcedo hercules,* Mountain Imperial Pigeon *Ducula badia,* Asian Fairy Bluebird *Irena puella,* Yellow-cheeked Tit *Parus spilonotus*, Rufous-faced Warbler *Abroscopus albogularis,* Coral-billed Scimitar Babbler *Pomatorhinus ferruginosus,* Rufous-throated Wren Babbler *Spelaeornis caudatus,* Spotted Wren Babbler S. *formosus,* Silver-eared Mesia *Leiothrix argentauris,* Rufous-backed Sibia *Heterophasia annectans,* White-hooded *Babbler Gampsorhynchus rufulus,* Scarlet-backed Flowerpecker *Dicaeum cruentatum* and Yellow-vented Flowerpecker *D. chrysorrheum*.

A high proportion (47%, 37 species) of these threatened forest birds inhabit broadleaved evergreen forests, an especially threatened habitat, and 32% of forest birds (25 species) are largely confined to evergreen forests in the tropical and/or subtropical zones where these forests are of very limited extent, for example Ruddy Kingfisher *Halcyon coromanda*.

Despite losses and degradation, there is still forest cover on steep slopes, and this is likely to continue if access remains too difficult; thus providing protection for birds and other wildlife and potential reservoirs of bird populations for recolonisation. Suitable habitat for some threatened forest species may still be unexplored, especially in upper temperate and subalpine forests.

Asian Fairy Bluebird
by Nelson Khor

Some forest bird species have always been considered rare in Nepal. These are often species that reach the limit of their distributional ranges in the country, for example Pale-headed Woodpecker *Gecinulus grantia,* Spotted Wren Babbler *Spelaeornis formosus* and Scarlet-backed Flowerpecker *Dicaeum cruentatum*.

Wetlands face a wide range of threats

Wetlands and their birds face a wide range of threats in Nepal, including drainage, unsustainable harvesting, diversion and abstraction of water, overgrazing, pollution, hunting, disturbance, mining and dams. Unsurprisingly, there have been sharp decreases in waterbirds at Koshi and Chitwan – important areas for wintering, breeding and passage migrants.

Drainage and threats to wetlands

Wetland birds face a wide range of threats in Nepal and these have significantly increased since 2004. Widespread threats include drainage for agriculture, unsustainable harvesting of resources, diversion and abstraction of water for farmland irrigation, overgrazing of shorelines and marshes, widespread mining of gravel from river beds and the possibility of new dams, e.g. the Koshi High Dam project that was proposed in 2009. Many species are suffering from water pollution, hunting, trapping, disturbance and destruction of feeding and nesting sites. Water pollution from agricultural chemicals has been identified as a particularly serious threat to lowland wetlands (Kafle *et al.* 2007, 2008).

Rani Tal, Shukla Phanta Wildlife Reserve
by Jyotendra Jyu Thakuri

Over-fishing and fish-poisoning have significantly reduced the food supply of fish-eating birds. Almost all these species have declined in Nepal's wetlands and many of them are now included in this nationally threatened list, for instance Lesser Fish Eagle *Ichthyaetus humilis,* Tawny Fish Owl *Ketupa flavipes* and four tern species.

As a result of this barrage of threats, a large percentage of Nepal's wetland birds (29 species, 75%) are considered Critically Endangered or Endangered. Some wetland species have shown precipitous declines over recent years, for example Brahminy Kite *Haliastur indus,* Caspian Tern *Sterna caspia*, Black-bellied Tern S. *acuticauda* and River Tern S. *aurantia.*

Waterbird declines in Koshi

The Annual Waterfowl Counts have highlighted the sharp drop in waterfowl numbers at the internationally important wetland at Koshi Tappu Wildlife Reserve and Koshi Barrage. This site is by far the most important wetland staging post for migrating waders and waterbirds in Nepal (Baral and Inskipp 2005) and one of the most important in Asia (Sah 1997). The whole area was designated a Ramsar site, a Wetland of International Importance in 1987. In February 2003 a total of nearly 9,800 birds was counted at the site in one day, a very low number compared to twenty years before when more than 50,000 birds were estimated (Choudhary 2003). The 2010 midwinter waterbird count recorded only 4,259 waterbirds, indicating a further decline in the numbers of waterbirds at Koshi (Baral 2010d). Wetland habitats at Koshi are threatened by the large population of subsistence farmers and fishermen living in close proximity to the area. Drainage for conversion to agriculture, livestock grazing, a high degree of disturbance and overfishing are all causing wetland losses and damage (Petersson 1998b, Giri 2002). In addition, pressure on the Koshi area by hard-pressed local communities has grown since the disastrous monsoon flooding of 2008.

… in Chitwan

Sharp decreases in wetland birds have also been recorded in the rivers, streams, lakes and ponds of Chitwan National Park, another important area for wintering, breeding and passage migrant wetland birds. For example, figures available over a ten year period from 1989 to 1999 for three wetlands in Chitwan National Park revealed a decline in wetland dependent birds (Baral 1999a). These observations are confirmed by the Annual Waterfowl Census on the West Rapti and Narayani rivers in the park (Roberts *et al.* 2002). Tyabji (2002) described the disappearance of bird species and the steep drop in their numbers in Chitwan's rivers and streams over the past 15 years. Water pollution from untreated effluent from the towns of Bharatpur and Narayanghat and the Bhrikuti paper mill, river poisoning to obtain fish, the increased use of pesticides, particularly on the rice crop, human disturbance, and the spread of Water Hyacinth *Eichhornia crassipes* on lakes and ponds, all threaten the habitat of Chitwan's waterbirds (Dahal 1999, Subedi 2001, Roberts *et al.* 2002, Tyabji 2002).

… in Pokhara

Wetlands in the Pokhara valley which are unprotected are even more at risk: from drainage, diversion, obstruction, siltation, encroachment, infrastructure development, land use changes, pollution and fish poisoning (Karki *et al.* 1997, Karki and Thapa 1999, Subedi 2003, Marcus Cotton *verbally* 2010) resulting in a marked reduction in bird numbers and species diversity since the 1970s (C. and T. Inskipp pers. obs.).

Winter visitor birds at Koshi
by Jyotendra Jyu Thakuri

Grasslands are being reduced and fragmented

The spread of cultivation in Nepal's lowlands has lead to the once extensive lowland grasslands becoming greatly reduced and fragmented. Nepal's specialist grassland birds are now almost entirely confined to protected areas where their populations are isolated. Within protected areas these species are suffering from inappropriate grassland management, including untimely and intensive annual cutting, burning and ploughing.

The pressures on grasslands

By far the most important grasslands for birds are Shukla Phanta Wildlife Reserve (Baral and Inskipp 2009) and Chitwan National Park (Baral 2001). Other important lowland grasslands for birds are Koshi Tappu Wildlife Reserve, and Bardia National Park. Grasslands in Shukla Phanta and Chitwan support internationally important populations of globally threatened grassland birds.

Shukla Phanta Grassland
by Jyotendra Jyu Thakuri

Within protected areas some bird species, for instance the globally threatened Bengal Florican *Houbaropsis bengalensis,* Swamp Francolin *Francolinus gularis* and White-throated Bushchat *Saxicola insignis* are suffering from inappropriate grassland management, including ploughing, intensive annual cutting and burning, which alter species composition and are aimed at the conservation of mammals, not birds (Baral 2001).

Grasslands are traditionally exploited by local communities for their daily needs: grass for thatching roofs and weaving mats, as well as fodder for their livestock (Baral 2001). The Department of National Parks and Wildlife Conservation has struck a balance between conservation and the survival needs of local people by allowing them to harvest grass for a limited period every year. As a result, 95% of grassland is believed to be disturbed in Nepal's lowland protected areas during the grass-cutting season (Ram Prit Yadav pers. comm. in Baral 2001).

Controlling illegal grazing and cutting activities is a difficult task for Nepal's park managers. Livestock grazing is by far the greatest threat to lowland grasslands in protected areas. As tall grass is so useful and because of the lack of tall grassland outside reserves, illegal cutting continues around all protected areas (Baral 2001). Nowadays fires seem essential to maintain lowland grassland ecosystems in protected areas and are a very useful management tool to maintain biodiversity (Baral, 2001). However fires carried out during the breeding season can be extremely damaging to nests and eggs (Inskipp and Inskipp 1983). Another risk is that burning may be too comprehensive, leaving no shelter for grassland wildlife (BirdLife International, undated).

An important relict grassland

Khadara Phanta is an endangered relict swath of unprotected, privately owned grassland in the west-central terai covering 100 ha. A total of 150 bird species has been recorded including several nationally threatened species: Sarus Crane *Grus antigone,* Greater Spotted Eagle *Aquila clanga*, Indian Spotted Eagle *A. hastata,* Red-necked Falcon *Falco chicquera*, Yellow-wattled Lapwing *Vanellus malarbaricus,* and Bristled Grassbird *Chaetornis striata.* A community-based initiative blending sustainable and non-consumptive use with the landowning family's knowledge, socio-economic influence and affinity for birdlife could be a cohesive force that advances bird conservation and rural development (Cox and Giri 2007).

Overall, a total of 14 species (61%) of nationally threatened grassland species is in the Critically Endangered and Endangered categories.

Specialist grassland bird species

Studies on Nepal's grassland birds have revealed that some have specialist needs. For example Grey-crowned Prinia *Prinia cinereocapilla* is largely restricted to *Themeda* dominated grassland (Baral 2002c) and Bengal Florican *Houbaropsis bengalensis* is dependent on the growth of *Imperata* grassland (Inskipp and Inskipp 1983). Similarly, Bristled Grassbird *Chaetornis striata* depends on newly formed *Saccharum spontaneum* grasslands, whereas Jerdon's Bushchat *Saxicola jerdoni*, Striated Grassbird *Megalurus palustris* and Jerdon's Babbler *Chrysomma altirostre* all prefer tall moist or marshy grasslands. Slender-billed Babbler *Turdoides longirostris* mainly favours tall *Narenga porphyrocoma* grasslands. It is therefore important to understand the diversity of grassland habitats within the complex mosaic of riverine grasslands of lowland Nepal in order to conserve grassland birds.

Although upland grasslands occupy a far greater area than those in the lowlands, they support only two globally and nationally threatened species: Cheer Pheasant *Catreus wallichii* and Wood Snipe *Gallinago nemoricola*. Grasslands in the hills and mountains were probably created by forest clearance for agriculture that mainly took place a very long time ago. These grasslands have been maintained by overgrazing by livestock and are poor in bird species diversity.

Other specialist bird species

Some threatened birds have other specialist habitat needs and are now only locally distributed because of habitat losses. Seven threatened species occur mainly in pure bamboo stands, for instance, Pale-headed Woodpecker *Gecinulus grantia*, Fulvous Parrotbill *Paradoxornis fulvifrons* and Golden-breasted Fulvetta *Alcippe chrysotis*. Eleven other species depend on or favour forests with a bamboo understorey, including Satyr Tragopan *Tragopan satyra*, Broad-billed Warbler *Tickellia hodgsoni* and White-hooded Babbler *Gampsorhynchus rufulus*, and are threatened to at least some degree by bamboo losses.

Bamboo is a highly useful forest product; large quantities of bamboo *Arundinaria* spp. and *Bambusa* spp. are cut for weaving mats and baskets and for construction work. Overgrazing by livestock is also reducing bamboo in many areas e.g. Dhorpatan Hunting Reserve (Subedi 2008). Great Hornbill *Buceros bicornis* and Great Slaty Woodpecker *Mulleripicus pulverulentus* require mature trees for feeding and nesting, but these are frequently selectively felled as they are of high economic value. The distribution of Yellow-rumped Honeyguide *Indicator xanthonotus* is closely linked with the nests of the Giant Rock Bee *Apis laborius*, as one of its main food items is beeswax. Males hold territories around bees' nests which they defend against rivals and attract female honeyguides. Traditional collection of bees' nests by villagers to obtain the honey is widespread in Nepal and is a significant threat to the honeyguides.

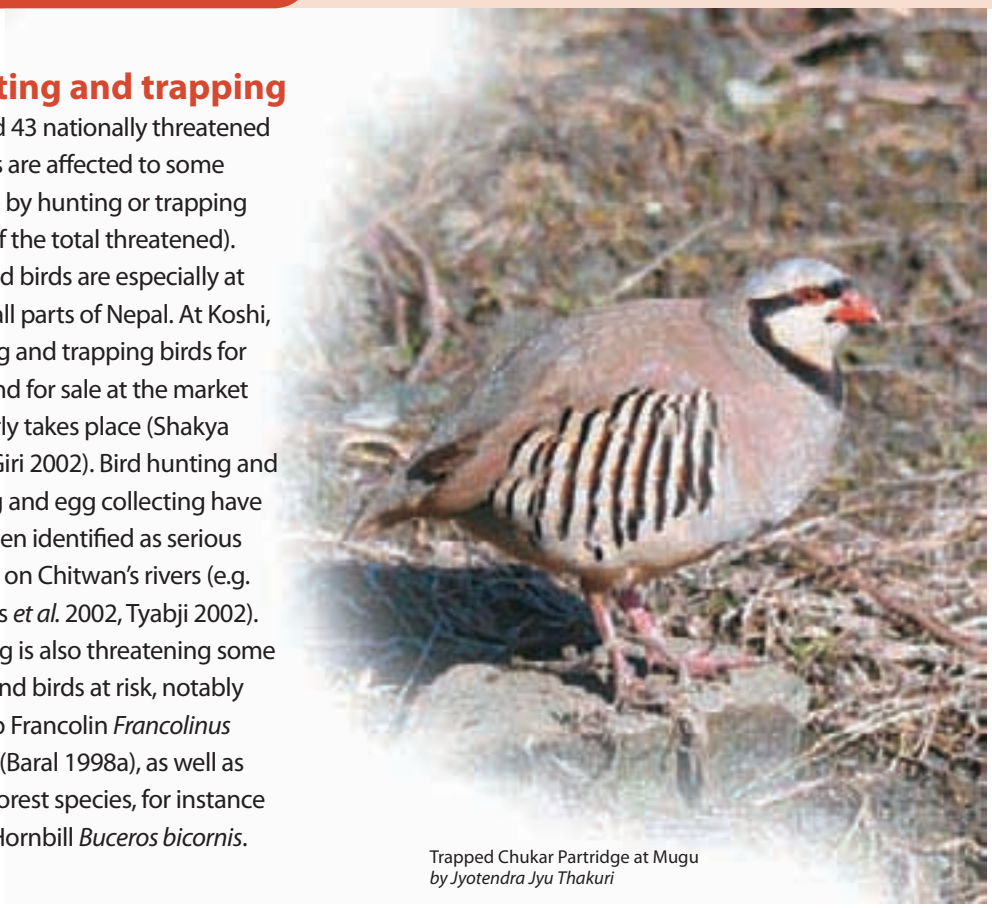
Khadara Phanta Grassland
by Jyotendra Jyu Thakuri

Over-exploitation affects many bird species

Over-exploitation affects many nationally threatened species, especially wetland birds and, in some areas, pheasants and owls. Over-fishing, causing food shortages, is also a major threat to fish-eating birds, notably some raptors, owls and terns.

Hunting and trapping

Around 43 nationally threatened species are affected to some degree by hunting or trapping (29% of the total threatened). Wetland birds are especially at risk in all parts of Nepal. At Koshi, hunting and trapping birds for food and for sale at the market regularly takes place (Shakya 1995, Giri 2002). Bird hunting and netting and egg collecting have also been identified as serious threats on Chitwan's rivers (e.g. Roberts *et al.* 2002, Tyabji 2002). Hunting is also threatening some grassland birds at risk, notably Swamp Francolin *Francolinus gularis* (Baral 1998a), as well as some forest species, for instance Great Hornbill *Buceros bicornis*.

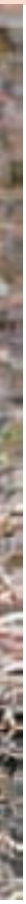


Trapped Chukar Partridge at Mugu
by Jyotendra Jyu Thakuri

Illegal trading

A 2009 BCN study found that Nepal is a safe market for illegal bird traders. However, only a small numbers of traders were found to be Nepalese who trapped local species, mainly pheasants, waterbirds, parakeets and owls. The larger proportion of the Nepal bird trade was discovered to be carried out by Indians who import birds illegally from India at various border points. Indian traders were commonly found selling birds at Buddhist sites in Kathmandu such as Swayambhu and Boudha where religious people buy caged wild birds for release. Some traders were Pakistani and had imported birds from Pakistan. Several nationally threatened bird species were found to be traded and these are most likely to have originated in Nepal: Cheer Pheasant *Catreus wallichii*, Red Junglefowl *Gallus gallus*, Barn Owl *Tyto alba*, Rock Eagle Owl *Bubo bengalensis*, and Brown Fish Owl *Ketupa zeylonensis* (Thapa and Thakuri 2009).

Traded birds in cages
by Jyotendra Jyu Thakuri



Pheasants

Pheasants are popular targets for hunters and trappers in some parts of Nepal. During a bird survey of Kanchenjunga Conservation Area (KCA) in April 2008, good quality pheasant habitat was observed in several forest areas, but only two Satyr Tragopans *Tragopan satyra* (national status Vulnerable) and two Himalayan Monals *Lophophorus impejanus* were recorded. No Kalij Pheasants *Lophura leucomelanos*, one of the most common of Nepal's pheasants, were found (Inskipp *et al.* 2008). Amatya (1997) noted that hunting appeared to be rampant in the Kanchenjunga area and was common among the local communities. Hunting is a major threat to Cheer Pheasant *Catreus wallichii* in the upper Kali Gandaki valley, Annapurna Conservation Area (Acharya *et al.* 2006), Rara National Park (Budhathapa 2006), and also in Rara National Park buffer zone where the species has now virtually disappeared (Singh and KC 2008, Singh 2009b). However, pheasant populations are not at risk from hunting throughout Nepal. For example, in Sagarmatha National Park, Himalayan Monal *Lophophorus impejanus* and Blood Pheasant *Ithaginis cruentus* are widely distributed, not hunted and are noticeably tame (C. and T. Inskipp pers. obs.). Hunting was not considered an important threat to Nepal's known key populations of Cheer Pheasant *Catreus wallichii* in and around Dhorpatan Hunting Reserve by Singh *et al.* (2006).

Owls

During a 2008/09 study of the status, threats and the ethno-ornithological relationship of owls in Nepal, information was collected from 22 out of Nepal's 75 districts. The study found that negative social and cultural beliefs are strong enough to initiate the hunting of owls in several districts. Some young people are involved in killing owls purely for entertainment. During the study, four hunting incidents that led to the deaths of 12 Rock Eagle Owls *Bubo bengalensis* were observed in Dhading district and one in Mustang (Acharya and Ghimirey 2009b).

The study also revealed there is wide-ranging owl trade in Nepal, which appeared to be mainly of Rock Eagle Owl, although the number of owls in trade is unknown. Local people remove chicks from nests and transport them to the nearest city or district headquarters where they are traded to bigger cities, mainly Pokhara, Kathmandu, Itahari and Dhangadi. After they reach the city, the owls are raised in captivity to appreciable sizes (>3k of weight) and then traded to India, Bangladesh, China and Middle East countries (Acharya and Ghimirey 2009b). A pair of Rock Eagle Owls which nested in Lumbini was killed by traders in April 2009. Fresh meat and bones of Barn Owl *Tyto alba* are highly prized for their curative use in paralysis, rheumatism and gout (Shrestha 2000). This species and Spot-bellied Eagle Owl *Bubo nipalensis* have been observed kept in the home (Raju Acharya *in litt.* to C. Inskipp October 2010).

All large and medium-sized owls are facing problems mainly because of misinformation published by the national media, especially with regard to the owls' high prices in the cities. The owl trade has been covered widely by Nepal's national media including the popular press, but unfortunately this had a bad impact on owl conservation. Several people have come to Kathmandu with owls, dreaming of making a large amount of money very quickly. As prices are not as high as projected by the media, the owls have been given to the Central Zoo, released in Kathmandu or sold at low prices not even sufficient to cover their costs. The owl trade has accelerated within the last 15 years, but with careful interactions with the media and by taking their support to educate and raise awareness the trade can be minimised.

Overfishing

Overfishing is a major threat to large fish-eating birds. All these species have declined in Nepal's wetlands because overfishing has significantly reduced their food supply. Many of them are now included in Nepal's nationally threatened list, for example Pallas's Fish Eagle *Haliaeetus leucoryphus*, White-tailed Eagle *H. albicilla*, Grey-headed Fish Eagle *Ichthyophaga ichthyaetus*, Lesser Fish Eagle *I. humilis,* Tawny Fish Owl *Ketupa flavipes*, Brown Fish Owl *K. zeylonensis*, Caspian Tern *Sterna caspia*, River Tern *S. aurantia*, Black-bellied Tern *S. acuticauda* and Indian Skimmer *Rynchops albicollis*. Some important wetlands, for example Jagdishpur Reservoir and Gaidahawa Tal, were contracted to commercial fishermen by the relevant authorities at each site, resulting in significant threats to wetland dependent birds.

Invasive species are spreading …

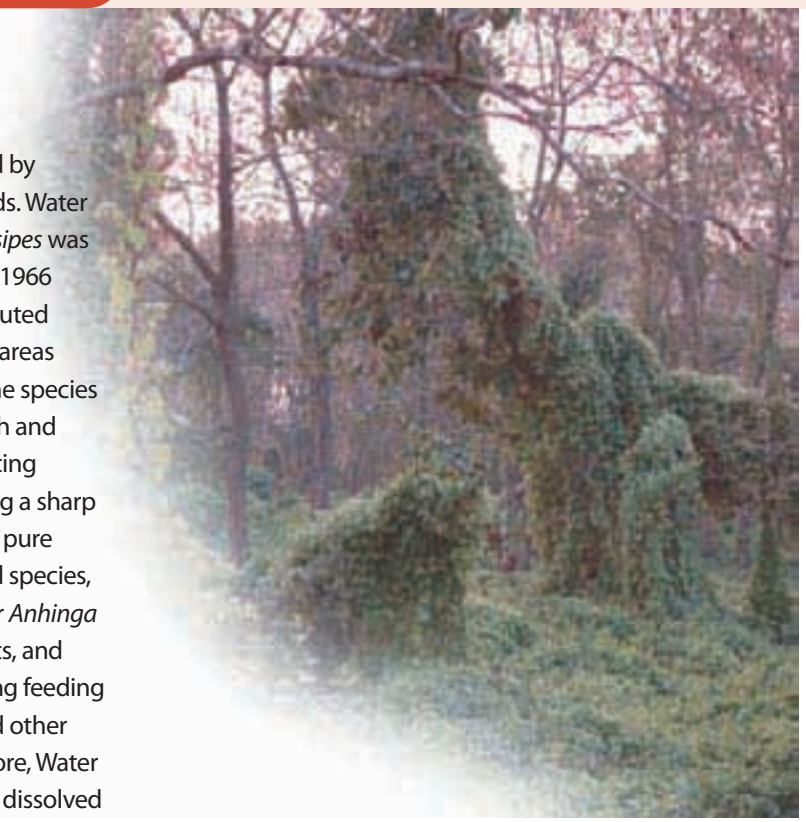
Serious threats are posed by some invasive alien weeds, for instance Water Hyacinth in wetlands and recently the climber** Mikania micrantha **which can very rapidly smother all terrestrial habitats.

… and climate change is starting to have an effect

The impacts of climate change on Nepal's birds are likely to be significant. The only fieldwork that has been conducted to date is an ongoing study on Ibisbill** Ibidorhyncha struthersii**, which may be threatened by the loss of its breeding habitat owing to climate change.

The impacts of alien weeds

Serious threats are posed by some invasive alien weeds. Water Hyacinth *Eichhornia crassipes* was first reported in Nepal in 1966 and is now widely distributed in most of the protected areas ranging up to 1500 m. The species has a tremendous growth and reproductive rate producing free-floating mats causing a sharp decline in the number of pure open water dwelling bird species, especially Oriental Darter *Anhinga melanogaster*, cormorants, and grebes, as well as reducing feeding areas for some ducks and other wetland birds. Furthermore, Water Hyacinth can lead to low dissolved oxygen levels and so ultimately impact on bird species which depend on insects and fish (Dahal 2007).



Mikania micrantha at Koshi Tappu Wildlife Reserve *by Jyotendra Jyu Thakuri*

Water lily *Nelumbo* spp. and Water Lettuce *Pistia stratiotes* are also invading wetlands and have similar impacts to Water Hyacinth. Important wetlands in Shukla Phanta Wildlife Reserve, notably Rani Tal are being slowly taken over by Narkat *Phragmites karka*.

More recently another alien, *Mikania micrantha* is proving to be a particularly dangerous threat as it proliferates in a wide range of habitats – forests, grasslands, wetlands and agricultural lands (Siwakoti 2007). *Mikania* has now invaded tropical and subtropical ecosystems from Mechi to Lumbini Zones (Siwakoti 2007) and has been having devastating effects in some areas, notably in Chitwan National Park and Koshi Tappu Wildlife Reserve. Within five years *Mikania* engulfed a large chunk of the reserve's marshes and terrestrial habitats at Koshi (Baral 2002a). *Mikania* is a climber that can very quickly cover trees and shrubs as well as the entire forest floor so making it impossible for bird species to feed on the ground. Terrestrial-feeding species, such as thrushes, pipits, as well as some babblers that require open forest floors, with or without decaying leaves, are all affected (Baral 2002a).

The additional threat from climate change

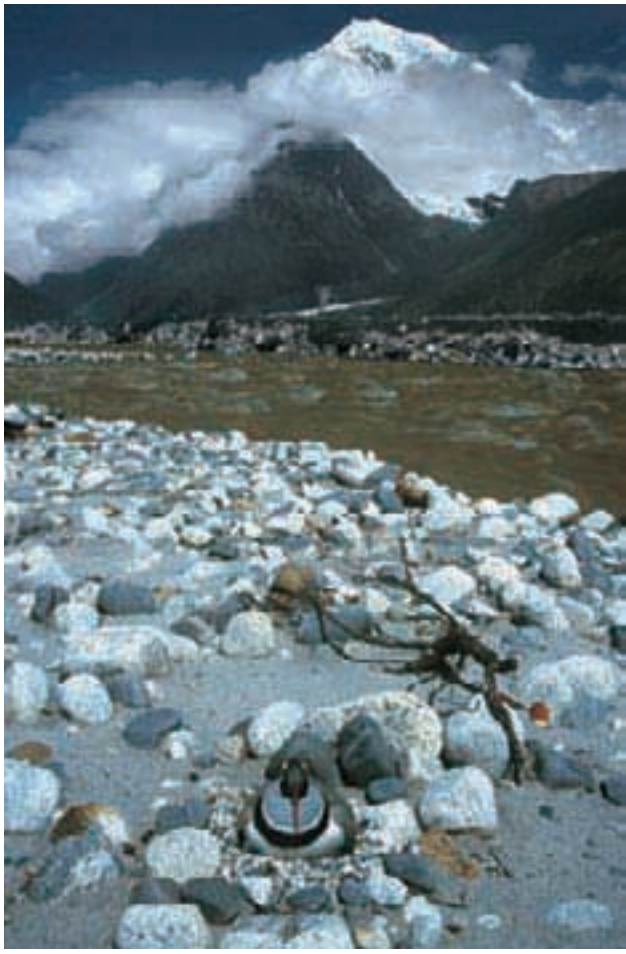
Climate change is already having a significant impact on the Himalayan environment. Glacial melt is increasing as temperatures rise and will lead to increased summer flows in some river systems for a few decades, followed by a reduction in flows as the glaciers disappear. Baral (2002b) suggested that Ibisbill, which breeds in braided river channels with shingle banks in glacial valleys, is likely to be directly threatened. A study on the possible

impacts of climate change on Ibisbill is currently in progress. A preliminary report on a breeding population in Kyanjin, upper Langtang in 2010 recorded 25 individuals which included the very low number of only seven subadults. The researchers considered that the birds' poor breeding success resulted from landslides which have swept away an important portion of their habitat (Ghimire and Thakuri 2010).

Some of Nepal's threatened birds are largely confined to protected areas, a number of grassland species for example. As the climate changes, habitats in these protected areas may eventually become no longer suitable for these species. However, as natural habitats outside protected areas have been converted to agriculture or developed, these birds have nowhere to go.

Forktails, dippers, wagtails and river redstarts rely on invertebrate food supplies. It is possible that they could be indicators for understanding climate change impacts in the Himalayas because if river flows are reduced the birds' invertebrate prey will decline (Baral 2002b).

Many forest birds, including a high proportion of threatened forest species depend on moist forests and are likely to be affected if the climate becomes drier. In the UK this phenomenon was suggested as one factor leading to the decline of some woodland species because of the loss of invertebrate prey (Fuller 2004). For example in a study of Willow Tit *Parus montanus* in the East Midlands, the species had tended to disappear from drier woods (a possible result of climate change); there was no evidence of competition from other tit species or of predation (RSPB *et al.* 2008).



Breeding site of Ibisbill in Langtang National Park
by Paul Sterry

Studies in Europe

Climate change has been shown to damage species interactions in ecosystems. For example, pollinators appear when flowers open and predators produce young when their prey emerges. Species depend upon various cues from the environment to start life cycle events, such as breeding. Some depend upon the occurrence of a warm spring temperature. Warmer springs mean that some species start breeding earlier. An increase in spring temperature does not affect all species uniformly, however. In England the hatching of young Great Tits *Parus major* is timed to coincide with the emergence of their caterpillar prey. However, as English springs have become warmer, researchers at Wytham Wood, Oxfordshire found that Great Tits are laying eggs earlier in the spring than they used to, keeping step with the earlier emergence of caterpillars (University of Oxford 2008). However, a similar study by the Netherlands Institute in Ecology in Heteren on Great Tits found that the species is faring very differently from their British cousins; the breeding time is advancing each year, but the emergence of caterpillars is advancing three times faster (Nussey *et al.* 2005). The Oxford and Heteren research groups are now planning to collaborate on a study to elucidate why some populations apparently adapt well to climate change, and others do not. Although the Great Tit, a common and widespread Nepal species, can adapt at least to some degree to climate change, conservationists believe that many species will not be able to adapt quickly enough to climate change resulting in devastating consequences for these birds. Such a phenomenon is likely to be happening to birds in Nepal.

Conserving and protecting sites

Nepal has a protected areas network that covers over 23% of the country, including some newly established areas. However, there are still gaps, including 12 Important Bird Areas that are currently unprotected and may require consideration.

Nepal's Protected Area system

Nepal's Protected Area system covers over 23% of the country (not counting buffer zone areas). It includes ten national parks: Chitwan, Bardia, Sagarmatha, Shey Phoksundo, Langtang, Makalu Barun, Rara, Khaptad, Shivapuri Nagarjun and Banke; three wildlife reserves: Shukla Phanta, Parsa and Koshi Tappu; six Conservation Areas: Annapurna, Api Nampa, Manaslu, Kanchenjunga, Blackbuck and Gaurishankar; and one hunting reserve: Dhorpatan.

Rara National Park
by Jyotendra Jyu Thakuri

Since 2004 the Government has established four new protected areas: Blackbuck Conservation Area (nationally important for Indian Courser *Cursorius coromandelicus*), Api-Nampa Conservation Area, Gaurishankar Conservation Area and Banke National Park.

Monitoring Important Bird Areas and other sites

Bird Conservation Nepal is in the process of establishing monitoring across all Important Bird Areas (IBAs) using BirdLife International's standardised and simple methods for scoring their condition (based on the key species and habitats within them), the pressures (threats) impacting the sites, and the conservation responses in place (such as action plans and management activities).

In addition, surveys of poorly known IBAs have been carried out on behalf of BCN: Dharan forests (Basnet 2009b, c), Dang Deukhuri foothill forests and West Rapti wetlands IBA (Thakuri 2010), Mai valley (Robson *et al.* 2008) and Kanchenjunga Conservation Area (Inskipp *et al.* 2008).

Many other individuals have carried out bird survey work on sites throughout Nepal, which have been valuable for conservation, notably the late Jack Cox Jr. In addition, in recent years Environmental Impact Assessments have produced useful information on the conservation value of sites, e.g. survey of the North South Fast Track Road (Basnet and Thakuri 2008).

Kanchenjunga bird survey team *by Carol Inskipp*

Most Protected Areas have Buffer Zones, including: Chitwan National Park (NP), Bardia NP, Sagarmatha NP, Shey Phoksundo NP, Langtang NP, Makalu Barun NP, Rara NP, Shukla Phanta Wildlife Reserve, Koshi Tappu Wildlife Reserve, Khaptad NP, Parsa Wildlife Reserve and Banke NP. In total, 5423 km^2 of the land is under the buffer zone which is nearly 4% of the country's total landmass.

All of Nepal's protected areas are managed by the Department of National Parks and Wildlife Conservation (DNPWC), Government of Nepal except for the Annapurna, Gaurishankar and Manaslu Conservation Areas which are managed by the National Trust for Nature Conservation (NTNC). The NTNC was established in 1982 as a not-for-profit organisation, working in Nepal for nature conservation. For over two decades, the Trust has successfully undertaken over 200 small and large projects on nature conservation, biodiversity as well as cultural heritage protection, ecotourism, and sustainable development (see http://www.ntnc.org.np/national-trust-nature-conservation).

Limited or insufficient resources and capacity has impeded the ability of both the DNPWC and NTNC to adequately conserve protected areas and species.

While Nepal's Protected Area network is impressive in coverage, of Nepal's 27 Important Bird Areas only 13 are fully protected, with 12 unprotected and 2 partially protected. However, the Nepal Government's Fourth Report to the Convention on Biological Diversity in 2009 clearly stated giving some management status to three unprotected IBAs (Phulchoki Mountain Forest, Farmlands of Lumbini and Mai Valley) as that already given to protected areas.

Government legislation and policy

There are many government policies that support conservation efforts in Nepal. These include the National Conservation Strategy for Nepal which was completed in 1987 and endorsed as policy in 1988. Policy resolutions cover the basic requirements of the people, as well as the need to safe-guard natural and aesthetic values, and to maintain the country's cultural heritage.

The National Planning Commission and the Ministry of Population and Environment jointly engaged in the formulation of the Sustainable Development Agenda for Nepal (SDAN) since early 2000. The SDAN was endorsed in 2003. Its recommendations build on proven, successful programmes at grassroots level. The Community Forestry Programme demonstrates the high potential of participatory management as a means to promote sustainable development for example.

The Convention on Biological Diversity (CBD) was ratified by Nepal in November 1993, and has been enforced in Nepal since February 1994. In 2002, Nepal developed a comprehensive Nepal Biodiversity Strategy (NBS) to fulfil its obligations to the CBD. The NBS serves as an overall framework for the conservation and sustainable use of biodiversity and biological resources in the country. The strategy also reflects the national commitment to adopt a more holistic approach to biodiversity conservation through the management of habitat, species and genetic diversity in Nepal. The Nepal Biodiversity Strategy Implementation Plan was developed in 2006. Its overall goal is to contribute to the objectives of the NBS during the period 2006-2010.

The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat was ratified by Nepal in December1987.The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

Looking after habitats

For forests, involvement of local communities has resulted in effective conservation in some areas, while providing livelihood benefits at the same time. For wetlands, the National Wetland Policy aims to conserve, manage and promote the wise and sustainable use of wetlands, and there are some promising examples of such approaches. For grasslands, new guidelines for management in lowland Protected Areas are currently in development.

Community forests and afforestation

In 1978, the Panchayat Forests and Panchayat Protected Forests regulations were introduced, enabling the Forest Department to return control and ownership of forests to local communities. The result was that, by April 2009, one-third of the population was participating in community managed forests, directly managing more than one-fourth of Nepal's forest area (Ojha *et al.* 2009).

Participatory biodiversity monitoring training to CFUG members *by Ishana Thapa*

Communities are encouraged to protect forest resources and to plant trees on unproductive land, and are being trained in biodiversity monitoring (see case study p37). This approach has proved to be an effective way of conserving forests and biodiversity in some areas, especially where pressures on forests are high.

Some new wetland initiatives

ICIMOD (International Centre for Integrated Mountain Development) initiated the 'Himalayan Wetlands Initiative (HWI)' in 2009 in order to enhance the water storage capacity of the Himalayas. ICIMOD are collaborating with the Ramsar Convention Secretariat, Wetlands International, and WWF in this initiative. The overall goal is to promote the conservation and sustainable use of Himalayan wetlands in the Hindu Kush-Himalayan region. Currently, the Initiative is focusing on:

1. Supporting the contracting parties and partners, including Nepal, in the implementation of the HWI Strategy;
2. Conducting action research on current issues related to livelihoods, culture, poverty reduction, and community resilience;
3. Organising workshops, seminars, and meetings in the region to support communication and participation across stakeholders; and
4. Undertaking a special study on transboundary and high altitude wetlands, including rivers (http://www.icimod.org/?page=748).

Conservation and Sustainable Use of Wetlands (CSUWN) in Nepal is a joint undertaking of the Ministry of Forests and Soil Conservation (MFSC), Global Environmental Facility, and the United Nations Development Programme. The Project is executed by MFSC. CSUWN aims to build the capacity, legal and policy frameworks related to conservation and development for an ecosystem management for wetlands conservation and sustainable use. Partnerships and capacity will be developed at both national and local levels to effect long term changes to the perception, value, and sustainable management of wetlands in Nepal and to ensure sustainability and replication of activities even after the cessation of the project. The project started in 2008 focusing on two Nepal Ramsar Sites: Koshi Tappu in the east and Ghodaghodi in the far west. The project will continue until 2013 (http://www.wetlands.org.np).

In 1976, the National Forestry Plan was introduced and provided for increased afforestation, as well as better protection and management of existing forests. The area of plantations increased significantly, e.g. from 49,000 ha to 53,000 ha between 1990 and 2005. However, the area of plantations was much less than the area of forest lost during the same period (Forestry Nepal 2005).

The National Wetland Policy and Ramsar

In 2003, the National Wetland Policy was agreed with aims to conserve, manage and promote the wise and sustainable use of wetlands, particularly through collaboration of communities.

As part of its obligation under the Ramsar Convention, the Government has designated nine Ramsar Sites – Wetlands of International Importance, including Koshi Tappu Wildlife Reserve and Koshi Barrage, Jagdishpur Reservoir, Ghodaghodi Tal, Rara Lake, Gokyo, Gosaikunda, Phoksundo, Beeshazar and Mai Pokhari. Currently the Government is planning to declare the important wetlands in Pokhara Valley as an additional Ramsar Site. However, there are a further six wetlands within Important Bird Areas that could also qualify.

The National Lake Conservation Development Committee was formed in 2006 with the objectives of conserving Nepal's lakes, resolving conflicts, making policy recommendations and taking responsibility for national and international coordination on issues relating to lakes (Pokharel and Shah 2006).

New guidelines for grassland management

Nepal's National Biodiversity Strategy and Action Plan (NBSAP) addresses pasture lands in the higher Himalayas, but not lowland grasslands. Currently, the Department of National Parks and Wildlife Conservation (DNPWC) allows local people to harvest grasses for a limited period each year in lowland Protected Areas (e.g. Chitwan, Bardia, Shukla Phanta). However, new guidelines for grassland management – including requirements for birds – are being developed.

The banning of pesticides

Since April 2001, the Government banned persistent chemical pesticides for use in agriculture and health. The use of hazardous pesticides, including Persistent Organic Pollutants (POPs) (resistant to environmental degradation), should be phased out by law. However, illegal import of pesticides remains a serious concern. By law it is mandatory to acquire a certificate of registration before the import, export, sale or purchase of pesticides. But the Nepal Forum for Justice (2006) revealed that in many parts of the country these guidelines are not followed.

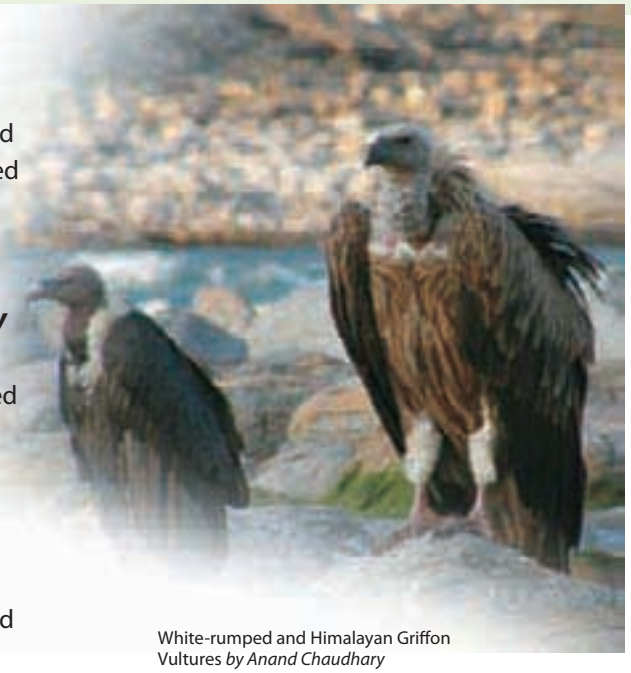
In addition, Nepal's National Agricultural Perspective Plan has emphasised the Integrated Pest Management (IPM) approach to try and reduce pesticide use. However, very few individuals are IPM-trained.

Saving species from extinction

There have been numerous surveys of globally threatened bird species which have provided much useful information on their population sizes, key sites, threats and conservation needs. Bird Conservation Nepal's Vulture Conservation Programme is an example of how such an approach can work even for Critically Endangered species.

Bird surveys

In recent years, several organisations and numerous individual Nepalis have carried out surveys of globally threatened and other bird species.



White-rumped and Himalayan Griffon Vultures *by Anand Chaudhary*

Surveys of threatened species by Bird Conservation Nepal

Numerous surveys of globally threatened species in Nepal have been carried out on behalf of BCN, including the following:

- A survey of the population and distribution of White-throated Bushchat *Saxicola insignis* highlighted the importance of Shukla Phanta Wildlife Reserve as a major wintering area for the species (Baral 1998b).
- Surveys of the distribution and population of Lesser Adjutant *Leptoptilos javanicus* throughout Nepal resulting in a good national population estimate (Baral 2005a; Gyanwali 2003b; Sharma 2005b) .
- The first survey of Wood Snipe *Gallinago nemoricola* in Langtang National Park, providing a population estimate for the national park, as well as identifying key threats and conservation measures for the species (Khatiwada and Choudhary 2008b).
- A survey of Sarus Crane *Grus antigone* at Lumbini, producing an up-to-date population figure at this important site for the species, which could be compared with an earlier survey; threats to the species, including the significant threat of pesticides, were also identified Paudel (2009a).

Surveys of threatened species by Biodiversity Conservation Society Nepal (BIOCOS-Nepal)

Additional surveys have been conducted by BIOCOS-Nepal, including the following:

- A survey of Bengal Florican *Houbaropsis bengalensis* in Nepal was carried out in 2006/2007 and resulted in a national population figure for the species (Poudyal 2008a,b).
- A survey of Lesser Adjutant *Leptoptilos javanicus* in Chitwan National Park in 2009/2010 enabled a population estimate to be made at this important site for the species (Poudyal 2009, Poudyal and Nepal 2010).
- The first comprehensive survey of Swamp Francolin *Francolinus gularis* was made in Shukla Phanta Wildlife Reserve in 2009, a valuable area and one of only two national sites for the species (Singh 2009a).
- A study of the population status and ecology of Bristled Grassbird *Chaetornis striata* and other lowland grassland birds was carried out in 2010 (Singh 2010).

Surveys and conservation of Galliformes by the World Pheasant Association

Mainly using Nepalese fieldworkers, the World Pheasant Association (WPA) has carried out Nepal's longest running population survey monitoring at Pipar in the Annapurna Conservation Area. Populations of all pheasant and partridge species, including the nationally threatened and globally near-threatened Satyr Tragopan *Tragopan satyra* have been regularly and frequently monitored since 1979. A number of new WPA-funded research programmes have taken place under the leadership of a promising new generation of Nepali conservationists. For example, three separate projects studied Cheer Pheasant *Catreus wallichii* populations in Dhorpatan Hunting Reserve, Annapurna Conservation Area and Rara National Park. These studies were reviewed at the Cheer Conservation Summit in Kathmandu in 2006, organised jointly by the WPA, BCN and British Council, Nepal (Garson and Baral 2007). A study on the effect of the collection of yarsagumba *Cordyceps sinensis* (a highly valuable herb which grows at around 3500 m in Himalayan meadows) on Galliformes was carried out in 2009 (Subedi 2010b).

Bird Conservation Nepal's (BCN) Vulture Conservation Programme

The Vulture Conservation Action Plan for Nepal (2009-2013) (Ministry of Forests and Soil Conservation, Nepal Government 2009) has helped prioritise and streamline vulture conservation activities in Nepal. It has also laid the foundation for multi-sectoral collaboration and cooperation. Its goal is "to revive viable population of vultures in the wild" and its objective is "to prevent the extinction of vulture species by ensuring reintroduction, safe food supply, maintenance of suitable habitat and better understanding of the ecological roles of these birds in Nepal".

Surveys of vulture populations and breeding success by BCN and its partners found that White-rumped Vulture *Gyps bengalensis* had 68.4% breeding success at 13 colonies in nine districts Further, BCN also supported nest monitoring in Palpa, Syangja, Tanahu and Kaski districts carried out by Ramji Gautam.

New nesting colonies were found in four districts in 2009/2010. In Khutia, Kailali District, a White-rumped Vulture *G. bengalensis* colony with 31 nests was discovered. The colony had 100% breeding success. Colonies of White-rumped Vulture *G. bengalensis* were also found in two sites (Kaptangunj/Satbariya and Goberdiha) of Dang District, Arghakhanchi District and Rupandehi District. Further, Ghera Bheer, a cliff with over 30 nests, mainly of Himalayan Griffon *G. himalayensis*, but also containing nests of Lammergeier *Gypaetus barbatus* and Egyptian Vulture *Neophron percnopterus* was identified and studied by BCN's Jatayu Scholarship winners.

Surveys of veterinary institutions for monitoring the use of Non Steroidal Anti-Inflammatory Drugs (NSAIDs) (i.e. diclofenac) are being carried out across Nepal by BCN staff and partners. The institutions monitored are veterinary hospitals, pharmacies, individual vets and para vets. Wherever diclofenac is found, it is immediately replaced by vulture- safe meloxicam.

Vulture Safe Zones are being set up in Nepal by declaring areas free of diclofenac, making scientific studies of vultures and drugs use, and carrying out an intensive advocacy campaign (see case study p36).

Protected species

Several species are protected by the National Parks and Wildlife Conservation Act - 2029 (1973) and recommendations for updating this list by Himalayan Nature are in the process of being adopted by Department of National Parks and Wildlife Conservation.

List of protected species

- White Stork *Ciconia ciconia*
- Black Stork *Ciconia nigra*
- Himalayan Monal *Lophophorus impejanus*
- Satyr Tragopan *Tragopan satyra*
- Cheer Pheasant *Catreus wallichii*
- Bengal Florican *Houbaropsis bengalensis*
- Lesser Florican *Sypheotides indicus*
- Sarus Crane #*Grus grus*
- Great Hornbill *Buceros bicornis*

#The scientific name for Sarus Crane is *Grus antigone* but in the official act it has been printed as above, which is the name for Common Crane.

Raising awareness of local communities

Working with local communities can change attitudes as people recognise the importance of conserving biodiversity for their own livelihoods and wellbeing. There are some good examples of such work, for example, Bird Conservation Nepal is building the capacity of grassroots conservation groups at Important Bird Areas while the World Pheasant Association has a strong education and conservation programme in Pipar in the Annapurna Conservation Area which is home to five out of six of Nepal's Himalayan pheasant species.

Building a Nepalese Bird Conservation Network

Bird Conservation Nepal (BCN) is assisting this network technically to execute a range of conservation activities and publications. BCN also helps to strengthen grassroots conservation groups (Local Conservation Groups) at IBAs by building their capacity to monitor, identify and address threats to biodiversity, such as from unsustainable land-use and resource-use practices (see case study p38).

Bird identification training for local communities at Jagdishpur Reservoir *by Ishana Thapa*

Working with communities in the Annapurna Conservation Area

A partnership between the World Pheasant Association (WPA) and villagers near Pipar in the Annapurna Conservation Area has flourished since 1983. Pipar is a 42 km^2 rhododendron forest at 3320 m on a spur of the Machhapuchare Peak in the Annapurna Conservation area and home to five out of six of Nepal's Himalayan pheasant species. WPA has a long-standing commitment to education in Pipar's surrounding villages by funding teachers' salaries, and building and renovating schools and their classrooms. This has vastly improved the availability of education to many children in the area, who previously had to walk up to four hours to get to school or did not attend at all.

To match WPA's assistance in education, local villagers give their support to conserving the rich surrounding forests. The villagers are asked not to hunt in the spring, during the pheasant breeding season, but in autumn instead and only for subsistence purposes, not commercial gain. They also agree only to collect timber for their own needs and not to sell commercially. This has provided a sound understanding that support for the schools is linked to the quality of the forest and the health of the pheasant populations, as well as many other species. The Pipar pheasant population has remained stable all this time and the scheme is widely upheld as a model project. In recent years WPA's education and conservation awareness programme has greatly expanded and has extended to other villages in surrounding areas.

Source: Anon. (2010)

Working with farmers in Lumbini

In 2007 and 2008, Himalayan Nature carried out a successful conservation awareness programme with farmers in Lumbini in Nepal's central lowlands. The programme aimed to create a positive attitude amongst farmers towards birds on their land to encourage the continuation of traditional farming methods, to reduce use of

chemicals, especially their haphazard and excessive use, and to encourage participatory monitoring of birds by farmers.

The programme included interaction with the farming communities, taking school pupils and members of the farming communities for bird watching in the farmland areas and to interact with local media personalities. As part of this programme, a poster was produced depicting Lesser Adjutant *Leptoptilos javanicus* and Sarus Crane *Grus antigone* and with simple text in Nepali language explaining the usefulness of birds in the cultivated lands.

Although many farmers understood the concept of sustainable method of farming, unfortunately the pressure to grow larger quantities of food from their limited land areas was overriding this understanding. The study also found there was huge pressure on remaining lands to meet the demands for development activities, including setting up factories and planned settlement in various places, the latter close to the Lumbini Development Trust. Some former habitats of Sarus Crane *Grus antigone* have now been occupied by several industrial developments, including at least seven cement factories between Bhairahawa and Lumbini. The study concluded that, while awareness activities are important to safeguard the future of bird populations in this Important Bird Area, a policy level intervention is perhaps the best way forward to minimise risks of losing such habitats in Lumbini and elsewhere in Nepal.

Source: Singh (2007).

Working with farmers in Chitwan National Park buffer zone

Since 2004, the Bird Education Society (BES) has been carrying out successful annual conservation awareness programmes for farmers who live in Chitwan National Park buffer zone. Many birds which inhabit the National Park also feed in the agricultural fields in the park's buffer zone, where they are at risk from pesticide use, notably the globally threatened Lesser Adjutant *Leptoptilos javanicus*.

Organic farming training to local farmers in Chitwan *by Bird Education Society*

The BES conservation awareness programmes focus on providing farmers with the necessary knowledge and skills to practice organic farming. Farmers learn how to use Effective Microorganism methods for recycling, waste management, compost fertiliser, seed and seedlings treatment, and vitamins for plant and animal husbandry. They also receive knowledge about how to prepare bio-pesticides by using organic residues that are found in their local area. Farmers learn about Integrated Pest Management, including how to identify both beneficial and non-beneficial insects in crops.

As a result of the BES conservation awareness camps, many farmers in the Chitwan valley now practice organic farming and use Effective Microorganisms in their fields.

In 2006 local farmers who had attended the BES conservation awareness camps encouraged BES to set up the Ecological Farmers Forum Nepal which aims to promote and educate farmers in the Chitwan valley about organic farming.

Source: Subedi (2007).

Improving awareness more generally

A wide range of educational and conservation awareness activities are carried out by Non-Governmental Organisations in Nepal. These include producing materials on birds and conservation, organising birdwatching for the general public, and running clubs for schools.

Improving awareness of birds generally

Bird Conservation Nepal (BCN) has supported the publication of a range of materials on birds, including the following:

- ***Danphe,*** a quarterly newsletter in English, that has been published since 1992. It plays an important role in disseminating research, conservation and education activities run by BCN.
- ***Munal,*** a quarterly newsletter in the Nepali language, that has been published for nearly two decades. It provides basic to advanced information on birds, their role in the environment and BCN's efforts to conserve them.
- A field guide to the birds of Nepal in the Nepali language that was published in 2003.
- Other publications include *Bird Conservation in Nepal: an educational kit* and *Important Bird Areas in Nepal: key sites for conservation.*
- Work is underway to produce a globally threatened species booklet in the Nepali language to stimulate awareness of importance of bird conservation in Nepal.

Conservation awareness and education have been key elements of BCN's programmes since the organisation's inception. Saturday birdwatching is scheduled fortnightly within the Kathmandu Valley for anyone interested amongst the general public, and is motivating locals to take part in birdwatching and other conservation activities. Conservation awareness programmes have mainly been carried out in the Kathmandu Valley but have been also run elsewhere, notably in the Mai Valley Important Bird Area (IBA), Ilam District, in 2009 when nearly 1500 participants were involved. Another awareness-raising camp is planned near the Dharan forests IBA, Sunsari District in 2011.

A street exhibition and public awareness campaign on World Environment Day has been organised since 2002. This programme has provided information to about 10,000 members of the public each year on average. BCN has regularly participated in celebrations for National Conservation Day, World Wetlands Day, Wildlife Week, International Biodiversity Day, World Migratory Bird Day and International Vulture Awareness Day. The programmes have included birdwatching tours, exhibitions, information boards, and the distribution of brochures and newsletters.

Sources: Bird Conservation Nepal (2010), Ghimire (2007).

Radio programmes to raise conservation awareness

BCN has its own radio programme "Panchhi Sansar" which conveys a bird conservation message to about 10% of Nepal's population every fortnight. The programme has proved a very effective communication tool for BCN to reach the general public. It has successfully grabbed the attention of listeners through bird quizzes, interviews with various senior conservationists, and bird stories. Informative short accounts on various bird species of Nepal, for example vultures, and also on Important Bird Areas and BCN's

conservation projects, have been aired and highly appreciated by listeners. The 15 minute programme is popular both inside the Kathmandu Valley and throughout the country. Many people have shown a keen interest in birds as a result of the programme and it has also been instrumental in disseminating information on BCN's conservation efforts to a wide audience.

Sources: Bird Conservation Nepal (2010), Ghimire (2007).

BIOCOS-Nepal broadcast a regular radio programme on birds and their conservation in the far west in 2009. Listeners took part in telephone interviews, bird quizzes and essay competitions. Scripts on Cheer Pheasant *Catreus wallichii* and other species were aired from two radio stations each week. Calls of the Cheer Pheasant were broadcast in every episode. Listeners were asked to send their stories if they had heard/seen the species in their areas and these reports were broadcast. Radio audiences reported that Cheer Pheasant occurred in seven Village Development Committees (VDC) of Accham District, one VDC of Doti District and one VDC of Baitadi District in Nepal's far west. All these areas are new sites for the species. In 2011 a field survey of Cheer Pheasant is planned in all the areas where it was reported to confirm its presence. Confirmation of the occurrence of Cheer Pheasant in the far west will be a significant distributional range extension of this globally threatened species in Nepal.

Source: Poudyal (2010).

The Bagmati River Nature Park

Bird Conservation Nepal (BCN) has been developing and managing the Bagmati River Nature Park along the Bagmati River corridor with Government of Nepal approval for over five years. The aim of the project is to create suitable habitats for both urban as well as migratory bird species and provide environmental education and experience-based learning to school, college and university students. This is the only nature park/reserve within the boundaries of Kathmandu where students can learn about nature, natural habitats and environment issues. The Nature Park will give all visitors the opportunity to enjoy, cherish and learn about the natural environment.

The development of the Bagmati River Nature Park offers a huge opportunity to promote conservation and environmental issues to the large urban population of Kathmandu. BCN will develop the visitor centre to promote how through the conservation of habitats and birds, people can benefit themselves. The key focus of BCN's work will be in developing an educational programme for the numerous local schools, offering excellent field educational opportunities. The development of one of the few green urban spaces within the city will offer a unique visitor experience where visitors will be able to walk and enjoy urban wildlife and habitats.

Source: BCN website http://www.birdlifenepal.org/projects/bnp.htm

School Students at Bagmati River Nature Park *by Jyotendra Jyu Thakuri*

Green Clubs for schools

As part of their education and conservation awareness programmes in schools and communities around Chitwan National Park, the Bird Education Society (BES) has set up Green Clubs in local schools. A Green Club is a group of enthusiastic and trained secondary or lower secondary students who carry out environment, health and education extra-curricular activities, including clean-up campaigns, quiz and art contests and drama in their schools. Schoolteachers, students, parents and representatives from other clubs are also involved.

After a school has agreed to start a Green Club some 30 selected students are trained during their spare time on topics such as environmental issues, birds and other wildlife, waste management, paper recycling and appropriate rural technologies, for example smokeless stoves and kitchen gardening. After the training phase, the Green Club Executive Committee is elected and then the committee members prepare a six month action plan for which financial support is provided by BES. One of the school's teachers is appointed the Green Club Guide teacher and the Principal acts as a patron of the Green Club.

The Green Club activities in schools and the community have brought positive change and are raising environmental awareness. "Students who used to carry sling shots in their bags now convince other people to protect birds", said the Principal of Jhuwani Secondary School. BES members have observed that the number of hunting and trapping incidents are now declining around the villages where the Green Clubs are located. There are currently 24 Green Clubs functioning well in the Chitwan area (Hem Subedi *verbally* December 2010).

Source: Adhikari (2002).

Raising awareness of the plight of owls

Since 2008, Raju Acharya has carried out extensive studies in Nepal on the ethno-ornithological relationship of owls and owl conservation and awareness work, supported by Friends of Nature and also supported financially by the World Owl Trust and technically by The Global Owl project. At least four million people were informed about the programme by the local, regional and national newspapers, radio and television.

Work was initially carried out in Mustang and Manang Districts in the Annapurna Conservation Area; 27 out of 29 Village Development Committees in the two districts comprising an area of 2947 km^2 were visited. Local people warmly welcomed the team as this was the first such study in their districts.

A total of 44 owl conservation awareness camps was held between November 2008 and April 2009; students, Youth Clubs, Mother Groups and the general public were targeted. Around 500 owl conservation posters, 200 brochures and 20 owl conservation T-shirts were distributed in order to support the camps.

Twelve focus group discussions were held in the study area. Those attending were asked about local uses of owls, local threats and their perceptions regarding owls, while being informed about the value of owls to people, for example in killing crop pests. The villagers were interested to learn about the importance of owls. Previously they had only heard about traditional beliefs which consider that parts of dead owls, for example owl bone necklaces and owl heads, can chase away evil. Traditionally owl parts are believed to cure illness, for instance having owl meat soup is thought to help reduce asthma.

Results of a questionnaire completed by 291 people revealed that killing of owls for meat and stealing eggs from nests were common at the time of the study. Local people reported a decline in the species' population in the study area in the previous decade (1998-2008) and recommended the protection of owls. The survey also highlighted the illegal trade on Rock Eagle Owl *Bubo bengalensis* in Nepal.

Owl conservation awareness camps (166) were carried out widely till the end of 2010 covering the districts of Dhading, Tanahu, Kaski, Sankhuwasava, Chitwan and Kathmandu. Similar camps are planned throughout the country within the next five years.

Sources: *Acharya (2011), Acharya and Ghimirey (2009a,b); Raju Acharya and Yadav Ghimire* in litt. *to Carol Inskipp December 2010).*

CASE STUDY 1

Promoting sustainable livelihoods

The wetlands at Koshi Tappu are critically important, not just for wildlife, but also for the 100,000 people who inhabit the reserve's buffer zone. Bird Conservation Nepal and conservationists from the UK have worked alongside these communities to promote sustainable livelihoods—demonstrating how the pressure on wetland resources can be alleviated and tangible benefits provided to local people.

Harvesting of *Typha* at Koshi Tappu *by Bhagwan Dahal*

Koshi Tappu Wildlife Reserve—an internationally important wetland

Koshi Tappu Wildlife Reserve, an Important Bird Area (IBA) and Ramsar site in the Terai of south-east Nepal, is by far the most significant wetland staging post for migratory waders and waterfowl in Nepal. However, since the 1990s the number of birds visiting the reserve has dropped dramatically. The reserve is subject to intense pressure from neighbouring communities who depend on the area for fishing, livestock grazing, firewood collection and the harvesting of natural products.

Historically, the relationship between local people and the reserve has been poor. For marginalised and disadvantaged communities, the reserve regulations can seem oppressive—denying them access to much-needed resources and livelihood options. However, the apparent incompatibilities of wildlife conservation and the needs of local people belie the fact that both depend on healthy, intact ecosystems.

In 2006, Bird Conservation Nepal, in collaboration with the Wildfowl and Wetlands Trust (WWT), began a three year project at Koshi Tappu Wildlife Reserve. The project identified a number of innovative and sustainable livelihood options that could deliver benefits to local people whilst preserving the ecological integrity of the wetlands.

Developing sustainable livelihoods

For instance, the indigenous Malaha community relies on fishing as its sole source of income. However, dwindling fish resources have led to ever more destructive fishing practices, including indiscriminate gill-net fishing and the use of poisons. In response, the project helped establish fishponds. This has provided 40 households with a secure livelihood in aquaculture, whilst reducing the pressure on wild fish stocks. The project also promoted alternatives to fishing. For example, women from some of the most impoverished communities received training and materials to create handicrafts. This included learning to weave mats from the stems of *Typha*, a common wetland plant.

As an alternative to collecting firewood from within the reserve, the buffer zone communities were shown how to make charcoal briquettes from invasive plants. Not only are the production costs lower than the cost of buying firewood, but it also provides a incentive to harvest non-native plant species that are damaging the wetland ecosystem.

One of the most devastating invasive species is water hyacinth *Eichhornia crassipes*. It rapidly chokes slow-flowing water bodies; overrunning fishponds, clogging irrigation systems and causing flooding. Although water hyacinth can be readily controlled through manual clearance, local communities have lacked sufficient resources to keep up the activity. In response, the project team pioneered the use of the hyacinth to produce compost fertilizer. This provided local people with a cheap and safe alternative to chemical fertilizers while at the same time creating an incentive to control this invasive plant.

This project is a good model for the future. It demonstrated very well how wetland resources can deliver tangible benefits to the buffer zone communities and canimprove local attitudes to wildlife conservation by demonstrating the importance of maintaining biodiverse ecosystems.

Mitra Pandey
Bird Conservation Nepal

CASE STUDY 2

Saving Asia's vultures

An intensive recovery programme involving the provision of safe feeding sites—known as 'vulture restaurants', removal of diclofenac from surrounding area and mass sensitization—is underway to reverse the catastrophic decline of vultures. Although much work remains to be done, the initiative offers hope for the future of these magnificent birds and provides a model for the conservation of vultures throughout the region.

A catastrophic decline

Vultures are keystone species that perform a vital ecosystem service by disposing of carrion. They are also culturally important, being central to the Buddhist funerary practice—known as 'sky burial'—wherein human corpses are placed in the open to be consumed by scavenging animals.

In the early 1990s, vultures were still a common sight in the skies above South Asia. However, within a decade their numbers had plummeted and several species were on the brink of extinction. In Nepal, numbers of White-rumped Vulture *Gyps bengalensis* dropped by more than 90% (Shultz *et al.* 2004). Similarly precipitous declines were recorded for Slender-billed Vulture *G. tenuirostris*. Today, both species are considered globally and nationally Critically Endangered. Research has identified the cause of the decline to be diclofenac, a veterinary drug used to treat livestock (Oaks *et al.* 2004, Shultz *et al.* 2004). Vultures feeding on the carcasses of animals recently treated with the drug suffer renal failure and die (Green *et al.* 2004).

The Nepalese Government and Bird Conservation Nepal (BCN) have been central to efforts to save Asia's imperilled vultures. In 2006, a ban was introduced on the production and importation of diclofenac for veterinary use.

Pharmaceutical firms are encouraged to promote a safe alternative called meloxicam (Swan *et al.* 2006). The use of diclofenac has since declined by 90% across parts of Nepal; however, its complete elimination from the scavenger food chain has yet to be achieved (Gilbert *et al.* 2007).

Vulture Safe Feeding Site

In 2007, BCN established the first community-managed Vulture Safe Feeding Site at Pithauli/Kawasoti in Nawalparasi district. Within this area, safe, diclofenac-free carrion is provided at feeding stations known as 'vulture restaurants'. The community acquires cattle that are nearing the end of their working lives and that would otherwise be kept in poor conditions or abandoned. After the animals have died naturally, the carcasses are skinned (the hides provide an important income) and fed to the vultures. Since the Vulture Safe Feeding Site was established there has been a steady increase in the number of vultures visiting the feeding stations and flocks of over 150 birds are not uncommon. There has also been a significant increase in the number of nesting White-rumped Vulture at nearby colonies.

Different species of Vultures feeding at Safe Feeding Site *by Jyotendra Jyu Thakuri*

In addition, a viewing area has been created overlooking the feeding area which has helped generate tourism revenue for the community. The project monitors veterinary drug use in the surrounding area, removing all diclofenac stock and also promotes local livelihood activities including bee keeping and organic farming and runs educational events raising awareness of the socio-economic value of vultures and the damage done by diclofenac. Vulture Safe Feeding Sites have since been established elsewhere in five locations of Nepal—for example, near to the Lumbini farmland IBA in Rupandehi district and adjacent to Dang Deukhuri Forest IBA in Dang district.

BCN's vulture conservation programme has provided a highly successful model for community-based conservation of threatened species and expanded it to create 21,013 square kilometre Vulture Safe Zone, free of diclofenac. This approach is now a fundamental component of the Nepalese Government's five year Vulture Conservation Action Plan launched in February 2010.

Mitra Pandey
Bird Conservation Nepal

CASE STUDY 3

Involving local communities in biodiversity monitoring

Conservationists are training forest-users in biodiversity monitoring techniques that have traditionally been the preserve of expert scientists. This approach not only harnesses indigenous knowledge but also helps build and sustain conservation capacity within local communities.

Biodiversity monitoring is typically a specialist task carried out by scientists often foreign to the landscape in which they are working. As a consequence, the activity can be both costly and perceived as exclusive. There is considerable potential, however, for biodiversity monitoring by local, non-scientific stakeholders. Such an approach can empower communities by building local conservation capacity and linking scientific information more directly to resource-users needs. Participatory Assessment, Monitoring and Evaluation of Biodiversity (PAMEB) does just this by giving the control of biodiversity monitoring to the local communities. It harnesses traditional sources of knowledge and helps engender a conservation ethos and sense of environmental stewardship.

The community-run forests of Nepal provide an ideal setting in which to trial participatory approaches to biodiversity monitoring. Much of Nepal's forested land is designated as community forest—owned by the government, but managed by local people. Collectively, more than 14,000 local forest associations—known as Community Forest User Groups (CFUGs)—manage roughly 1.2 million ha of forest (Acharya and Gentle 2006). Community forestry in Nepal is widely seen as a successful model for community-based forest management, capable of delivering both forest protection and livelihood benefits (Timsina 2003, Yadav *et al.* 2003). Of the 27 Important Bird Areas (IBAs) in Nepal, 12 are managed predominantly as community forests.

The PAMEB concept is well suited to CFUGs, which require biodiversity information to guide management decisions and measure the resultant success. The collection of comparable data from across the network of Nepalese CFUGs also allows biodiversity trends to be assessed nationwide. To this end, a pilot scheme was developed by Bird Conservation Nepal, with technical support provided by the Royal Society for the Protection of Birds (RSPB) and the Federation of Community Forests Users, Nepal (FECOFUN) (Widman *et al.* 2003).

CFUGs practising indicator bird monitoring technique *by Ishana Thapa*

The scheme was trialled at a number of community forests in the terai, Churia and midhills regions of Nepal. A simple, standardised methodology for data collection, based on readily assessed indicators of ecosystem health, was devised that could be incorporated into existing forest inventory practices and easily pooled to generate nationwide data on biodiversity trends. Birds are an excellent indicator taxa. For example, species such as Great Hornbill *Buceros bicornis* and Sultan Tit *Melanochlora sultanea* are indicative of high forest quality, whilst species such as Oriental Pied Hornbill *Anthracoceros albirostris* and Hill Myna *Gracula religiosa* favour regenerating forest. Species that prefer degraded forest condition and forest edge include Red Junglefowl *Gallus gallus* and Indian Roller *Coracias benghalensis*.

Participating CFUGs received a PAMEB tool kit detailing the methodologies and including a user-friendly forest resource inventory and bird identification material. They were also provided with training in biodiversity assessment techniques, including transect walks, focus group discussions, participatory resource mapping and fixed point photography to chart changes in vegetation structure overtime. The chosen community monitors—often forest guards who could integrate the data gathering into their routine patrols—were taught bird identification skills and how to conduct Timed Species Counts (TSCs).

The project has successfully demonstrated that highly reliable forest assessments can be effectively implemented by local resource users. It is hoped that this scheme will become a model for effective participatory biodiversity assessment that will guide similar initiatives elsewhere in the world.

Ishana Thapa
Bird Conservation Nepal

CASE STUDY 4

Creating civil society networks for conservation

Through collaboration with a broad constituency of local forest groups, Bird Conservation Nepal has helped create a civil society network through which information can be shared and conservation action coordinated. The project has been a considerable success—strengthening the capacity of local stakeholders to deliver effective biodiversity conservation.

Biodiversity conservation is often more effective, with greater legitimacy and sustainability, when it engenders the support of civil society. It is particularly important to engage those communities who most immediately depend on the services that nature provides. This is especially relevant in Nepal where many forests are directly managed by local people through Community Forest User Groups (CFUGs).

The Kanchenjungha Conservation Area and nearby Mai Valley forests are Important Bird Areas (IBAs) in eastern Nepal. They support a rich flora and fauna characteristic of the eastern Himalaya. In 2007, Bird Conservation Nepal began a project to build the conservation capacity of local NGOs, CFUGs and grassroots community organisations. Through the establishment of the Nepal Bird Conservation Network (NBCN), it is hoped that local constituencies will be able to support, promote, and ultimately take responsibility for conservation activities in the region.

The two year project, funded through the Critical Ecosystem Partnership Fund (CEPF), established a network of local community conservation groups known as Site Support Groups (SSGs). In total, eight

Capacity building training for SSGs in east Nepal *by Ishana Thapa*

NGOs were taken as SSGs across the two IBAs. These groups, along with the regional CFUGs, received training in a range of activities including participatory biodiversity monitoring, habitat management, report and proposal writing and fundraising. With assistance from the Royal Society for the Protection of Birds (RSPB), a monitoring programme was developed using birds as indicators of environmental health and extensive surveys of birds and forest quality were carried out.

The project has succeeded in building the capacity of local forest-user groups to deliver biodiversity conservation. For instance, several of the identified SSGs have already secured micro-grants for further grassroots conservation action.

Mitra Pandey
Bird Conservation Nepal

CASE STUDY 5

Ecosystem services demonstrate the value of IBAs

Bird Conservation Nepal is undertaking a project to assess and monitor ecosystem services at all 27 IBAs within the country. Work at the first of these sites, Shivapuri-Nagarjun National Park, has identified and quantified multiple ecosystem services provided by the Park compared to services delivered by the surrounding (degraded) area, thereby demonstrating the importance of this IBA to human wellbeing.

Natural ecosystems provide human societies with an extensive range of benefits, including the production of food and clean water, and the control of climate. Unfortunately, more than 60% of these benefits—known as ecosystem services—are in decline (MA 2005). The loss and degradation of ecosystems and the biodiversity they support can disrupt and diminish these essential services with severe economic, social and environmental impacts on people. The importance of maintaining and enhancing ecosystem services is increasingly being recognised and it is now a key factor on many national and international agendas (TEEB, 2010).

However, ecosystem services assessment has largely focused on broad scale, global analyses, using rough proxy measures from remote sensing or on intensive and expensive measures at a few sites. To inform practical conservation decision-making, an intermediate approach is being piloted in Nepal. In collaboration with BirdLife International, the University of Cambridge, UNEP-WCMC and others, a 'toolkit' of ground-based, site-focused, participatory, robust and inexpensive methods has been developed for ecosystem services assessment and monitoring. The work is funded by the UK government's Darwin Initiative programme.

At Shivapuri-Nagarjun National Park (SNNP), field studies and the collation of existing data have enabled researchers to quantify some of the key ecosystem services provided by the Park, including carbon, tourism, and water provision and to illustrate the consequences to human livelihoods of losing this protected area. SNNP is an important watershed for the Kathmandu Valley, providing 53 million litres of water per day to downstream users. It is also an extremely popular site for local recreation and spiritual experience.

Field work for carbon measurement at Shivapuri Nagarjun National Park *by Jenny Birch*

Preliminary analyses show that SNNP provides added benefits from ecosystem services compared to services delivered by the surrounding (degraded) area. These results highlight the value of SNNP to local people, district level users and the global community, and present the scientific information in a way that can be easily used by site managers, community forest user-groups, regional and national decision-makers.

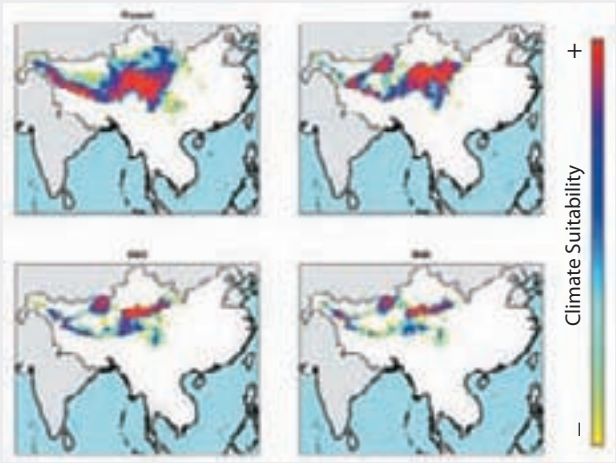
This research is part of a forthcoming National Report on ecosystem services at all 27 IBAs in Nepal. The publication will present additional evidence to decision-makers on the importance of conserving these sites for the benefit of both biodiversity and human wellbeing. The associated publication of the 'toolkit' will also enable other organisations to carry out such analyses at their own sites in order to make informed decisions about development and land use planning, incorporating the value of nature.

Jenny Birch
Ecosystem Services Officer
BirdLife International

CASE STUDY 6

Bird species are predicted to be affected by climate change

An on-going BirdLife project is investigating the impacts of climate change on birds and the key sites for their conservation in the Eastern Himalaya, including the eastern half of Nepal. The preliminary results indicate that there will be some significant changes in bird distributions in Asia, and hence a large turnover of species in the region's IBAs.



These maps were generated by relating the current range of Grandala *Grandala coelicolor* to the present climate, and then applying this relationship to simulations of future climate to predict climate suitability for this species in 2025, 2055 and 2085.

Climate change is likely to have significant negative impacts on species, ecosystems and ecosystem services unless mitigation and adaptive measures are taken. However, developing such measures requires accurate predictions about the scale and intensity of future changes. One major challenge is to understand how climate change will affect the distributions of key species of conservation concern. In Asia, this has been hampered by a lack of suitable datasets for climate change modelling. An on-going BirdLife project is addressing this by compiling databases of precise geographical- records for priority bird species in the Eastern Himalaya and Lower Mekong regions. This work is being carried out by the BirdLife Asia Partnership, including by BCN in Nepal, with support from the MacArthur Foundation.

The bird record databases and species range maps prepared by BirdLife are being used by Durham University in the UK to create climate envelope models that predict how species distributions might change under a variety of future climate change scenarios. This will allow the project to examine how effectively the IBA networks in the two project regions will safeguard species of conservation concern and their habitats in the future. The preliminary results indicate that there will be significant changes in the future distribution of suitable climate for many Asian species (see Figure). As a result, some IBAs could lose many of the species for which they were identified, whilst others will become more important for priority species.

The project results will provide the basis for the development of the mitigation measures and adaptive strategies that will be required to counteract the negative impacts of climate change in the future. The involvement of local conservationists in the project team and the dissemination of the project findings within Asia will help build the regional capacity and awareness required to support the implementation of these measures and strategies. The project has already organised several training and awareness events, including an inception meeting in north-east India, national climate change events organised by BCN in Nepal, and a regional workshop and climate change side event at the Tenth Meeting of the Conference of Parties of the Convention on Biological Diversity in Japan in October 2010. A follow-up project is planned to develop the mitigation measures and adaptive strategies that will be required in Nepal and other Asian countries, and to communicate these effectively to decision-makers.

Mike Crosby
Senior Conservation Officer (Asia)
BirdLife International

Assessment of threat status

The categories of threat are those adopted by IUCN (2010). Categories Critically Endangered, Endangered and Vulnerable are referred to collectively as 'threatened'. IUCN/SSC regional guidelines have been followed in the preparation of this list (IUCN 2003). For the purposes of regional or country conservation assessments there are important reasons to assess species' extinction risk and publish Red Lists within specific geographically defined areas. In a particular country or region there are breeding and non-breeding taxa. The latter are those that do not reproduce in the country or region, but may still be dependent upon its resources for their survival. There may also be formerly native taxa that are now extinct there, but are still extant in other parts in the world (IUCN 2003).

At national level, a country has responsibility to protect globally threatened taxa occurring within the geographic boundaries. In addition there may be other taxa that are facing threats resulting in declining populations. Application of IUCN Red List Categories at the national level help the country to identify both these categories of priority species for conservation and wisely manage available resources for conservation of its biodiversity.

IUCN threat categories

EX Extinct:
An EX taxon is not known to exist either within or outside the region.

RE Regionally or Nationally Extinct:
A RE taxon is known to still exist elsewhere and may re-colonize or be reintroduced into the region.;

CR Critically Endangered:
A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild

EN Endangered:
A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered, and it is therefore considered to be facing a very high risk of extinction in the wild

VU Vulnerable:
A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the wild

DD Data Deficient:
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.

APPENDIX 1

Species assessed and criteria used

A total of 867 bird species occur in Nepal. For this review, only resident species and summer and winter visitors were assessed (755 species in total), not passage migrants (29 species), vagrants (74 species), extinct or extirpated species (nine species, see below). Those assessed include 25 globally threatened species and 21 globally near-threatened species. The globally threatened (GT) and near-threatened (NT) passage migrants (PM) and vagrants (V) that do not qualify for inclusion are Baikal Teal *Anas formosa* (GT, V), Baer's Pochard *Aythya baeri* (GT, PM), Black-necked Crane *Grus nigricollis* (GT, V), Pallid Harrier *Circus macrourus* (NT, PM), Lesser Kestrel *Falco naumanni* (GT, PM), Saker Falcon *Falco cherrug* (GT, PM), Black-tailed Godwit *Limosa limosa* (NT, PM), Kashmir Flycatcher *Ficedula subrubra* (GT, PM) and Tytler's Leaf Warbler *Phylloscopus tytleri* (NT, PM).

IUCN Red List Categories and Criteria: summary of the five criteria (A–E) used to evaluate if a taxon belongs in a threatened category (Critically Endangered, Endangered or Vulnerable)

Use any of the criteria A–E	Critically Endangered	Endangered	Vulnerable
A. Population reduction	Declines measured over the longer of 10 years or 3 generations		
A1	≥90%	≥70%	≥50%
A2, A3 & A4	≥80%	≥50%	≥0%

A1. Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible **AND** understood **AND** have ceased, based on and specifying any of the following:
(a) direct observation
(b) an index of abundance appropriate to the taxon
(c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality
(d) actual or potential levels of exploitation
(e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.
A2. Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased **OR** may not be understood **OR** may not be reversible, based on (a) to (e) under A1.
A3. Population reduction projected or suspected to be met in the future (up to a maximum of 100 years) based on (b) to (e) under A1.
A4. An observed, estimated, inferred, projected or suspected population reduction (up to a maximum of 100 years) where the time period must include both the past and the future, and where the causes of reduction may not have ceased **OR** may not be understood **OR** may not be reversible, based on (a) to (e) under A1.

If any of the three conditions (reversible and understood and ceased) are not met in a substantial portion of the taxon's population (10% or more), then A2 should be used instead of A1.

B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of occupancy)			
B1. Extent of occurrence (EOO)	< 100 km^2	< 5,000 km^2	< 20,000 km^2
B2. Area of occupancy (AOO)	< 10 km^2	< 500 km^2	< 2,000 km^2
AND at least 2 of the following:			
(a) Severely fragmented, OR Number of locations	=1	≤5	≤10

(b) Continuing decline in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals.
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or sub-populations; (iv) number of mature individuals.

C. Small population size and decline			
Number of mature individuals	< 250	< 2,500	< 10,000
AND either C1 or C2:			
C1. An estimated continuing decline of at least:	25% in 3 years or 1 generation (up to a max. of 100 years in future)	20% in 5 years or 2 generations	10% in 10 years or 3 generations
C2. A continuing decline **AND** (a) and/or (b):			
(a i) number of mature individuals in each subpopulation:	< 50	< 250	< 1,000
or			
(a ii) % individuals in one subpopulation =	90–100%	95–100%	100%
(b) extreme fluctuations in the number of mature individuals			
D. Very small or restricted population			
Either:			
Number of mature individuals	< 50	< 250	**D1.** < 1,000
	AND/OR		
VU D2. Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.			D2. typically: AOO < 20 km^2 or number of locations = 5
E. Quantitative Analysis			
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations (100 years max)	≥20% in 20 years or 5 generations (100 years max)	≥10% in 100 years

Regionally Extinct species

The following species are considered to be Regionally Extinct (RE) in Nepal as there are no confirmed records for Nepal since the 19th century.

Jungle Bush Quail *Perdicula asiatica*
Pink-headed Duck *Rhodonessa caryophyllacea**
Rufous-necked Hornbill *Aceros nipalensis**
White-bellied Heron *Ardea insignis**
Silver-breasted Broadbill *Serilophus lunatus*
Green Cochoa *Cochoa viridis*
Brown Bush Warbler *Bradypterus luteoventris*
Black-breasted Parrotbill *Paradoxornis flavirostris*
Red-faced Liocichla *Liocichla phoenicea*

**Globally threatened species*
Species that have been sometimes listed for Nepal on the basis of specimens collected in the 19th century, but whose origins are uncertain, are also excluded.
Nomenclature follows that used by BirdLife International. Synonyms are given where the names differ from those used in Grimmett *et al.* (2009) *Birds of Nepal*.

APPENDIX 2

Review of Critically Endangered and Endangered Species

A review is given below of the known records and declines of species identified as nationally Critically Endangered or Endangered. All known records since 1990 are listed or summarised and these are referred to as 'recent' records.
In this overview names of protected areas have been abbreviated as follows:

Chitwan National Park – Chitwan
Bardia National Park – Bardia
Shukla Phanta Wildlife Reserve – Shukla Phanta
Koshi Tappu Wildlife Reserve – Koshi Tappu
Parsa Wildlife Reserve – Parsa

This overview is followed by a complete list of threatened species of Nepal.

Francolinus gularis Swamp Francolin

Globally threatened status: VU

Nationally threatened status: EN A2ac, B2ab(iii,v)

Very local resident; below 200 m. The species was once thought to be present throughout the Nepal lowlands (Baral 1998a), but Shukla Phanta and Koshi are now the only sites where the species has been recorded recently. A population of 28 was estimated based on a partial survey of Shukla Phanta reserve in 1995 (Baral 1998a); a later survey estimated a population of over 100 birds (Baral 2000b). In 2004 a partial survey estimated a breeding population of 46 pairs (Singh 2004; 2007a). A survey of the Shukla Phanta whole reserve is being carried out in 2009-2010 for the first time; the 2009 survey of part of the reserve estimated 97 to 102 pairs (Singh 2009a). In recent years up to 2008, the largest population was thought to be at Koshi Tappu Wildlife Reserve where 90 birds were counted in 1999 during a partial survey (Dahal 2002), and an abundance estimate of 15.5 +/- 2.50 birds/km-2 was made in 2004 (Dahal *et al.*, 2009). A major flood ofthe Koshi River in 2008 was reported to have swept away almost 3 km of the eastern embankment - the best habitat for the species (Dahal 2009). A 2009 survey located only 25 birds, while in the same time period in 2004, 68 calling birds were recorded; representing a decrease of more than 70% (Dahal 2009). However other observers (H. S. Baral pers. obs., and B. Chaudhary pers. comm.) consider that the loss of the embankment was only about 2 km and that the population reduction was less than 50%. In 2010 a participatory monitoring programme started organised by the Koshi Tappu Wildlife Reserve Office and the Conservation and Sustainable Use of Wetlands in Nepal and will take place annually. The first survey is not yet completed but46 breeding pairs have been recorded so far (H. S. Baral).The species inhabits tall wet grassland and marshes. At Koshi excessive extraction of fuel wood, fodder, grasses and overgrazing by hundreds of livestock pose serious threats; in 2009 disturbance significantly increased during reconstruction work of the embankment that was breached as a result of the flood (Dahal 2009). At Shukla Phanta the species is threatened by habitat loss and damage caused by overgrazing, unintentional fire, hunting, drying of swamps during the breeding season and successional change in grasslands Singh (2007a).

Swamp Francolin *by Jyotendra Jyu Thakuri*

Coturnix chinensis Blue Quail (Blue-breasted Quail)

Nationally threatened status: CR A2ac, D1

Current status uncertain. Found up to 1280 m. Described as a scarce and widespread resident by Fleming *et al.* (1976) and as scarce, possibly resident at Chitwan by Inskipp and Inskipp (1991). Only three records since 1987: one seen at Chitwan in April 2001 (Malling Olsen 2004), two at Koshi on 8 March 2002 (Som GC in Baral 2002b) and one reported from Shivapuri National Park in July 2008 (Thakuri and Thapa 2009a). Earlier known records comprise three from Chitwan: singles in November 1979 (Woodcock 1979) and April 1980 (Inskipp and Inskipp 1980) and two in March 1987 (Meilstrup and Olsen 1987). Also single records from elsewhere: collected at Haraincha, Morang District in March 1936; Bilauri, Kanchanpur District in February 1937; Koshi River, Sunsari District in February 1938 (Bailey 1938), and in Kathmandu Valley in June 1963 (Fleming and Traylor 1968). Frequents wet grassland, field edges and scrub. A skulking species, so easily overlooked.Threatened by habitat loss and hunting.

Sarkidiornis melanotos Comb Duck

Nationally threatened status: EN C2a(i)b

Very rare, probably resident. Found below 250 m. Previously a local and uncommon resident, mainly recorded in the W terai (Inskipp and Inskipp 1991). A former resident at Shukla Phanta (Schaaf *et al.* 1980); a few recent reports from there, including a flock of 37 in February 2005 (Subedi 2010a), 31 in January 2009, an unusu-

ally high number of 193 from Tara Tal and Kalikitch Tal in January 2010 (Chaudhary 2010). A flock of 16+ were recorded at the Babai River crossing of the East West Highway, Banke District in May 1992 (R. Irvin *in litt.* February 1994; also recorded in the Ghodaghodi Lake system Kailali District where it used to breed (Baral 1992a,b); a flock of 19 there in February 2007 (Subedi 2010a) and seven in January 2009 (GC 2010). No recent records from Bardia where it was seen previously. Formerly seen more frequently at Koshi; occurred there in winter in small flocks (Inskipp and Inskipp 1991). Few recent records from there: two in February 1994 (Lama 1994a), two in January 1995 (Choudhary 1995b), 20 in February 1997 (Shakya 1997), one in March 2004 (Som GC *in litt.* April 2004) and two in February 2006 (Suchit Basnet and Badri Chaudhary verbally 2010). Rare at Chitwan: one seen in the Narayani River in February 1998 (Chaudhary 2004a) and one at Chitwan in December 2010 (Chaudhary 2010); also recorded at Bees Hazari Tal, Chitwan buffer zone (Baral 1996a). In Chitwan valley, Nawalparasi District singles seen in ricefields in Pithauli VDC in June 2001 and in marshes of Namuna Community Forest in October 2003 (Chaudhary 2004a). Inhabits pools in well-wooded areas. Threatened by habitat loss, disturbance and hunting.

Anas falcata Falcated Duck

Nationally threatened status: CR C2a(i),D1

Very rare winter visitor and passage migrant; 75-915 m. Formerly an uncommon, but regular winter visitor and passage migrant between November and April to Koshi Barrage and a few winter records from Begnas Tal, Shukla Phanta and Phewa Tal (Inskipp and Inskipp 1991). The maximum of 80 was recorded there in February 1974 (Madge *et al.* 1974). Numbers recorded have sharply dropped in the 1990s and subsequently. Only one or two now seen irregularly at Koshi e.g. two in February 1998 (Prince 1998) and in March 2004 (Kennerley and Karki 2004), and singles in February 2003 (Chaudhary 2003b), February 2005 (GC 2010), February 2006 (Mallalieu 2006b), March 2007 (GC 2010) and December 2008 (GC 2010). Other localities where recently recorded: Taudaha Lake, Kathmandu Valley two in February 1999 (Giri and Choudhary 1999) and one from January to March 2004 (Mallalieu 2008; A. van Riessen in litt. to C. and T. Inskipp January 2011), Rapti R., Sauraha, Chitwan in 1995 (Lama 1995b) and Jagdishpur Reservoir, Kapilvastu District, one in November 2006 (Giri and Chaudhary 2006). Inhabits lakes, reservoirs and large rivers. Threatened by habitat loss, disturbance and hunting.

Mycteria leucocephala Painted Stork

Nationally threatened status: CR D1

Now a very rare visitor; 75-250 m. No known records since 1993. Formerly a scarce summer visitor; only a few winter reports (Inskipp and Inskipp 1991). Previously mainly known from Chitwan from May to October (Gurung 1983) and occasionally seen at Koshi (Gregory-Smith and Batson 1976), with single records from a few other localities (Inskipp and Inskipp 1991). Only two reports since 1990, both from Koshi: eight in September 1992 (Lama 1992) and two in May 1993 (Lama 1993c). The other records are mainly of single birds from Koshi between March to September until 2010 (Badri Chaudhary verbally 2010). Inhabits large marshes. Threatened by habitat loss, disturbance and hunting.

Ephippiorhynchus asiaticus Black-necked Stork

Globally threatened status: Near-threatened

Nationally threatened status: CR D1

Very rare and local resident; number augmented by winter visitors; 75-300 m. Currently only recorded from protected areas except in the Koshi area. A total of 16 counted in protected areas in 1995 and a resident national population of 20 estimated (Baral 1996b). Recent records are almost all from Koshi: one to two pairs have recently bred at Koshi Tappu (e.g. Lama 1994a, Choudhary 1995/1996, Baral 2007b); ten seen in December 1998 (Choudhary 1998d), six in February 2000 (Choudhary 2000a), seven in February 2001 (Baral and GC 2001), two adults and four immatures in April 2001 (Inskipp and Inskipp 2001a), four in February 2003 (Chaudhary 2003b), three adults in February 2002 (Malling Olsen 2004), two adults and immature in February 2004 (Malling Olsen 2004), two adults and four young in March 2005 (van der Dol 2005), a pair in February 2006 (Mallalieu 2006b), two at a nest in November 2007 (Baral 2007b), two in April 2008 (Chaudhary 2008a), one in October 2009 (Baral 2009e) and one north of Koshi Barrage in November 2010 (Suchit Basnet verbally 2010). Very few recent records from Chitwan: two seen in February 2001 (Giri and Choudhary 2001a), the first there for several years and one in April 2003 (O'Connell Davidson *et al.* 2003). One seen at Shukla Phanta in March 1991 (Baral 1991), but only one later record: three were photographed in December 2010 by Uba Raj Regmi. Frequents marshes and large rivers in lowlands. Threatened by habitat loss, disturbance and hunting and trapping. India: widespread but rare.

Black-necked Stork *by David Cottridge*

Leptoptilos dubius Greater Adjutant

Globally threatened status: EN

Nationally threatened status: CR D1

Now very rare; no known records since 1995. Recent records are one in Siraha District in February 1992 (Lama 1994b), are two at Koshi in January 1995 (Choudhary 1995b), and two at Chitwan in December 1995 (Rasmussen and Strange 1995). Local people in the east found it a regular visitor about 40 years ago (H. S. Baral pers. obs.). Inskipp and Inskipp (1991) described it as a rare and erratic non-breeding visitor up to 250 m to the centre and east in 1980s and early 1990s, mainly to Koshi; a few records from Chitwan during the period. Inhabits marshes. Threatened by habitat loss and hunting and trapping. India: now locally common only in Brahmaputra valley, a rare visitor elsewhere. Bangladesh: rare resident or winter visitor. Only a small chance of recolonisation because of the species's rarity in the subcontinent.

Platelea leucorodia Eurasian Spoonbill

Nationally threatened status: CR A1a C2a(i) D1

Winter visitor and passage migrant. Formerly a regular visitor to Koshi; flocks of up to 70 regularly recorded (Inskipp and Inskipp 1991). Has sharply declined: 65 in March 1993 (Danielsen and Falk 1993), 30 in February 1998 (Prince 1998), eight in April 2001 (Inskipp and Inskipp 2001a), four in February 2002 (Ofner and Basnet 2002), four in February 2004 (Bray and Basnet 2004), two in March 2005 (van der Dol 2005), five in February 2007 (O'Connell Davidson and Karki 2007) and one in March 2010 (Baral 2010b). Inhabits marshes, lakes and large rivers. Threatened by wetland loss and degradation and by hunting.

Pelecanus philippensis Spot-billed Pelican

Globally threatened status: VU

Nationally threatened status: CR C2a(i), D1

Now a rare and irregular non-breeding visitor, 75 m. Previously a very uncommon, but regular non-breeding visitor, mainly February to May, stragglers remain until October (Inskipp and Inskipp 1991). All records since 19th century are from Koshi.The exceptionally high number of 120 was seen in March 1996 (Giri and Choudhary 1996); otherwise it was more frequent in 1980s when up to 12 were seen together. Recent known records include: one in September 1992 (Baral 1992b), five in February 1993 (Lama 1993a), one in June 1993 (Baral 1993a), four in February 1993 (Danielsen and Falk (1993) , two in January 1995 (Choudhary 1995e), four in March 2005 (Subedi 2010a), five in March 1996 (Daulne and Goblet 1996), three in February 1998 (Prince 1998), four in April 2001 (Inskipp and Inskipp 2001a), one in February 2002 (Malling Olsen 2004), two in May 2005 (GC 2010), one in May 2006 (GC 2010), one in February 2007 Choudhary (2007), one in May 2007 (GC 2010),. one in May 2008 (Giri 2008c) and one in March 2010 (Baral 2010b). Frequents large rivers. Threatened by food shortage and hunting.

Falco chicquera Red-necked Falcon

Nationally threatened status: CR A2a, C2a(i), D1

Very rare and local, possibly resident in the terai. Has sharply declined sharply. Described in 1877 as a very common breeding resident in Kathmandu Valley (Scully 1879) and not uncommon there in 1947 (Biswas 1960), but no recent reports from the Valley. In the 1980s Koshi was the one site where it was regularly seen, although uncommon there (Inskipp and Inskipp 1991). Now still mainly recorded at Koshi: two pairs bred successfully in 2010 at Koshi Tappu (Badri Chaudhary verbally 2010), three birds seen in March 2010 (Baral 2010b); two in September 1992 (Baral 1992b), March 1999 (Basnet and Holt 1999), February 2006 (Mallalieu 2006b), January 2007 (GC 2010) and December 2009 (Giri 2009d) and singles reported irregularly e.g. Baral (1991), Giri and Choudhary (1996), Inskipp and Inskipp (2001b), Cottridge and Tiwari (2002), Baral and Choudhary (2003), Malling Olsen (2004), van der Dol (2005), Choudhary (2007), and Giri (2008c). Other sites in centre and east where known to be recorded since 1990 (mainly singles): Kerabari, Morang District in January 1998 (Basnet 2003), Chitwan in December 2003 (Stratford 2004) and two in November 2007 (Subedi 2010a), two in Dharan forests IBA, Sunsari District in October 2007 (Basnet and Sapkota 2008, Basnet 2009b,c), Lumbini in March 2008 (Giri 2010a), and Khadara Phanta, Kapilvastu District (Mallalieu 2006a, Cox and Giri 2007, Cox 2008). Inhabits open country. Possibly threatened by pesticides.

Spot-billed Pelican *by Tim Loseby*

Red-necked Falcon *by Paul Sterry*

Falco severus Oriental Hobby

Nationally threatened status: CR D1

Very rare, current status uncertain. A few recent reports from the Kathmandu Valley, including one at Chobar Gorge, Kathmandu Valley in December 2008 (Thakuri and Thapa 2009b), but no records 2004-2006 (Mallalieu 2008). Only two other recent records: singles seen between Tapethok and Sekathum, Kanchenjunga Conservation Area in April 1994 (Halberg 1994) and at Ghandruk, Annapurna Conservation Area in November 2002 (Giri and Choudhary 2002d). Formerly bred in the Kathmandu Valley (Proud 1949) and a few records of single birds there in the early 1980s (Turton and Speight 1982, Suter 1983, Hurrell 1985). Formerly a rare winter visitor to Chitwan, but no recent records (Gurung 1983). Inhabits wooded hills in the tropical and subtropical zone; up to 1525 m. Threatened by deforestation and possibly also by pesticides.

Falco jugger Laggar Falcon

Globally threatened status: Near-threatened

Nationally threatened status: CR C2a(i), D1

Very rare, current status uncertain. Previously rare and possibly resident, recorded up to 1980 m; most often seen in cultivated areas of the terai; a few records from Chitwan and the Kathmandu Valley with scattered, mainly single reports from elsewhere (Inskipp and Inskipp 1991). Since 1990 known records have been of singles: at Koshi in March 1992 (Baral 1992b), February 1995 (Wheeldon 1995), April 2001 (Inskipp and Inskipp 2001b) and January 2002 (Giri 2002a); Chitwan in December 1991 (Wartmann and Schonjahn 1992), January 2004 (Malling Olsen 2004) and February 2005 (Giri 2005) ; also three records from the west in 1992: in January in Bardia District (Wartmann and Schonjahn 1992), in May at Bardia (R. Irwin in litt. February 1994), and in November between Butwal and Nepalganj (Mackenzie 1994), and Phulchoki in March 2010 (Giri 2010b). Inhabits open dry country and cultivation. Possibly threatened by pesticides.

Aviceda jerdoni Jerdon's Baza

Nationally threatened status: CR C2a(i), D1

Very rare and local, probably breeding resident; 250 m. First recorded for Nepal in March 1999 at forests near Dharan, Sunsari District (Basnet *et al.* 1999, Basnet *et al.* 2000); may have been overlooked previously. A pair regularly seen there subsequently, e.g. Giri and Choudhary (2000a), Giri and Choudhary (2001a) and in March 2008 (Basnet and Sapkota 2008, Basnet 2009b,c); a pair displaying and carrying food (Benstead and Benstead 2000). Singles seen in Chitwan in November 2000 (Giri and Choudhary 2000c) and in December 2003 (H. S. Baral *in litt.* January 2004); also one seen in western Raja Rani forest, Morang District in spring 2004 (Basnet *et al.* 2006). Found in broadleaved evergreen forest, a highly threatened habitat.

Haliastur indus Brahminy Kite

Nationally threatened status: CR A2a, C2a(i), D1

Now very rare. Has declined sharply. In late 19th century 'very common in plains and terai of Nepal where it may constantly be seen hunting over rice fields and marshy ground' (Scully 1879). In 1949-50 it was 'a common kite of the lowlands, usually near water and singly or in pairs' (Rand and Fleming 1957). Described as an uncommon resident mainly seen up to 360 m, most frequent in the E lowlands, especially the Koshi marshes, in Inskipp and Inskipp (1991). The maximum of three adults and one immature was seen at Koshi in April 1986 (Heath 1986). Has suffered a sudden and sharp decline since the 1980s when regularly seen at Koshi. Since 1990: singles at Shukla Phanta in January 1992 (Baral 1992b); in Sunsari District near Jhumka in December 1993 (Choudhary 1994b) and near Itahari in December 1997 (H. S. Baral pers. obs. 2004); at Chitwan in February 1994 (Cottridge *et al.* 1994), April 1999 (Harrap 1999) and May 2005 (Giri and Choudhary 2005b), near Trisuli Bazaar in May 2003 (H. Chaudhary in litt. September 2010); two near Danabari, Mai River, Ilam District in May 2006 (Basnet 2007a, Basnet and Sapkota 2006; 2007); also up to two young birds around Begnas Tal fish farms, Pokhara in winters 2006 to 2008 (H. S. Baral pers. obs.). Inhabits wetlands and paddy fields. Threatened by habitat loss and also possibly by pesticides.

Haliaeetus leucoryphus Pallas's Fish Eagle

Globally threatened status: VU

Nationally threatened status: CR C2a(i), D1

Very rare and erratic visitor. Formerly a scarce and local, but regularly recorded winter visitor below 305 m, and also a passage migrant recorded up to 2745 m (Inskipp and Inskipp 1991). One or two seen regularly at Koshi Tappu (Badri Chaudhary verbally 2010), with the maximum of four in March 1988 (Kall and Wallander 1988): singles in February 1995 (Wheeldon 1995) and May 1998 (Basnet 1998a), two in February 2000 (Baral 2000c), one in February 2001 (Baral and GC 2001), two in November 2002 (Basnet 2002b), two in February and March 2004 (Som GC *in litt.* 2004, Kennerley and Karki 2004), two in February 2005 (GC 2010), one in January and February 2006 (GC 2010), two in January 2007 (GC 2010), one in February 2008 (GC 2010, Tribe 2008) and one in January 2009 (GC 2010). Described as a rare winter visitor to Chitwan (Inskipp and Inskipp 1991) but only three recent records:

Pallas's Fish Eagle *by Tim Loseby*

singles seen in May 1993 (Roberts 1993), September 1999 (Chaudhary 2004a) and February 2008 (Subedi 2010a), two adults and an immature at Bishajar lake Bharandabar IBA, Chitwan buffer zone in October 2005 (Subedi 2010a). Singles seen at Bardia in January 1998 (Basnet 1998b) and Khairapur, Bardia District in January 2003 (Giri 2003). Resident at Shukla Phanta in 1980 (Schaaf *et al.* 1980), but not found there later. Inhabits large rivers and lakes. Threatened by food shortage and possibly also by pollution, including pesticides.

Haliaeetus albicilla White-tailed Eagle

Globally threatened status: Near-threatened
Nationally threatened status: CR C2a(i), D1

Rare winter visitor and passage migrant; formerly a scarce and local but regularly recorded winter visitor up to 915 m (-1370 m). The maximum of four seen at Koshi in February 1989 (Kennerley and Turnbull 1989) and February 1994 (Cottridge *et al.* 1994); one or two recorded there regularly (Badri Chaudhary verbally 2010) e.g. in February 2000 (Choudhary 2000a, Basnet 2000a), December 2001 (Naylor *et al.* 2002a), November 2002 (Basnet 2002b), February 2003 (Chaudhary 2003b), February 2004 (Choudhary 2004), March 2005 (van der Dol 2005), April 2006 (GC 2010), December 2007 (Chaudhary 2007b), January 2008 (Tribe 2008) and winters of 2009 and 2010 (Badri Chaudhary verbally 2010). In 1979 seven birds were seen at four Nepal localities (Lambert 1979, Redman and Murphy 1979). Since at least 1990 there has been a decrease in records from other sites. Singles at Chitwan in December 1991 (Mackenzie 1994), February 1998, December 2000 (Chaudhary 2004a), two in February 2005 Sisuwar area Budhi Rapti River, Chitwan (Subedi 2010a), one in January 2010 (Baral 2010a and Giri 2010b) and one in February 2010 (Subedi 2010a). One at Gokarna, Kathmandu Valley in January 1992 (Baral 1992b), two at Bardia in February 1995 (Wheeldon 1995), one at Pokhara in March 1996 (Daulne and Goblet 1996), two records of singles in the Kathmandu Valley in December 2005 (Mallalieu 2008; A. van Riessen to C. & T. Inskipp January 2011). Inhabits large rivers and lakes. Threatened by habitat damage, food shortage and possibly also by pollution including pesticides.

Ichthyophaga humilis Lesser Fish Eagle

Globally threatened status: Near-threatened
Nationally threatened status: CR C2a(i), D1

Now very rare. Widely recorded resident in the past, up to 915 m. Inskipp and Inskipp (1991) described it as 'a scarce and local resident that has apparently declined in the previous 40 years'. Most earlier records are from Chitwan where it was once a rare breeder (Gurung 1983); several sightings from five other localities in the 1980s. The decline has continued since 1990. Recent records are singles from Chitwan in March 1992 (Anon. 1992a), November 1992 (Baral 1992b), March 1994 (Weiss and Wettstein 1994), March 2000 (Choudhary 2000b), May 2003 (Cox 2003b) and March 2010 (Giri 2010b). Singles also recorded between Dharan and Koshi, Sunsari District in June 1995 (Cox 1995; 1998); at Garuwa, Ilam District in April 1997 (White and White 1997), Bardia in January 1998 (Basnet 1998b) and February 2009 (Shahi 2010) and, Bakarmodja, Kapilvastu District in April 2007 (Cox 2008). Inhabits forested streams and lakes. The species's scarcity at Chitwan in 1978 was attributed to food shortage caused by overfishing (Thiollay 1978) and could be a major factor at other sites. Also threatened by habitat loss and possibly pollution, including pesticides.

Ichthyophaga ichthyaetus Grey-headed Fish Eagle

Globally threatened status: Near-threatened
Nationally threatened status: CR C2a(i), D1

Rare and local resident at about 250 m. Mainly occurs in Chitwan and in the buffer zone including Bees Hazari Tal area, where it breeds in small numbers (Adhikari *et al.* 2000, Choudhary 2004b, Byskov 2007, Giri 2007). Seven birds were seen there in February 2000 (Ghimire 2000a) nine adults and six immatures in March 2005, four adults and two immatures in December 2007, three adults and two immatures in both March 2008 (Subedi 2010a), seven birds in Janunary 2009 (Subedi *et al.* 2009), and three adults and two immature in 2010(Subedi 2010a). Two to four birds recorded in Chitwan from 1991-2010 including one or two on nest at Tamar Tal in February 2006 and April 2008 (GC 2010); also three seen in March 1991 (Baral 1991) and April 2004 (Chaudhary 2004a), three adults and one immature in February 2009 (Subedi 2010a) and February 2010 (Baral 2010a). Three in March 1991 and January 1992 at Shukla Phanta (Baral 1991, Baral 1992b) and singles in April 2001 (Inskipp and Inskipp 2001a) and December 2002 (Baral *et al.* 2002a); has bred in the reserve close to Bahuni Khola and at Rani Tal (Baral 1996c) Other recent records: two at Ghodaghodi Tal, Kailali District (Baral 1992a); singles at Phewa Tal Kaski District in May 1993 (Roberts 1993), Kerabari, Morang District in April 1998 (Basnet 2003), Bardia in January 2003 (Giri 2003) and in February 2005 (van der Dol 2005), Belwa, Bara District in April 2003 (Cox 2003b), Dharan forests IBA, Sunsari District in March 2008 (Basnet and Sapkota 2008, Basnet 2009b), and Dang Deukhuri IBA in June 2009 (Thakuri 2009a,b; 2010). Inhabits slow-moving waters and lakes in wooded country. Threatened by habitat loss, shortage of prey, and possibly also pollution including pesticides.

Grey- headed Fish Eagle *by Tim Loseby*

White-rumped Vulture *by Jyotendra Jyu Thakuri*

Gyps bengalensis
White-rumped Vulture

Globally threatened status: CR
Nationally threatened status: CR A2ace

Resident and patchily distributed; has declined by more than 90% (Baral *et al.* 2004). now rare in centre and east and generally uncommon in the west. Formerly common and widespread resident up to 1000 m, summering up to 1800 m (-3100 m) (Inskipp and Inskipp 1991). Population decline may well have been overlooked for some time because the species was so abundant. Populations have been studied at Koshi, Chitwan, Rupendhi District, Rampur valley, Bardia and Shukla Phanta between 2000 and 2003, and most studies were continued in 2004. Almost all are suffering from high mortality and high nesting failure (Baral *et al.* 2002a,b; Baral and Gautam 2002; Baral *et al.* 2003, Baral 2002a; Giri and GC 2002a,b; GC and Giri 2003a, b; Gautam *et al.* 2003a, b; Giri *et al.* 2004; Giri and GC 2005. For instance, the number of nests in the Koshi area showed a massive decline, along with the population, from 61 nests in 2001 to only three nests in 2004. The number of fledged chicks was only 19 in 2001 and two in 2004 (Baral *et al.* 2004). In Rupendahi District numbers of White-rumped Vultures dropped from 310 in April 1993 to 160 in July 2000 and 64 in March 2002 (Baral *et al.* 2002b).

In the 2002/2003 breeding season 71 nests were found at Bardghat, Nawalparasi District, 11 more were located further west and more could possibly be found with more survey work (Baral and Chaudhary 2003). In Dang District a partial survey in 2003 found 51 nests (Baral and Chaudhary 2003).

Breeding colonies have been monitored in Rampur valley, Kaski District between 2002 and 2010 (Gautam and Baral 2009b, 2010xxb). In the 2009/10 breeding season the estimated population size was 62 in Rampur; a 57.2% decline since 2002 with an average annual decline rate of 7.1%. However there had been no incidence of mass mortality in vulture populations during the study period. Gautam and Baral (2010b) consider it is unclear where these vultures have gone and suggest breeding failures, destruction of nesting habitats and out migrations of vultures as possible explanations. In 2009/10 for the first time during the monitoring period, there was a marked decline in the number of carcasses encountered in Rampur (Gautam and Baral 2010b). Totals of 22 occupied, 14 active and 5 productive nests were recorded in Rampur between 2002 and 2010. Since 2002, declines in occupied, active and productive nests were 68.6%, 72.5% and 85.7%, respectively. In 2009/2010 the breeding success was 36% based on active nests and 23% based on occupied nests. An average rate of decline in the breeding success since 2002 was 6.7% per year based on occupied nests and 5.9% per year based on active nests (Gautam and Baral 2010b).

Breeding colonies in Syanja District and Tanahu District have been monitored since 2004. The situation in Syanja and Tanahu was found to be much better than that in Rampur. Although the trend in White-rumped Vulture population is declining, the rate of decline is slower than in Rampur.The estimated population size in Syanja and Tanahu was 35 in 2009/2010. Since 2004 the estimated population size increased slightly in the beginning, then declined gradually and then increased slightly towards the end of study period. In 2009/2010 there were 20 occupied, 13 active and 8 productive nests. Although breeding success has declined slowly over the past six years, there have been no sharp declines in the number of occupied, active and productive nests. The breeding success was 61% and 40% based on active nests and occupied nests, respectively in 2009/10. The rate of carcasses encountered in Syanja and Tanahu remained more or less the same during the period (Gautam and Baral 2010b).

Monitoring of populations and breeding success were carried out in Pokhara valley between 2006 and 2010. There has been a gradual population decline during the period; in 2009/10 total of 11 birds was recorded. There was a significant increase in the numbers of occupied, active and productive nests between 2006/07 and 2007/08 but since then have been declines in these numbers. were In 2009/10 there were five occupied nests with breeding success 50% and 20% based on active and occupied nests respectively (Gautam and Baral 2010a).

The species is showing signs of recovery at some sites. Numbers of birds and nests have increased at Nawalparasai in response to the creation of a Vulture Safe Zone (see case study). The number of nests at Koshi declined from a total of 67 in 2000-2001 to zero in the year 2003-2004, but in 2009/2010, 432 nests were located (Chaudhary and Baral 2010). In 2008/09, 24 nests were found in Dang Valley (Bijour VDC) and and 12 in 2009/10 (Anand Chaudhary *in litt.* August 2010).

In 2009/10 several new nesting colonies were located by BCN: 13 nests including seven with chicks in Argakhachhi District; 18 nests including 13 successful nests in Rudrapur Community Forest, Rupandehi District; nine nests in the western part of Dang-Deukhuri Foothill Forests IBA, and 31 nests with 100% breeding success in Khutia Area of Kailali District. Also 45 nests in Kalakate area in the eastern part of Dang-Deukhuri IBA, close to a safe feeding site as opposed to nine the previous year (Anand Chaudhary *in litt.* August 2010).

Poisoning by scavenging carcasses containing diclofenac, a drug used to treat livestock ailments,has been show to be the major cause of the species's decline (Oaks *et al.* 2004). The Government of Nepal banned the manufacture and import of diclofenac in 2006. In addition the introduction of the vulture-safe drug meloxicam is likely to have reduced the demand for diclofenac for veterinary uses. Gautam and Baral (2010b) point out that the use of human diclofenac for veterinary uses cannot be ruled out. In 2009 the Government of Nepal approved the Vulture Conservation Action Plan (DNPWC/MoFSC/GoN 2009). The Action Plan emphasises the set up of captive breeding centres and the provision of safe food in zones close to breeding colonies. Baral *et al.* (2005) highlighted the destruction of nesting trees by private landowners is a major challenge at Rampur. Efforts have been made to work with some local communities to protect nesting trees (Gautam *et al.* 2003 a, b). Other factors such as food shortage, poisoning of carcasses, pesticide use and human persecution may be causing a gradual decline in the long term (Gautam and Baral 2009b, 2010b). Found in cultivation and around human habitation.

Gyps tenuirostris Slender-billed Vulture

Globally threatened status: CR

Nationally threatened status: CR A2ace, C2a(i), D1

Local resident; has declined by more than 90% (Baral *et al.* 2004); now , very rare in the east and very uncommon in the centre and west. Formerly fairly common and widespread resident, mainly below 350 m, summering up to 1525 m (Inskipp and Inskipp 1991). Its pattern of population decrease is very similar to that of White-rumped Vulture; all populations studied between 2000 and 2003 are suffering from high mortality and high nesting failure. The decline was probably also overlooked for some years because of its broad distribution and abundance.

In 2003 eight birds and one nest (success not known) were found in Nawalparasi District (Chaudhary 2004a). At Bardia only three birds and one successful nest were located in 2003 (GC and Giri 2003a, b). At Shukla Phanta in 2002, 22 birds and seven nests were found although only one was successful (Baral *et al.* 2002a, Giri and GC 2002a, b). In 2003 a similar number of 21 birds were seen but no nests were located at the reserve (GC and Giri 2003a, b).

Slender-billed Vulture *by Anand Chaudhary*

No signs of any recovery in population or nests since 2004.

Monitoring of populations and breeding success were carried out in Pokhara valley, Kaski District between 2006 and 2010. There were seven oocupied and four productive nests in the 2006/07 breeding season, five occupied nests but no productive nests in the 2007-08 breeding season, and total breeding failure in 2008-09 and 2009-10. (Gautam and Baral 2010a).

In Kalakate area in eastern part of the Dang-Deukhuri IBA, close to a safe feeding site BCN found one a nest in the 2009/10 breeding season, but it failed (Anand Chaudhary *in litt*. August 2010).

Since 2004 almost all records have been from the western and central lowlands and lower hills. Records are mainly of groups of up to four birds e.g. the maximum of three in Rampur valley, Kaski District in January 2010, during the 2009-10 vulture breeding season (Gautam and Baral 2010a). The largest concentrations recorded were 16 at Chitwan in February 2010 (Baral 2010a) and 14 at Shukla Phanta in February 2009 (Giri 2009c). Vulture populations were monitored in the Pokhara valley, Kaski district between 2006 and 2010: the maximum number of birds recorded in the period gradually declined to five birds in 2010 (Gautam and Baral 2010a). Only a single known record from the east since 2004: one bird at Koshi in October 2009 (Baral 2009e). No records in the Kathmandu Valley from at least 2004-2006 (Mallalieu 2008).

Poisoning by diclofenac is the major cause of the decline of this vulture species –see White-rumped Vulture account. The destruction of nesting trees could be a major problem in the Pokhara valley where private land owners fell many nesting trees (Gautam and Baral 2010a). Found in cultivation and around habitation.

Sarcogyps calvus Red-headed Vulture

Globally threatened status: CR

Nationally threatened status: CR A2ace

Resident; now uncommon in the centre and west and no recent records from the east. Formerly fairly common throughout, mainly found up to 2000 m (-3050 m) (Inskipp and Inskipp 1991). Has sharply declined in at least some areas e.g. Pokhara – Jomosom and return trek: 11 sightings, with the maximum of three together in December 1977 (Inskipp and Inskipp 1977; 20 sightings between 4 February 1982 and 5 March 1982 (Turton and Speight 1982), but only two seen in January 2001 on the same trek (Collins and Grindle 2002). Since 2004 sightings of one or two birds recorded irregularly in the centre and west in the lowlands and lower hills. Gatherings have been recorded at several localities: five resting on a cliff by Tinau River on the way to Palpa Barthung in August 2005 (Subedi 2010), seven by Mahakali River near Tanakpur in the west in March 2006 (Subedi 2010), nine at Chisapanitar, Mahabharat Hills, Chitwan in February 2008 (Subedi 2010), six on

Red-headed Vulture *by Jyotendra Jyu Thakuri*

the road between Pokhara and Chitwan in February 2008 (Giri 2008b), and five near Jagdishpur, Kapilvastu District in November 2008 (Subedi 2010). Frequents open country near habitation. Sharp decline in India has been attributed to the use of diclofenac on livestock (Cuthbert *et al.* 2006) and it seems likely this is also causing the species's decline in Nepal.

Aegypius monachus Cinereous Vulture

Globally threatened status NT

Nationally threatened status: EN, 2, C2a(i), D1

Resident; now generally very uncommon, especially in the east. Formerly an uncommon winter visitor up to 2900 m, most frequently seen in central Nepal and eastwards (Inskipp and Inskipp 1991). Has declined in some areas.Formerly fairly common at Koshi (Inskipp and Inskipp 1991) with up to seven in February 1996 (Harrap 1996). Now seen there irregularly; records include two in February 2005 (Baral and Birch 2005) and two in February 2009 (Baral 2009c). Fairly common at Pokhara in the past and small numbers still regularly recorded there e.g. four in December 2007 (Naylor and Metcalf 2007) and three in March 2008 (Rose and Baral 2009). Concentrations still reported recently including 10 in

Cinereous Vulture *by Jyotendra Jyu Thakuri*

Chitwan in December 2003 (Chaudhary 2004a), 17 at Chisapanitar in the Mahabharat Hills, Chitwan in November 2005 (Subedi 2010a), and 11 at Bardaghat, Nawalparasai District in February 2007 (Subedi 2010a). Recent records from other sites include two at Bardia in February 2005 (van der Dol 2005), in December 2007 (Giri *et al.* 2008) and in January 2008 (Shahi 2010); two at Jagdishpur, Kapilvastu District in January 2010 (Giri 2010b), three at Jatayu vulture restaurant Nawalparasai District in January 2009 (Subedi 2010a), singles at Lumbini in December 2006 (Giri 2010b) and in December 2007 (Giri *et al.* 2008) and two in Dang Deukhauri IBA in January 2009 (Thakuri 2009a,b). Inhabits open country. Use of diclofenac may be having a negative effect on Cinereous Vulture.

Aquila hastata Indian Spotted Eagle

Globally threatened status: VU

Nationally threatened status: EN C2a(i), D1

NB Recent information indicates previous confusion between this species and Greater Spotted Eagle; however, the last species has also declined in Nepal.

Rare resident; 75-350 m. Regularly recorded recently from Lumbini, Chitwan and Koshi. Single pairs found nesting in Lumbini, Rupandehi District in July 1994 (Giri and Manandhar 1994), January 2006 (Mallalieu 2006a) and November 2006 (Giri 2010a), and at Chitwan in 1996 (Basnet 1996), also three birds, including one displaying, at a different Chitwan site in 1996 (Baral 1996c). The maximum of four seen at Lumbini in May-June 2009 (Ramond and Giri 2009) and four at Koshi in November 2002 (Cottridge and Tiwari 2002). Recent records from other sites: three at Khadara Phanta, Kapilvastu District in November 2006 (Giri 2010a), two at Bardia in November 1997 (Choudhary 1998a) and one in May 2007 (Shahi 2010), Ghodaghodi Tal, Kailali District in April 1993 (Baral 1993a), and singles at Shukla Phanta in May 1998 (Baral 1998e) and May 2010 (Baral 2010a), Birthamod, Jhapa District in February 1994 (Cottridge *et al.* 1994), Hetauda, Makwanpur District in December 1995 (Rasmussen and Strange 1995), Mugling, Chitwan District in December 2001 (Naylor *et al.* 2002a),Taudaha, Kathmandu Valley in March 2004 (Kennerley and Karki 2004), Jagdishpur, Kapilvastu District in August 2007 (Baral and Shah 2007) and in Gundrahi Dhakaha Community Forest Nawalparasi district in January 2010 (Chaudhary 2010). Inhabits wooded areas. Threatened by food shortage and possibly also by pesticides.

Aquila clanga Greater Spotted Eagle

Globally threatened status: VU

Nationally threatened status: EN C2a(i), D1

May have been confused with Indian Spotted – see that species account. Rare winter visitor, mainly up to 250 m, and passage migrant noted up to 3840 m. Inskipp and Inskipp (1991) described it as uncommon and regularly recorded north-west of Pokhara, Chitwan, Kathmandu Valley, Koshi Barrage and north of Sunischare, Jhapa District. Since 1990 most regularly recorded from Koshi with the maximum of four in November 2000 (Basnet and Dowling 2000), three in February 2001 (Baral and GC 2001) and one or two birds in most other years since 1991. Other sites recently known


Greater Spotted Eagle *by Prasad Ganpule*

to be recorded (mainly single birds): Kathmandu Valley (Eadson 1993, Choudhary 1995/1996, Giri 2005), Pokhara (Baral 1992b, Giri 2008b), Chitwan (Malling Olsen 2004, Choudhary 2004; Byskov 2007), Langtang National Park (O'Connell-Davidson *et al.* 2001), Nepalgunj (van der Dol 2005), Bardia (Baral 1992b, van der Dol 2005), road between Kathmandu and Pokhara (Baral 1992b, Kelly 2005), road between Chitwan and Kathmandu (Giri 2005), Khadara Phanta, Kapilvastu District (Cox and Giri 2007, Cox 2008), Dang Deukhuri IBA (Cox 2008; Thakuri 2009a,b; 2010) and at least two in Lumbini and Rupandehi Districts (Mallalieu 2006a). Inhabits large rivers and lakes, prefers wooded areas near water. Threatened by food shortage and possibly also by pesticides.

Aquila rapax Tawny Eagle

Nationally threatened status: CR A2a, D1

Now very rare; no known records since 2002. Possibly former resident up to 250 m. Described as very uncommon in Inskipp and Inskipp (1991). Formerly recorded from the far west to the far east e.g. singles in May 1982 at Shukla Phanta and between Bardia and Nepalganj (Inskipp and Inskipp 1982); uncommon winter visitor, possibly breeding at Chitwan (Gurung 1983); singles at Koshi marshes in February 1981 (Porter *et al.* 1981), March 1982 (Robson 1982), November 1984 (Andersen *et al.* 1986) and March 1988 (Kall and Wallander 1988); maximum of five there in May 1982 (Inskipp and Inskipp 1982). The only recent records are singles at Koshi in 1999 (Tika Giri verbally 2004), November 2001 (Koshi Camp 2001) and in January 2002 (Giri and GC 2002c). Inhabits open wooded country and cultivation. Threatened by food shortage and possibly also by pesticides.

Aquila heliaca Eastern Imperial Eagle (Imperial Eagle)

Globally threatened status: VU

Nationally threatened status: CR C2a(i), D1

Passage migrant and winter visitor, mainly 75 m (-1370 m). Up to 1990 uncommon with several records each from the Pokhara and Kali Gandaki valleys, Chitwan, Kathmandu Valley and Koshi (Inskipp and Inskipp 1991). Has declined since and most recent records have been from Koshi in February: three in February 1993 (Flack 1993); two in February 2005 (Baral and Birch 2005), March 2005 (van der Dol 2005) and February 2006 (Mallalieu 2006b), four in December 2007 (Chaudhary 2007) and singles in most other years, e.g. February 1995 (Wheeldon 1995), February 1998 (Prince 1998), February 2000 (Choudhary 2000a), December 2001 (Naylor *et al.* 2002a), February 2002 (Arlow 2002), February 2004 (Choudhary 2004), February 2007 (Baral 2007a), November 2008 (Chaudhary 2008b), December 2009 (Giri 2009d) and March 2010 (Baral 2010b). Other sites where known to be recorded since 1990 (mainly singles): District: Shukla Phanta in March 1991 (Baral 1991), Phewa Tal, Kaski District in September 1992 (Salzman and Salzman 1992), Kathmandu Valley in January 1992 (Lama 1993a) and November 1995 (Rasmussen and Strange 1995), between Namche Bazaar and Kyangsuma in Sagarmatha National Park in April 2001 (Malling Olsen 2004), Lumbini in January 2006 (Mallalieu 2006a) and December 2007 (Giri *et al.* 2008), Kapilvastu District west of Lumbini in January 2006 (Mallalieu 2006a), and Bardia in February 2008 (Shahi 2010). Inhabits large rivers and lakes; open country. Threatened by food shortage and possibly also by pesticides.

Lophotriorchis kienerii (Hieraaetus kienerii) Rufous-bellied Eagle

Nationally threatened status CR A2c, C2a(i), D1

Probably a former resident; 200-300 m. Previously scarce. First recorded by the Rapti River in November 1970 (Inskipp *et al.*1971). Subsequently singles recorded at Chitwan in October 1978 (Thiollay 1980) and November 1979 (Curry-Lindahl 1979), near the Arung Khola in March 1982 (Parr 1982), near Dharan in April 1986 (Mayer 1986), Kosi Tappu in October 1987 (Heinen 1988) and two at Bardia in February 1988 (Smith 1988). Only a few known records since 1990: singles seen at Thakurdwara, Bardia in December 1998, in Dharan forests IBA, Sunsari District in December 1999 (Giri *et al.* 1999), and in December 2008 and in January 2009 at Shukla Phanta (Baral 2008c and Hathan Chaudhary verbally 2010). Inhabits evergreen and moist deciduous broadleaved forest. Threatened by forest loss and degradation.

Houbaropsis bengalensis Bengal Florican

Globally threatened status: EN

Nationally threatened status: CR A2ac, C2a(i), D1

Rare and local, probably resident; below 305 m. Regularly recorded in three protected areas. Shukla Phanta has the largest population; eight to nine males and two females were recorded in April-May 2007 (Poudyal *et al.*, 2008a,b,c); 12 males recorded in May 2000 (Baral *et al.* 2001, Baral *et al.* 2003b, Tamang and Baral 2000; 2001). Similar numbers (13 males and two females) were recorded there in May 1982 (Inskipp and Inskipp 1983) and a slightly higher number in spring 1990 (14 males and three females (Weaver 1991). At Chitwan 8-21 birds were seen in 1982 (Inskipp and Inskipp 1983), only four birds (three males and a female) in 2001 (Baral *et al.* 2003b, Tamang 2001; Tamang *et al.* 2001) and five to seven males

in 2007 (Poudyal 2007). At Bardia only one to two males were seen in 2007 (Poudyal *et al.*, 2008a,b,c); five birds (three males and two females) in 2000 (Baral *et al.* 2003), six birds (five males and a female) in 1990 (Weaver 1991) and eight to nine males and two females in 1982 (Inskipp and Inskipp (1983). The most recent study has estimated 28 to 36 Bengal Floricans in Nepal (Poudyal *et al.* 2008a). Overall in the three protected areas (Shukla Phanta, Bardia and Chitwan) which support almost all of the Nepal population, there has been a decrease of 30% between 2001 and 2007 and 56% between 1982 and 2007 (Poudyal *et al.*, 2008a,b,c). Recent records from the Koshi, area- the only area the species has been recorded in recent years - are a female in January 2003 (Giri and Choudhary 2003a); a male in Devighat, north of Koshi Tappu on 16 April 2004 (Giri and Choudhary 2004b), probably the same bird at the same site on 27 May 2004 (Badri Choudhary verbally 2004) and one male there in February 2007 (Badri Chaudhary verbally 2010), also one seen at Chakarghatti, north of Koshi Tappu in March 2005 (GC 2010) and a female in April 2010 at Kusaha (Badri Chaudhary verbally 2010).There were also several records from the Koshi area in the 1980s (Inskipp and Inskipp 1991). Inhabits grasslands with tall bushes, sometimes in cultivation. Threatened by loss of suitable grassland habitat, unsuitable habitat management by ploughing, grass harvesting and intensive burning (e.g. a burnt nest with four eggs found in March 2002, Chaudhary 2004a), and by disturbance and susceptibility to predators.

Sypheotides indicus Lesser Florican

Globally threatened status: EN

Nationally threatened status: CR A2ac, C2a(i), D1

Very rare summer visitor; mainly up to 250 m (-1310 m). Only four recent confirmed records: a female in Koshi Tappu in June 1995 (Cox 1995), two males in Chitwan in April 1996 (Choudhary 1996b) and one there in May 1999 (Chaudhary 2004a); also a male at Bardia in June 2005 (Giri and Choudhary 2005b). Formerly recorded more frequently but may have only been a non-breeding monsoon visitor to Nepal largely dependent on monsoon rains. A few records in the 1980s from Bardia (Inskipp and Inskipp 1983, Suwal and Shrestha 1988a), but an 11 day survey specifically for the species in the park in May 2000 failed to find it (Timilsina *et al.* 2000). Also a few 1980s records from Chitwan, e.g. in 1983 Tika Giri (*in litt.* 2004), Couronne and Kovacs (1986), Halberg (1987). One undated record from Shukla Phanta (Heinen 1988). Earlier records are from the Kathmandu Valley (Fleming and Traylor 1961) and Rapti Dun (Diesselhorst 1968) where suitable habitat no longer exists. Inhabits grasslands, sometimes in cultivation. Threatened by habitat loss.

Rallina eurizonoides Slaty-legged Crake

Nationally threatened status: EN C2a(i), D1

Probably a very rare and very local summer visitor; 250-375 m. Recorded every year 1986 up to at least 2001; arrives end May/early June near Tiger Tops, Chitwan; the first breeding record was Sept 2001, when an adult and four chicks seen (Tamang 2002, Chaudhary 2003a, Inskipp 2004). Regularly recorded from Namuna Community Forest, Nawalparasai district in the last few years (Chaudhary 2007a, D. B. Chaudhary verbally to C. Inskipp December 2010); also recently recorded from Pithauli VDC, about one km from Namuna Community Forest, Krishnashar Community Forest, Gundrahi Dhakaha Community Forest and also in the adjoining Tiger Tops Tharu compound (D. B. Chaudhary verbally to C. Inskipp December 2010). Species is known to local Tharu communities as the Deucaugha – the God crow bird which is going to break the dam of water, i.e. predicting it will rain soon (D. B. Chaudhary verbally to C. Inskipp December 2010). Considered a vagrant by Inskipp and Inskipp (1991) as only one record then known since the 19th century: three seen west of Hetauda in June 1957 (Fleming and Traylor 1961, Fleming 1968). Inhabits marshes in forest and well-wooded country. Secretive species so easily overlooked. Threatened by habitat loss, hunting and disturbance.

Rallus aquaticus Water Rail

Nationally threatened status: CR C2a(i), D1

Rare and very local winter visitor; below 120 m (-1340 m). Chiefly single birds recorded irregularly at Koshi e.g. February 1998 (Prince 1998), March 2004 (Kennerley and Karki 2004), February 2005 (GC 2010), and February 2009 (Badri Chaudhary verbally 2010) but at least three there in February 1993 (Lama 1993a). Other records are from the Kathmandu Valley (Fleming *et al.* 1976), Bilauri,Kanchanpur District in January 1937 and Haraincha, in the south-east in February 1938 (Bailey 1938). Inhabits marshes, reedbeds and wet fields. Secretive species so easily overlooked. Threatened by habitat loss, hunting and disturbance.

Porzana bicolor Black-tailed Crake

Nationally threatened status: EN C2a(i), D1

Status uncertain. Only two records: four seen in October 1999 in a small marsh south of Jiri Bazaar, Dolakha District at 1925 m (Choudhary 1999a) and one calling in November 2005 at Saisima, Makalu Barun National Park at 2135 m (Inskipp 2006, Giri & Choudhary 2006a) and one calling at Dobato, Ilam District at 2600m (Baral *et al.* 2010a). H. Stevens had three birds brought to him in May 1912 and was told they were caught on the Nepal/Darjeeling border between 3660 m and 3960 m, but he was doubtful of the claim (Stevens 1925a, Inskipp and Round 1989). May be under-recorded because of secretive behaviour. Outside Nepal recorded in pools or marshy areas, sometimes in forest, and dense undergrowth at paddy-field edges. Secretive species so easily overlooked. Threatened by habitat loss.

Grus antigone Sarus Crane

Globally threatened status: VU

Nationally threatened status: EN C2a(i)

Uncommon and local resident in the WC terai; 75-300 m. In 1992 a survey of the terai showed that the distributional range of the species stretched from Shukla Phanta to Chitwan and that the species was declining due to deterioration of wetlands (Suwal and Shrestha 1992a). Farmlands of Rupandehi and Kapilvastu Districts are the only areas where it breeds regularly. A survey carried out in

Sarus Crane *by Jyotendra Jyu Thakuri*

October – December 2003 counted 76 adults and 23 immatures in Rupandehi District and 55 adults and 13 immatures in Kapilvastu District (Aryal 2004). A total of 62 distinct individuals was recorded in Kapilvastu District between 16-27 April 2007 with a flock of 23 in the Banganga R. grassland (Cox 2008). A 2009 survey of the farmlands of Lumbini IBA which lies in Rupandehi and Kapilvastu Districts found the species density was 0.516 cranes per km^2 and based on this figure the population was estimated to be 503.69 cranes (Paudel 2009a,b). The 2009 species density showed a decline compared to 1994 when a comparable study found a crane density of 0.6 per km^2 (Suwal 1994). The largest count of 104 birds was carried out by the Dano river, Lumbini in April 2009 (Ramond and Giri 2009). Other recent records are from Shukla Phanta where it is a rare visitor or resident, e.g. seen in 1997 (H. S. Baral *in litt.* 2000), three seen in July 2010 (Jyotendra Thakuri *in litt.* August 2010), a pair breeding near Kalikitch Tal in 2010 (Prakash Man Shrestha verbally 2010) and five seen there in December 2010 (Uba Raj Regmi verbally December 2010). In Kapilvastu District regularly feeds in fields adjacent to Khadara Phanta (Cox and Giri 2007), seven seen in the District in April 1993 (Baral 1993a), and at Jagdishpur Reservoir, Kapilvastu District a total of 11 was seen in December 2006 (Giri 2010a), two in December 2007 (Shahi 2010) and eight in March 2008 (Giri 2010a). Two were recorded at Nepalgunj in August 2010 (Shahi 2010). A 1988 survey of the west terai found the species much more widespread, though uncommon, and extending east to Chitwan (Suwal and Shrestha 1988b); now considered only a vagrant to the park (Baral and Upadhyay 2006, Baral 2006c). In the 1870s it was common in the terai (Scully 1879) and its range probably extended from east to west Nepal. Drainage of wetlands is the major factor in its decline, but where human disturbance is low, cranes still survive; conversion of farmland to village settlements and other developments, such as housing, road construction and industrialisation are more damaging and are now a significant threat. Power lines that stretch across the rural farmland are problems for these low-flying birds. Vandalising of nests and the theft of eggs or chicks are frequent at some sites, especially in Kapilvastu District (Suwal 2002, Aryal 2004). Water pollution from untreated industrial waste and the use of agrochemicals are also significant threats (Prentice and Shrestha 1989, Aryal 2004). In the Lumbini Crane Sanctuary, the roosting, nesting and feeding grounds of Sarus Crane were found to be degraded due to grass harvesting, grazing, fire, drought and immense human pressure, including the use pesticides, fertilisers, and pollution from domestic waste (Paudel 2009a,b) Inhabits cultivation in well-watered country.

Esacus recurvirostris Great Thick-knee

Nationally threatened status: CR C2a(i), D1

Current status uncertain. Has declined since mid 1990s, now rare. Recent records are mainly from Koshi at about 75 m: up to six birds frequently seen up to 2004 e.g. Suchit Basnet, Hathan Choudhary and Dinesh Giri verbally 2004; the unusually high number of 21 was recorded in November 1995 (Choudhary 1995b). Two were seen in March and April 2005 (GC 2010), one in February 2006 (Mallalieu 2006b), three in February 2007 (Choudhary 2007), one February 2008 (GC 2010) and in April 2008 (Chaudhary 2008a), five in February 2009 (Badri Chaudhary verbally 2010), and two in March 2010 (Baral 2010a, b). In Bardia almost 20 were seen along Karnali River in October 1996 (Giri and Choudhary 1997), five there in December 1998 (Choudhary 1999d), two in January 2003 (Giri 2003) and one in February 2009 (Shahi 2010). The only recent records from Chitwan are three in March 1999 and two in April 2000 (Chaudhary 2004a); also recorded in October 2008 and May 2006 (A. van Riessen in litt. to C. & T. Inskipp January 2011). Also recorded from the Mai River near Danabari, Ilam District in May 2006 (Basnet 2007a; Basnet and Sapkota 2007). Formerly a local resident and winter visitor, mainly found up to 245 m; fairly common at Koshi and on Karnali River, Bardia (Inskipp and Inskipp 1991). In 1980s frequent in Chitwan where proved breeding (Gurung 1983, Kovacs 1987). Frequents stony banks of large rivers. Threatened by disturbance and by loss and degradation of its riverine habitat.

Great Thick-knee *by Prasad Ganpule*

Ibidorhyncha struthersii Ibisbill

Nationally threatened status: EN C2a(i), D1

Resident. Breeds regularly at Kyanjin, upper Langtang valley 3800 m and in Sagarmatha National Park, and winters widely at lower altitudes (Inskipp and Inskipp 1991). The maximum of 18 pairs reported at Kyanjin in April 1984 (Powell and Pierce 1984) and nine pairs in May 2001 (Choudhary 2002). A study specifically aimed at climate change impact to Ibisbill revealed only 18 adults and seven subadults in Kyanjin indicating its possible decline (Ghimire and Thakuri 2010). Regularly winters on the Rapti R. near Hetauda; a total of 18 birds was found in a survey of six 2.5 km stretches of the river (Shrestha and Lakhey 2000). Breeds in braided river channels with shingle banks in glacial valleys, a habitat predicted to be threatened by climate change (Baral 2002b); also inhabits shingle banks in winter when found to be threatened by habitat loss and change by gravel extraction of river beds, disturbance, pesticide poisoning of river by local people for fishing and hunting (Shrestha and Lakhey 2000).

Vanellus malarbaricus (malabaricus) Yellow-wattled Lapwing

Nationally threatened status: EN C2a(i), D1

Mainly a rare winter visitor; below 100 m. Previously recorded in all months and recorded from east to west in the lowlands (Inskipp and Inskipp 1991). Most recent records are from Koshi e.g 11 in November 1995 (Choudhary 1995/1996), two in April 2001 (Inskipp and Inskipp 2001a), two in February 2004 (Bray and Basnet 2004), two in March 2005 (van der Dol 2005), nine in March 2007 (GC 2010), four in December 2007 (2007c), 14 in April 2008 (Chaudhary 2008a), and five in March 2010 (Baral 2010a), Recent records from other localities include six in Lumbini in April 2003 (Lama 1993c), two at Chimdi Lake, Sunsari District (Surana *et al.* 2007), fields adjacent to Khadara Phanta, Kapilvastu District (Cox and Giri 2007, Cox 2008), and Banganga R. grassland Kapilvastu District (Cox 2008). Inhabits dry fields, open country and river beds in the lowlands. Threatened by hunting and disturbance. .

Hydrophasianus chirurgus Pheasant-tailed Jacana

Nationally threatened status: EN C2a(i), D1

Mainly a summer visitor, although reported in all months; 75-1525 m. Previously fairly common at Koshi and proved breeding there (Gardiner 1990). The maximum of 85 was seen at Jagdishpur Reservoir, Kapilvastu District in June 1988 (Suwal and Shrestha 1988a). Has declined.Has declined because of loss of wetlands, disturbance and hunting. Midwinter waterbird count data indicate gradual decline of the bird populations in Nepal: 21, 12, 13 in the years 2007, 2008 and 2009. However a higher number of 67 was counted in October 2010 (H. S. Baral pers. obs.2010), although these birds may include passage migrants.

Numenius arquata Eurasian Curlew

Globally threatened status: NT

Nationally threatened status: CR A2a, C2a(i), D1

Uncommon winter visitor and passage migrant. All recent records are from Koshi except for a few calling over Pokhara, Kaski District in April 2002 (A. van Riessen *in litt.* to C. & T. Inskipp, January 2011. Formerly a common winter visitor and passage migrant there, and a scarce passage migrant elsewhere. The maximum of 750 recorded at Koshi in March 1982 (Turton and Speight 1982). Has declined. Numbers recorded at Koshi in February: in 1979, a total of 150 was seen at Koshi (Redman and Murphy 1979), 250 in 1987 (Turin *et al.* 1987), 250 in 1997 (Rosair and Taylor 1997), 50 in 2004 (Malling Olsen 2004), 15 in 2006 (Mallalieu 2006b), 45 in 2007 (Choudhary 2007), 14 in January 2008 (Anon., 2008) and four in February 2009 (Anon., 2009). Occurs on muddy river banks and grassy fields. Threatened by habitat loss, hunting and disturbance.

Cursorius coromandelicus Indian Courser

Nationally threatened status: EN C2a(i),

Rare and local resident; up to 245 m. The large number of 19 was seen in Khairapur, Bardia District in January 2002, 13 there in January 2003 (Giri and Choudhary 2003a), and 16 in November 2008 (Shahi 2008). Recently recorded at three other sites. At Koshi six seen in December 1991 (R. Irvin in litt. February 1994), two adults and two juveniles in April 1996 (Choudhary 1996a), seven in March 2005 (van der Dol 2005), one in February 2007 (O'Connell Davidson and Karki 2007), three in April 2008 (Chaudhary 2008a), two in December 2009 (Giri 2009d) and four in March 2010 (Baral 2010a). South of Koshi Barrage a nest with two eggs was found in April 1997 (Giri and Choudhary 1997). North of Koshi Tappu eight birds were seen in March 2004 (Giri and Choudhary 2004b), up to four regularly seen from December 2009 to April 2010 (Badri Chaudhary verbally 2010) and four chicks in April check year (Suchit Basnet verbally 2010). Also one was seen at Radhapur in Shukla Phanta in February 1997 (Giri and Choudhary 1997). Possibly under-recorded in the west. Inhabits open dry, stony country and dry riverbeds. Threatened by habitat loss and disturbance; mainly found outside protected areas.

Gelochelidon nilotica Gull-billed Tern

Nationally threatened status: CR A2a, C2a(i), D1

Only two known records since 1999: recorded in the Kathmandu Valley in August 2003 (A. van Riessen *in litt.* to C. & T. Inskipp January 2011) and one in February 2007 (O'Connell Davidson and Karki 2007). Formerly a local winter visitor and passage migrant; wintered 75 m (-3100 m on passage). Fairly common at Koshi Barrage in 1970s and 1980s where up to ten birds were often reported in winter and peak numbers were seen there in spring (Inskipp and Inskipp 1991), the maximum of 60 was recorded in April 1981 (Krabbe 1981). Only a few records of passage birds from elsewhere during the 1970s and 1980s. Recent records are all from Koshi Barrage: 14 in September 1992 (Baral 1992b), four in January and two in February 1995 (Choudhary 1995c, d), two in August 1996 (Choudhary 1996d), 32 in April 1998 (Petersson 1998a) and seven in April 1999 (Choudhary 1999c). Large lakes and rivers. Threatened by food shortage.

Sterna caspia Caspian Tern

Nationally threatened status: CR A2a, C2a(i),D1

Only one known record since 2000: eight seen in February 2006 (Suchit Basnet and Badri Chaudhary verbally 2010). Formerly a local winter visitor and passage migrant up to 250 m; fairly common at Koshi; rare at Chitwan and Bardia (Inskipp and Inskipp 1991). The maximum of 30 was seen at Koshi in March 1982 (Robson 1982) and February 1989 (Kennerley and Turnbull 1989). Recent records are all from Koshi where it has sharply declined since the beginning of the 1990s, largest numbers recorded annually: seven in February 1991 (Baral and Karki 1991), four in November 1992 (Murphy and Waller 1992), 15 in February 1993 (Fouarge 1993), one in February 1994 (Cottridge *et al.* 1994), six in February 1995 (Choudhary 1995c), up to seven in February 1997 (Choudhary 1997a), three in February 1998 (Choudhary 1998b), and singles in April 1999 (Choudhary 1999c) and February 2000 (Baral 2000c). Large lakes and rivers. Threatened by food shortage.

Sterna aurantia River Tern

Nationally threatened status: CR A2a, C2a(i), D1

Now rare and very local. Common on big rivers in the terai in 1947-49 (Ripley 1950). 'Common in the lowlands over ponds, streams and rivers' in December 1949-January 1950' (Rand and Fleming 1957). Common resident in the SE terai with an influx in the monsoon when up to 50 seen in a day in 1970s (Gregory Smith and Batson 1976). Inskipp and Inskipp (1991) described it as 'a locally common resident and partial migrant mainly seen up to 610 m; regularly reported from the Karnali River at Bardia, rivers at Chitwan and Koshi.' The exceptional number of 450 was estimated in November 1984 at Koshi (Andersen *et al.* 1986). Around 100 were seen there in March 1982 (Robson 1982) and February and March 1987 (Turin *et al.* 1987, Stones 1987). The species has been declining since at least the early 1990s; maximum annual numbers recorded at Koshi: 21 in September 1992 (Baral 1992b), 18 in November 1993 (Baral 1993a), 29 in January 1994 (Choudhary 1994a), 27 in February 1995 (Choudhary 1995), 23 in August 1996 (Choudhary 1996d), 21 in February 1997 (Choudhary 1997a), 20 in April 1998 (Rogers 1998), 21 in February 2000 (Choudhary 2000b), six in February 2001 (Baral and GC 2001), six in January 2002 (Giri and GC 2002c), one in February 2003 (Chaudhary 2003b), and two in March 2004 (Kennerley and Karki 2004); no later records from Koshi. Small numbers recorded recently from Bardia: eight in March 1992 (Baral 1992b), ten in February 1995 (Wheeldon 1995), six in February 2000 (Choudhary 2000b), three in March 2000 (Choudhary 2000b, GC 2000b), one in January 2001 (Kumal *et al.* 2001), ten in January 2003 (Giri 2003), five in March 2005 (van der Dol 2005), one in February 2007 (Choudhary 2007), four in May 2008 (Giri 2008c), and one in January 2010 (Badri Chaudhary verbally 2010). Only two recent records from Chitwan: one in March 1992 (Baral 1992b) and three in April 2007 (Byskov 2007). One seen at Chimdi Lake, Sunsari District in April 2004 (Surana *et al.* 2007). Frequents rivers and streams. Threatened by food shortage and disturbance and destruction of its breeding habitats on rivers.

River Tern *by Tim Loseby*

Sterna acuticauda Black-bellied Tern

Globally threatened status: Near-threatened

Nationally threatened status: CR A2a, C2a(i), D1

Now rare and very local. In 1949-50 it was 'fairly common on ponds and rivers of terai' (Rand and Fleming 1957). Inskipp and Inskipp (1991) described it as a locally common resident and summer visitor to rivers of the terai and foothills up to 610 m. The maximum of 60 was noted at Koshi Barrage in February 1984 (Redman 1984). Apparently suffered a sharp decline beginning in the 1990s, maximum annual numbers recorded at Koshi: 14 in March 1994 (Baral 1994), 13 in January 1995 (Choudhary 1995), 41 in August 1996 (Choudhary 1996d), ten in February 1997 (Choudhary 1997b), six in April 1998 (Basnet 1998c), ten in May 1999 (Ghimire 1999b), five in February 2000 (Baral 2000c), four in February 2001 (Baral and GC 2001), six in February 2002 (GC 2002), two in February 2003 (Baral 2003a), three in March 2004 (Kennerley and Karki 2004), four in March 2005 (van der Dol 2005), three in February 2007 (Choudhary 2007), six in November 2008 (Chaudhary 2008b), six in February 2009 (Baral 2009c), and six in March 2010 (Baral 2010b). Few recent records from Chitwan: two seen in May in 2001, 2002 and 2003; also one near Chitwan in Pithauli VDC, Nawalparasai District in June 2003 (Chaudhary 2004a). Other recent records are from the Karnali River, Bardia: four in January 1992 (Wartmann and Schonjahn 1992) and two in March 2002 (Choudhary 2000b, GC 2000b). Also two at Shukla Phanta in May 1996 (Baral 1996c), three at Chimdi Lake, Sunsari District in April 2004 (Surana *et al.* 2007) and recorded at the Trisuli R., Dhading (A. van Riessen in litt. to C. & T. Inskipp January 2011). Suffering from food shortage and disturbance and loss of breeding habitat on islands and sandspits in larger rivers.

Indian Skimmer *by Satyendra Sharma*

Rynchops albicollis Indian Skimmer

Globally threatened status: VU

Nationally threatened status: CR A2a, C2a(i), D1

Only one known record since 2000; four seen in February 2006 (Suchit Basnet verbally 2010). Irregular and rare non-breeding visitor; has possibly bred; 75 – 300 m. Previously seen more frequently at Koshi, where it was an uncommon although still irregular visitor between February and July (Inskipp and Inskipp 1991). Maximum of seven noted there in February and March 1981 (del-Nevo and Ewins 1981, Inskipp and Inskipp 1981b); up to two seen irregularly in 1990s (e.g. Choudhary 1995/1996, Giri 1997b) and in 2000 (Benstead and Benstead 2000); five on 12 May 1997 (Tiwari and Chaudhary 1997). Recent records from two other sites: the Karnali River in 1999 (K. Daly *in litt.* 1999) and on the Narayani River, Chitwan in March 1994 (Lama 1994c) and April 1996 (Choudhary 1996a). Frequents large rivers. Threatened by disturbance, loss and degradation of its riverine habitat and food shortage caused by over-fishing and fish poisoning.

Treron curvirostra Thick-billed Green Pigeon

Nationally threatened status: EN A2 ac, C2a(i), D1

Very rare resident; 75-450 m. Described as 'occasional, usually in heavy sal and mixed forests of the terai' by Fleming *et al.* (1984); 'occasional' in the eastern terai by Gregory-Smith and Batson (1976). A maximum of four seen daily between Gharuwa and Sukhani in check district in April 1981 (Mills and Preston 1981). Noted as scarce and local in Nepal's lowland forests by Inskipp and Inskipp (1991). Recorded less frequently since 1990: only a few known records from Chitwan: one bird in April 2001 (Malling Olsen 2004), four at Harda Khola in April 2004 (Suchit Basnet verbally 2010), two in May 2006 (Chaudhary 2010) and one in December 2009 (Giri 2009c). Since 1990 only known from four other sites: regularly seen in Patnali forests, Sunsari District and up to five noted there up till 2010 (Badri Chaudhary verbally 2010), one at Koshi in September 1998 (Giri *et al.* 1998), a male nest-building in forest by Meguwa Khola, Parsa Wildlife Reserve in April 2003 (Cox 2003b) and a pair with nesting material in Juke Khadi Community Forest, lower Mai valley, Jhapa District in May 2006 (Basnet and Sapkota 2006). Inhabits evergreen and mixed deciduous forest and well-wooded country in tropical and subtropical zones. Threatened by deforestation and forest degradation. Nepal is the western limit of the species's range.

Ducula badia Mountain Imperial Pigeon

Nationally threatened status: CR A2ac, D|1

Current status uncertain. No known records since 1996 and only two recent records: from Bardia in 1995 (Lama 1995a) and five in forests near Dharan, Sunsari District in December 1996 (Choudhary 1997a). Previously rare and local, recorded 250-1250 m. Three collected in Walung Forest in upper Arun in what is now Makalu Barun National Park in 1959 (Krabbe 1983). A few reports from Chitwan e.g. Thiollay (1980), Turton and Speight (1982) and Kovacs (1988) and one (undated) from the Rapti dun (Robert L. Fleming Jr verbally 1981). Inhabits tall, broadleaved evergreen and dense deciduous forests. In India and Bhutan found in lower temperate as well as subtropical and tropical zones. Threatened by deforestation and forest degradation.

Loriculus vernalis Vernal Hanging Parrot

Nationally threatened status: CR A2ac, D1

Very rare resident or visitor; below 275 m. Since the 19th century there have only been four records including only one recently. Noted as rare at Chitwan (Gurung 1983); found in the E terai in Jhapa District (undated) (Fleming and Traylor 1968), at Chisapani, Dhanusha District at 275 m on 23 June 1965 (Fleming and Traylor 1968) and two km west of Ramawadahawa Kapilvastu District in November 2006 (Basnet 2007a, Cox 2008). Frequents broadleaved evergreen and moist deciduous forest and in N Indian subcontinent from plains up to 1000 m. Its habitat is now very much reduced.

Tyto longimembris Eastern Grass Owl

Nationally threatened status: CR D1

Very rare and very local resident up to 250 m. No known records since 2002. Recent records: singles in Chitwan in February 1996 (Choudhary 1996a), June 2001 and October 2002 (Chaudhary 2004a); has formerly bred in the park (Gurung 1983, Fleming *et al.* 1984). One flushed in Bardia in late 1990s (Sukra Kumal verbally April 2001); also found at Shukla Phanta (Schaaf *et al.* 1980), but no recent records from there. Crepuscular and nocturnal so likely to be under-recorded. Frequents tall lowland grassland, a highly threatened habitat. Also threatened by trapping for wild bird trade.

Bubo nipalensis Spot-bellied Eagle Owl

Nationally threatened status: EN A2cd, C2a(i), D1

Rare and local resident up to 2135 m. Recently recorded from Chitwan: singles from at least four localities in the park: in January 1993 (Tarrant and Tarrant 1993), March 1994 (Zerning and Braasch 1995), February 1997 (Choudhary 1997a) , regularly recorded between December 1999 and August 2003 (Chaudhary 2004a), two recorded in November 2000 (Basnet and Dowling 2000), one in 2005 in the eastern part of Chitwan (Suchit Basnet verbally 2010), one in April 2007 (Byskov 2007), two in March 2008 (GC 2010) and two in March 2010 (Chaudhary 2010). One juvenile at

Shukla Phanta in April 1996 (Giri and Choudhary 1997) and single adults there in March 1997 (Giri 1997b) and February 1999 (Som GC in litt. 2004). Also recently recorded near Janta Community Forest, 9 km east of Dharan, in the Morang Siwalik Hills in April 1998 (Basnet 2003, Y. R. Basnet *in litt.* February 2004), in Kanchenjunga Conservation Area (no other details available) (Thapa and Karki 2005), and one recorded from Dang Deukhuri IBA in January 2009 (Thakuri 2009a,b; 2010). Inhabits dense broadleaved evergreen forests. Threatened by deforestation and trapping.

Bubo coromandus Dusky Eagle Owl

Nationally threatened status: CR A2acd, C2a(i), D1

Very rare and local resident up to 250 m. Recent records only from three protected areas. At Chitwan singles recorded April – November 1992 (Baral 1992b), in February 1996 (Harrap 1996) and two heard regularly in Island Park, near Sauraha from1987-2010 (Suchit Basnet verbally 2010). In Shukla Phanta two seen in March 1997 (Giri and Choudhary 1997) and singles in December 2002 (Baral *et al.* 2002a) and in February 2009 (Giri 2009b). One on a nest in Baghaura Phanta, Bardia in January 2003 (Giri and Choudhary 2003a) and three at Bardia in January 2008 (Shahi 2010). Inhabits thickly foliaged trees near water. Threatened by deforestation.

Ketupa flavipes Tawny Fish Owl

Nationally threatened status: CR A2acd, D1

Very rare, current status uncertain, probably resident in the past; 250-365 m. No known records since 2003. Recent records are almost all from Chitwan: singles in the Tiger Tops area in August 1999 and 2000 (Chaudhary 2004a) and April 2001 (Malling Olsen 2004), near Sauraha in March 2001 (Giri and Choudhary 2001a) and in May 2003 (Cox 2003b). Also recorded near Chitwan in Namuna Community Forest, Nawalparasai District (Chaudhary 2007a). Few records since the 19th century: one collected at Bhugwada (location unknown) in November 1920 (Abdulali 1972); an adult and two juveniles were collected in May and June 1947 at Hetauda (Biswas 1961) and the species was seen at Chitwan in October/ November 1978 (Thiollay 1978, 1980). Occurs in heavy broadleaved tropical and subtropical forest in ravines, and banks of streams, rivers and pools. Its habitat is now much reduced; also threatened by food shortage caused by over-fishing and fish poisoning; also threatened by trapping for wild bird trade.

Caprimulgus asiaticus Indian Nightjar

Nationally threatened status: EN A2a, C2a(i), D1

Very rare in the terai; movements are uncertain. Only one known record since 1990. Described as scarce by Fleming Sr. *et al.* (1984) and by Inskipp and Inskipp (1991) with records from the far west (Shukla Phanta in 1980 by Schaaf *et al.* 1980) to the far east (e.g. Koshi Tappu in May 1982 by Inskipp and Inskipp (1982), with a few spring records from Chitwan e.g. Curson and Bose (1989), and a few records from Bardia e.g. Egger *et al.* 1990, but no later records from these localities. The only known recent record is of two in Dang Deukhuri IBA in March 2009 (Thakuri 2009a,b). Frequents dry, fallow cultivation, dry scrub and dusty tracks near cultivation. Possibly threatened by pesticides.

Red-headed Trogon *by Nelson Khor*

Harpactes erythrocephalus Red-headed Trogon

Nationally threatened status: EN A2ac, C2a(i), D1

Very local and uncommon resident; mainly 250-1000 m (-2135 m). Inskipp and Inskipp (1991) described it as 'a local and very uncommon resident that has declined' and list records from six localities since 1970. Since 1990 only recorded from three sites, indicating a further decline since that date. At Chitwan five to seven birds regularly seen in the easternmost part (Suchit Basnet verbally 2010); also four recorded in April 1992 (Baral 1992b) six in May 1996 (Baral 1996b), three in April 2004 (Chaudhary 2004a), two in April 2007 (Baral 2007d), and six to eight in April 2009 (O'Connell-Davidson 2009). A pair in Makalu Barun National Park buffer zone in June 2009 (Cox 2009). Singles at Phulchoki, Kathmandu Valley in March 2004 (Hathan Choudhary verbally 2004) and April 2007 (Baral 2007d); also found there at the unusually high altitude of 2135 m in April 1999 (Giri and Choudhary 1999). Previously found at Phulchoki in 1955 when a pair bred (Proud 1955). Inhabits dense, broadleaved evergreen tropical and subtropical forests; a highly threatened habitat.

Halcyon coromanda Ruddy Kingfisher

Nationally threatened status: CR A2c, C2a(i), D1

Very rare and very local, possibly resident in Churia Hills, Chitwan; 200-500 m. Two were recorded at Chitwan in May 1990 (Suchit Basnet verbally 2010) and singles recorded in the Churia Hills, Chitwan in April 1992 (Baral 1992b), February 1996 (Choudhary 1996b), August 1998 (Chaudhary 2004a), May 2003 (Cox 2003b), August and October 2003 (Chaudhary 2004a), March 2006 (Chaudhary 2010), seven by the Mul Khola in April 2006 and four there nesting in May 2007 (Subedi 2010a), three in April 2009 (GC 2010), one by the Panesa Khola in April 2009 (Subedi 2010a) and one in April 2010 (GC 2010). The only other Nepal locality is Hetauda, Makwanpur District where it was recorded in May and June 1947 (Biswas 1961) and in November 1977 (Lindvall and Dhital 1978). Occurs by streams and pools in dense broadleaved subtropical evergreen forest, a habitat now very reduced. Secretive and likely to be overlooked.

Alcedo meninting Blue-eared Kingfisher

Nationally threatened status: EN A2ac, C2a(i), D1

Rare and very local, presumably resident; 250 m. Since 1990 mainly recorded from Chitwan: in 1996/97 fairly common locally in the park (H. S. Baral pers. obs.), but has disappeared from some streams (Tyabji 2002). Four seen there in March 2001 (Wright and Lawson 2001), one to two birds regularly recorded in the Tiger Tops area between November 1999 and March 2004 (Chaudhary 2004a) and near Gaida camp e.g. in April 2001 (Inskipp and Inskipp 2001a); also one or two recorded in the park in April 2003 (O'Connell Davidson *et al.* 2003) and singles in December 2009 (Giri 2009c), February 2010 (Suchit Basnet verbally 2010) and March 2010 (Giri 2010b). The only other recent records are from Beeshazari Tal in February 2002 (Ofner and Basnet 2002) and Parsa Wildlife Reserve in April 2003 (Cox 2003a). Confirmed reports from four other sites before 1990: one collected in Jhapa District in February 1965 (Fleming and Traylor 1968); two in Koshi District in April 1975 (Gregory-Smith and Batson 1976); one in the lower Arun watershed (Nepali 1986b), and one in Kanchanpur District in 1985 (Khanal 1988). No further records from all these four sites, indicating a population decline. Frequents streams in dense, shady, broadleaved forest. Secretive and likely to be overlooked. Threatened by water pollution, habitat disturbance and deforestation.

Alcedo hercules Blyth's Kingfisher

Globally threatened status: Near-threatened

Nationally threatened status: CR A2c, D1

Status uncertain. Only two records and from one site: seen by the Sabhaya Khola, south of Tumlingtar, Sankhuwasabha District at 250 m in April 1982 (Nordin and Wallander 1982) and in May 1998 (Giri *et al.* 1998). Frequents streams in dense tropical and subtropical evergreen forests in the subcontinent, a highly threatened habitat. Nepal is the western limit of the species' range.

Buceros bicornis Great Hornbill

Globally threatened status: Near-threatened

Nationally threatened status: EN A2c, C2a(i), D1

Rare and local resident; below 250 m. In 1964 and 1965 the species was seen 19 times in five localities from Sunischare, Jhapa District west to Chitwan (Fleming 1968). The summary of country records in Inskipp and Inskipp (1985) indicated a decline. Since 1990 seen mainly at Chitwan; regularly seen throughout the park including the easternmost part (Suchit Basnet verbally 2010). A total of 53 birds flew to roost in the western sector of the park in March 2009 - the maximum ever known to be recorded in Nepal (Bidari 2010). Recorded at Bharandbahar IBA in Chitwan buffer zone (Adhikari *et al.* 2000). In Bardia four were seen in March 2006 and the maximum of five in February 2009 (Shahi 2010). Singles at three sites in Para Wildlife Reserve in April and May 2003 (Cox 2003b). Few recent records outside protected areas: two in April 1993 between Garuwa and Sukhani, Jhapa/Ilam Districts (Flack 1993), two in Ram Dhuni Sal check district in March 1994 (Lama 1994c), found near Chitwan in Namuna Community Forest (Chaudhary 2007a), two in Ghodaghodi lake area in March 2009 (Chaudhary *et al.* 2009b), two in Nawalparasai District in December 2009 (Baral 2009g), and five in Kapilvastu District forests in 2009 (Giri 2009a). Recorded in autumn 2003 and spring 2004 in Raja Rani Community Forest, Morang District, where the nesting tree was cut by local people in the nesting period in 2000, to obtain the female's beak for sale in the market, but not seen in a 2005 bird survey of the forest (Basnet 2002c, Basnet 2005b; Basnet *et al.* 2006). Inhabits moist broadleaved forest with large fruiting trees up to 250 m. Threatened by deforestation, especially loss of mature fruiting trees as food sources and nest sites; also at risk from hunting.

Megalaima australis Blue-eared Barbet

Nationally threatened status: CR A2ac, D1

Rare and very local resident in far E lowlands; 120 m-305 m. Recorded from four sites in the past, but recently only from three sites and in reduced numbers. The maximum of 15+ was heard in Dharan forests IBA, Sunsari District in April 1992 (Bräunlich and Oehlschlaeger 1992) but only one to two birds recorded from there between 1994 and 2000 (Tiwari and Chaudhary 1997, Tika Giri and Hathan Choudhary verbally 2004) and none since. One heard on Koshi R. banks in February 2007 (O'Connell Davidson and Karki 2007), but no suitable habitat now exists at this site, and one recorded from Gaide Community Forest, Ilam District in January 2006 (Basnet 2007a; Basnet and Sapkota 2006; 2007). Its habitat of dense, broadleaved evergreen tropical forests is now very much reduced and degraded.

Sasia ochracea White-browed Piculet

Nationally threatened status: EN A2ac, C2a(i), D1

Rare resident; mainly below 915 m (-2135 m). Formerly uncommon from Tamaspur Chitwan District eastwards: Chitwan, Hetauda, upper Arun valley, Dharan, upper Mai valley and Ilam district (Inskipp and Inskipp1991). Few recent records, mainly of single birds in Chitwan: near Tiger Tops in February 1996 (H. S. Baral pers. obs.) and December 2003 (Stratford 2004), in Chisapanitar forest, Mahabharat

Hills in February 2004 (Subedi 2010), in the Churia Hills in June 2005 (GC 2010), two by the Mule Khola, Churia Hills and singles near Sinti Cave, Shakktikhor, Mahabharat Hills in February 2006 and in Tiger Tops tented camp area in March 2007 (Subedi 2010), also singles in the Churia Hills in May 2007, April 2008 and April 2010 (GC 2010) .Singles at other localities: near Ilam and below Ilam in December 1993 (Lama 1994a), at Sekhatum, Kanchenjunga Conservation Area in April 1994 (Halberg 1994),and at Bhagmara village along the Trivuban high way to Daman, Makawanpur District (Subedi 2010). Frequents broadleaved forest with a preference for bamboo. Threatened by loss and degradation of forest and bamboo.

Gecinulus grantia Pale-headed Woodpecker

Nationally threatened status: CR A2a, D1

Probably a former resident; no known records since 1981. The only records are from between Garuwa and Sunischare, Jhapa District at 275 m in the far east: singles seen in February 1974 (Madge *et al.* 1974) and in April 1981 (Mills and Preston 1981). Chiefly occurs in bamboo jungle. No suitable habitat now remains in the area where it was originally recorded and this habitat is now very much reduced in Nepal at this altitude. Nepal is the western limit of the species's range.

Mulleripicus pulverulentus Great Slaty Woodpecker

Globally threatened status: VU

Nationally threatened status: EN A2c, C2a(i),D1

Rare and local resident up to 245 m. Lammertink *et al.* (2009) estimated that the original Nepal population was 78,708 birds, had dropped to 14,951 by 1985 and 6,051 by 2005, but also stated that the current population could be much lower than the 2005 figure. Recently recorded almost entirely from protected areas. Regularly seen at Bardia where maximum known number of birds recorded annually are: six in April 2001 (Inskipp and Inskipp 2001b), seven in March 2005 (van der Dol 2005), five in March 2006 (Shahi 2010), six in April 2007 (Shahi 2010), five in February 2008 (GC 2010), three in February 2009 (Shahi 2010), and seven in August 2010 (Shahi 2010). Maximum numbers recorded annually at Shukla Phanta: two in April 2001 (Inskipp and Inskipp 2001a), two in April 2007 (Baral 2007d), six in February 2009 (Giri 2009b), and nine in July 2010 (J. J. Thakuri *in litt.* August 2010). Rare at Chitwan (e.g. Chartier and Chartier 1999, Harrap 1999), adult and chicks were seen in March in 1998 and 2001 (Chaudhary 2004a), and singles March-September, 1998-2004 (Chaudhary 2004a). One recorded from Dang Deukhuri IBA (unprotected), in June 2009 (Thakuri 2009a,b; 2010) and another seen in Tikapur Forest Park in September 2009 (Hem Sagar Baral pers. obs). Previously also recorded from Tamaspur just to the west of the park in Chitwan District, e.g. Redman and Murphy (1979), Mills and Preston (1981), but current occurrence there needs confirmation. Inhabits mature sal forests of the lowlands. Lammertink *et al.* (2009) found that the densities of the species were related positively and significantly with density of large trees. Threatened by deforestation. A survey of Great Slaty Woodpecker will be carried out in Nepal by Nepalese Ornithological Union in 2011.

Pitta nipalensis Blue-naped Pitta

Nationally threatened status: EN A2c, D1

Now very rare. Since 1990 several sightings of one or two birds on the lower slopes of Phulchoki, Kathmandu Valley in March and April 2004 (Basnet 2004, Basnet 2007b); singles seen at Phewa Tal, Pokhara: in December 2005 (Giri and Choudhary 2006a; Kelly 2005) and one on Kandane Danda, near Tiger Mountain Pokhara Lodge regularly seen in spring 2007 and 2008 (Jhalak Chaudhary verbally 2010). Probably former resident. In the 20th century rare and only recorded from the hills surrounding the Kathmandu Valley, mainly from Phulchoki's lower slopes at 1525 m; e.g. Holmstrom (1983); also one seen Nagarjung in November 1989 (Roberts 1989) Found in damp, shaded ravines in broadleaved subtropical forest. Nepal is the western limit of the species's range and its habitat is now very much reduced. Threatened by deforestation and forest degradation.

Pitta sordida Hooded Pitta

Nationally threatened status: EN A2c, C2a(i),D1

Very local summer visitor; up to 305 m. Formerly described as common at Chitwan from April to October and proved breeding there (Gurung 1983), few reports from elsewhere. In Chitwan at least five birds calling by the Surung Khola Churia Hills in April 2005, one calling near Sinti water fall area Shakktikhor in April 2006 (Subedi 2010), one recorded at Janakauli in June 2006 (GC 2010), one also in Chitwan in May 2007 (GC 2010), two seen near Sinti water fall area Shakktikhor in June 2008 (Subedi 2010), and one in Chitwan in April 2009 (GC 2010). In May 2007 in Chitwan one feeding two chicks by the Mule Khola, Churia Hills and one feeding a chick in a forest patch near Dhudaura Khola (Subedi 2010). Recent records also in Bharandabhar Forest IBA: two seen in the Amasotiva stream khorsor area, one carrying nest materials near Bishajar lake and one feeding two chicks in Chitrasen B.F. forest (Subedi 2010). Inhabits moist subtropical and tropical broadleaved evergreen forest with thick undergrowth. Threatened by forest loss and degradation.

Lanius excubitor (L. meridionalis) Great Grey Shrike (Southern Grey Shrike)

Nationally threatened status: EN A2ac, C2a(i), D1

Rare and local resident in the terai. Fairly common in Kapilvastu District in the 1970s (Cox 1978), one or two seen in April 1993 (Baral 1993a) but none seen here in a bird survey in 2008 (Cox 2008). Uncommon near Koshi and elsewhere in the south-east in the 1970s (Gregory-Smith and Batson 1976), but very few recent records. One seen in February 2009 (Badri Chaudhary verbally 2010). Frequents dry open scrub country and cultivation edges. Threatened by habitat loss and degradation, intensification of agriculture and possibly by pesticides.

Parus spilonotus Yellow-cheeked Tit

Nationally threatened status: CR A2ac, D1

Now very rare; no known records since 1997. Almost all records are from the Mai valley. Previously a rare and local resident, recorded in the upper Mai mainly from 1980 m to 2440 m (e.g. Mills *et al.* 1982, McKnight *et al.* 1989); one record from the lower Mai at 450

m (Halliday and McKnight 1990). The only recent records are one from below Ilam, Ilam District in December 1993 (Lama 1994a) and two in the upper Mai in March 1997 (Choudhary 1997c). The Mai valley has suffered significant deforestation and forest degradation in recent years. A 2008 bird survey of the Mai valley did not find the species. (Robson *et al.* 2008). Another two short surveys in January 2008 and September 2010 also failed to find this species (Baral *et al.* 2010a). Inhabits broadleaved subtropical and temperate forest. Nepal is the western limit of the species's range.

Melanochlora sultanea Sultan Tit

Nationally threatened status: EN A2ac, C2a(i), D1

Very rare and local; probably resident; mainly 275-1500 m. Most recent records are from the Churia Hills Chitwan: 11 in February 2006 by the Mul Khola (Subedi 2010a), three in April 2009 by the Panesa Khola (Subedi 2010), four in April 2009 and five in April 2010 (GC 2010); also two or three regularly reported (e.g. by Salzman and Salzman 1992, Baral 1996b, Choudhary 1998c, Bray and Basnet 2004, Chaudhary 2004a, GC 2010). Other known recent records are a flock of over 30 flying over Chisapanitar forest in the Mahabharat hills in November 2004 (Subedi 2010a), near Sinti waterfall Shakktikhor area, Chitwan in February 2005 (Subedi 2010a), Arun valley in May 1998 when four seen below Num and two near Thopku Oral at the unusually high altitude of 2500 m (Giri *et al.* 1998); two in Parsa Wildlife Reserve in May 2003 (Cox 2003b) and two at Lendada, Makwanpur District in March 2008 (Basnet and Thakuri 2008). Recorded more frequently in the past. Fairly common between Hetauda and Nimboatar in C Nepal in December 1877 (Scully 1879), but only one later report from the area in 1947 (Biswas 1963). A few records from the far east: Chatra, Sunsari District in 1949 (Ripley 1950), near Shantinagar, Ilam District in 1969 (Anon. 1983), and north of Sunischare Jhapa District in March 1982 (Walinder and Sandgren 1983). Nepal is the western limit of the species's range. Its habitat of tropical and subtropical evergreen, broadleaved forest is now much reduced and has been degraded.

Prinia burnesii Rufous-vented Prinia

Globally threatened status: Near-threatened

Nationally threatened status: CR B1 B2ab(i,ii,ii)

Very rare and very local; probably resident. A subspecies endemic to Nepal nepalicola. Discovered for Nepal in April 2005 in Koshi Tappu when three birds were seen. One bird was trapped and three more seen in the same locality in January 2006. A total of 12 individuals was trapped and released in March 2006, including one retrap and in May 2006, four birds were collected after obtaining the necessary permission from DNPWC (Baral *et al.* 2007, 2008a; Inskipp 2006). Population was estimated as 500 individuals in 2007 (Baral *et al.* 2007). Three were seen in March 2008 (Chaudhary 2008a), three in April 2008 (GC 2010). Since the monsoon 2008 flooding several birds have been heard up until at least spring 2010 (Badri Chaudhary verbally 2010). Found in grassland patches age c. 5 years; absent from heavily disturbed grasslands (Baral *et al.* 2007). Threatened by habitat loss; the major monsoon flood of 2008 led to loss and degradation of important grassland habitat.

Prinia cinereocapilla Grey-crowned Prinia

Globally threatened status: VU

Nationally threatened status: EN B2ab(iii)

Breeding resident, locally common at Chitwan and adjoining areas of Parsa, found as high as 1600m in eastern Nepal (Inskipp and Inskipp 1991). Although pre-1980 records from a dozen different localities, including outside protected areas, now almost entirely confined to three protected areas: Chitwan, Parsa and also Bardia (Baral 2001). The species is associated with Themeda grasslands at Chitwan (Baral 2001), a grass species absent from Koshi Tappu, indicating its absence from this area (Baral 2001). Up to 10 birds have been recorded in November 2007 (Baral 2007b) and September 2008 (Baral 2008d) in Chitwan and three in Parsa in September 1992 (Baral 1992b). It is absent from the grasslands that lie on the southern part of Bardia and Shukla Phanta, grasslands in the northern part need further survey (Baral 2001). A recent survey of Grey-crowned Prinia at Chitwan found up to 424 birds in 11 survey plots adjoining forests (Paras Bikram Singh *in litt.* 2010). Found in Themeda grasslands close to Sal and mixed forests.

Alophoixus flaveolus White-throated Bulbul

Nationally threatened status: EN A2ac, C2a(i), D1

Local and rare resident, chiefly recorded up to 455 m. Subject to some altitudinal movements. Recently most frequently and regularly seen in the Churia Hills, Chitwan: eight in 2002 (Chaudhary 2004a), seven in February 2005 (Chaudhary 2010), 11 in February 2006 by the Mul Khola (Subedi 2010a), two in May 2007 (GC 2010), four by the Panesa Khola and three by the Surung Khola in April 2009 (Subedi 2010a), and two in April 2010 (GC 2010). Records from other sites since 1990: one on Banderjhola Island, Chitwan in April 2001 (Malling Olsen 2004), seven near Sinti waterfall, Shakktikhor area, Chitwan in February 2005 (Subedi 2010a), up to six near Tiger Tops, Chitwan in March 2007 (Subedi 2010a), five near Devi Tal, Chitwan in February 2010 (Suchit Basnet verbally 2010); Makalu Barun National Park in May 1995 (Choudhary 1995a), north of Sunischare, Jhapa District in March 1997 when 15 seen (Choudhary 1997c), and one in Sukhani forest, Jhapa District in December 2007 (Badri Chaudhary verbally 2010), but none in forests north of Sunischare since that date. Also recorded in Juke Khadi Community Forest, Jhapa District in May 2006 (Basnet and Sapkota 2006, 2007), three at Lendada, Makwanpur District in March 2008 (Basnet and Thakuri 2008), and an unusually high altitude record of five on Phulchoki in November 1992 (Murphy and Waller 1992). Formerly a local resident most frequent in the east (Inskipp and Inskipp 1991); regularly seen north of Sunischare, Jhapa District, e.g. Madge *et al.* (1974), Inskipp and Inskipp (1981b), Calladine (1985), McKnight *et al.* (1989), Buckton and Morris (1990), DeLuce and Goodyer (1990). Found in dense broadleaved evergreen forest, a habitat that has been significantly both decreased and degraded.

Striated Grassbird *by Raj Kamal Pukhan*

Megalurus palustris Striated Grassbird

Nationally threatened status: CR A2a

Rare and local resident; 75-250 m. Regularly found in small numbers at Koshi e.g. eight in December 1992 (Baral 1992b), four in February 1998 (Prince 1998), five in April 1999 (Choudhary 1999c), 12 in February 2000 (Choudhary 2000b), three in February 2002 (Ofner and Basnet 2002), four in February 2003 (Baral 2003a), four in March 2005 (van der Dol 2005), two in February 2006 (GC 2010), five in March 2007 (GC 2010), six in April 2008 (Chaudhary 2008a) and two in December 2009 (Giri 2009d). Rare at Chitwan, where one or two birds have been regularly seen (Choudhary 1999b, H.S. Baral pers. obs., Chaudhary 2004a), two regularly recorded at Shukla Phanta (e.g. Baral 1998d, Inskipp and Inskipp 2001b) and three in February 2009 (Giri 2009b). One was also seen at Ghodaghodi Tal, Kailali District in March 1998 (Baral 1998d). More widespread and frequent in the past. Found to be common in Koshi Tappu in May 1982 when the maximum of 30 was seen in one day (Inskipp and Inskipp 1982); at Koshi Barrage the maximum of ten was found in February 1981 (Baker 1981). Fleming collected single specimens in Kailali District at Dhangarhi in December 1949 and Emelie in January 1950 and described it as 'occasionally found singly or in small flocks around the edges of ponds and swamps in tall grasses' (Rand and Fleming 1957). Three were seen in Shukla Phanta in May 1982 (Inskipp and Inskipp 1982), described as a rare resident in Chitwan by Gurung (1983), and also recorded at Belatari, Rupandehi District (Nepali 1986b). Inhabits tall grasses at the edges of ponds and in marshes. Threatened by loss and degradation of habitat.

Graminicola bengalensis Rufous-rumped Grassbird

Globally threatened status: NT

Nationally threatened status: EN B2ab(iii)

Locally common breeding resident. Graminicola bengalensis has recently been split into two species (G. bengalensis and G. striatus, with G. bengalensis occurring in the Indian subcontinent including Nepal (Leader *et al.* 2010). A detailed study of its status and distribution in Nepal found it to be a fairly common breeding resident inShukla Phanta and Chitwan, but rare at Bardia (Baral *et al.* (2006).; there is one recent record of this species from Bardia in March 1997. Other than these three areas all previous localities where it was recorded have suffered from loss or degradation of grassland habitats, and no longer support this species. The largest count of 20 birds comes from Shukla Phanta in January 2009 (Baral 2009b); numbers received from Chitwan for a single day count are much lower. Nepal's lowland grasslands hold an internationally important part of the world population of G. bengalensis (Baral *et al.* 2006, Leader *et al.* 2010). Occurs in open grasslands and in grasslands away from forests (Baral *et al.* 2006). Because of widespread decline and degradation of lowland grasslands, the species has declined all over Nepal and is now entirely confined to protected areas.

Tesia olivea Slaty-bellied Tesia

Nationally threatened status: EN A2c, C2a(i), D1

Rare and very local, probably resident in the east. Found in the Arun valley at Num in August and Khandbari in September 1986 (Nepali 1986b). Singles seen at two localities in Hange Tham forests , Ilam District, in April 1999, one 3 km above the village at 2200 m and the other singing 1 km above the village at 2100 m (Inskipp 2006, Basnet 2007a). In Makalu Barun buffer zone one in May 2009 and singles at four localities in June 2009 (Cox 2009). Inhabits dense undergrowth in dense moist subtropical forest, favours evergreens. Threatened by forest loss and degradation.

Phylloscopus cantator Yellow-vented Warbler

Nationally threatened status: EN A2ac, C2a(i), D1

Rare in the east, probably mainly a winter visitor, has bred; 75-1525 m. Since 1990 recorded in the Arun valley: two singles in November 1994 (Buckton and Baral 1995, Lama 1995a) and a pair carrying food in April 1996 by Num bridge (Choudhary 1996b, White and White 1996); also recorded in the Makalu Barun National Park and Buffer Zone: five sightings of 10 birds including a pair with a recently fledged juvenile in May 2009 (Cox 2009). The only other recent records are from Prakashpur, Koshi Tappu in February 1995 (Lama 1995b), two in Patnali forests, Sunsari District in December 2008 Suchit Basnet verbally 2010), and also seen in Juke Khadi Community forest in January 2006 (Basnet 2007a, Basnet and Sapkota 2006 2007). Earlier records are from November to early April in the far east between 250 m and 600 m; regularly seen between Sukhani and Chisapani, District Jhapa District, e.g. Madge *et al.* (1974), Mills et al. (1982), van Riessen (1989), but no recent records from there. Breeds in dense moist subtropical broadleaved evergreen forest, a highly threatened habitat; also occurs in more open forest in winter.

Tickellia hodgsoni Broad-billed Warbler

Nationally threatened status: EN A2c, A2c, C2a(i), D1

Rare and local, probably resident in the east. Singles at Shyaksila Toten, Barun valley, now Makalu Barun National Park at 2195 m in November 1984 (Nepali 1984) and in Makalu Barun National Park buffer zone in May 2009 (Cox 2009). Singles also recorded at Tashigaon, upper Arun valley, at about 2300 m in September 1986 (Nepali 1986b) and at three sites in the Mai valley (Sidin, Memen and Hange Tham) in March 2008 (Robson *et al.* 2008). Frequents undergrowth, especially bamboo in dense evergreen broadleaved forest. Threatened by forest loss and degradation.

Abroscopus albogularis Rufous-faced Warbler

Nationally threatened status: CR A2ac, D1

Very rare and local. Possibly former resident. Species is subject to altitudinal movements in the region. No known Nepal records since 1982. Only two Nepal records, both from the far east in Ilam District: an undated record (Fleming 1981) and three in March 1982 at about 305 m (Walinder and Sandgren 1983). Frequents bamboo and scrub jungle and bamboo at edges of moist deciduous and evergreen broadleaved tropical and subtropical forest in the region. Its habitat is now much reduced degraded in Nepal.

Malacocincla abbotti Abbott's Babbler

Nationally threatened status: EN A2ac, C2a(i), D1

A local and rare resident, now mainly recorded from the east, up to 275 m. Since 1990 only recorded at unprotected sites. In the east: up to ten recorded in Dharan forests IBA, Sunsari District between 1995 and 2009 (e.g. Lama 1995b, Choudhary 1997e, Basnet and Holt 1999, Kennerley and Karki 2004, O'Connell Davidson and Karki 2007, Basnet and Sapkota 2008, Basnet 2009b,c, GC 2010); up to 20 birds noted in Patnali forests, Sunsari District (Suchit Basnet verbally 2010); 20 north of Sunischare, Jhapa District in March 1997 (Choudhary 1997d), but none reported in this area since that date; six at Jalthal forest, Jhapa District in March 2007 (Baral 2007c); and two at Koshi in May 2008 (Giri 2008b). One recorded in the west in Dang Deukhuri IBA in October 2008 (Thakuri 2009a,b; 2010) and two in central Nepal at Dahidamar, Makwanpur District in March 2008 (Basnet and Thakuri 2008). Previously found more widely and at two protected sites: a few records from Chitwan and Meghauli, Chitwan District but none since January 1990 (Lama 1995c); one in Bardia in November 1993, the westernmost record for the species (Lama 1993d); also a few records north of Sunischare, Jhapa District, e.g. Inskipp and Inskipp (1981), Halliday and McKnight (1990). Found in tangled thickets, especially at tropical forest edges along stream banks; favours broadleaved evergreen forest. At sites where recently recorded its habitat is now drastically reduced and highly threatened.

Abbott's Babbler *by Raj Kamal Pukhan*

Pomatorhinus ferruginosus Coral-billed Scimitar Babbler

Nationally threatened status: CR A2ac, D1

Former resident? Only known in Nepal from a dozen sightings from the Arun valley in E Nepal from 2775 m to 3660 m in 1973 (months unknown) (Fleming *et al.* 1984). Bamboo thickets, dense undergrowth in moist broadleaved evergreen forest in temperate zone. Threatened by habitat loss and habitat degradation, although suitable areas that are unexplored could still occur. Nepal is the western limit of the species's range.

Rimator malacoptilus Long-billed Wren Babbler

Nationally threatened status: CR A2c, D1

Very rare and very local resident in the east: 1770 m and 3260 m. Only two Nepal records. Reported in April 1995 at 3260 m c. 3 km north of Punggum village on Zattara Danda along the western border of Makalu Barun National Park; in dense mixed rhododendron forest amongst dense bamboo undergrowth, ferns and mossy boulders (Cox and Sherpa 1998). Confirmed for Nepal in June 2009 at 1770 m on the northern slope of Chitre Danda in the Sankhuwa Khola watershed, 1 km south-west of Sikidim village, Sankhuwasabha District in Makalu Barun National Park Buffer Zone; in dense tangled thickets in dense subtropical mixed broadleaved forest (Cox 2009, 2010). Threatened by forest loss and degradation, but some suitable areas remain unexplored; also a skulking species so could be under-recorded. Nepal is the western limit of the species's range.

Spelaeornis caudatus Rufous-throated Wren Babbler

Globally threatened status: Near-threatened

Nationally threatened status: EN A2ac, D1

Very rare and very local resident in the east; 2135-2440 m. The only record since 1991 is of two at Hanga Tham in the upper Mai valley, Ilam District in April 1993 (Flack 1993), but no later records from the area and not located by a 2008 Mai valley survey (Robson *et al.* 2008). Several earlier records of one or two birds from the same area e.g. Inskipp and Inskipp (1981b). The only other records are from Paniporua, Panchthar District in April 1988 (Martens 1988, Martens and Eck 1995) and Shyaksila Toten, Barun valley in Makalu Barun National Park in November 1984 (Nepali 1984). Frequents understorey of lower temperate broadleaved evergreen forest with mossy rocks and ferns. Its habitat has been significantly reduced and degraded, but some suitable areas remain unexplored; also secretive and so could be under-recorded. Nepal is the western limit of the species's range.

Spelaeornis formosus Spotted Wren Babbler

Nationally threatened status: CR A2c, D1

Very rare and very local resident. Only one record: one heard northwest of Shyaksila Toten, Barun valley at 1785 m in November 1984 (R. L. Fleming Jr. *in litt.* September 1989; Nepali 1984). Understorey of subtropical and lower temperate broadleaved evergreen forest with

dense undergrowth, ferns and moss-covered rocks. Threatened by significant habitat loss and habitat degradation, but some suitable areas remain unexplored; has a distinctive song but is secretive and could be overlooked. Nepal is the western limit of the species's range.

Sphenocichla humei Blackish-breasted Babbler

Globally threatened status: Near-threatened
Nationally threatened status: CR A2c, D1
Very rare and very local, possibly resident. Only one confirmed record: two birds in forests near Dharan, Sunsari District at 500 m in December 1996 amongst riparian vegetation by a small forest stream (Karki and Choudhary 1997). One probable was reported in Raja Rani Community Forest, Morang District at 450 m in January 2004, but the record requires confirmation (Inskipp 2005, Basnet 2005b; Basnet *et al.* 2006). In India found from 1500 m up to at least 2300 m in broadleaved evergreen forest with large trees and bamboo in the breeding season. Its habitat has been reduced and degraded, but possibly suitable areas that are unexplored still remain in the east. A skulking species so could be overlooked. Nepal is the western limit of the species's range.

Chrysomma altirostre Jerdon's Babbler

Globally threatened status: VU
Nationally threatened status: CR C2a(i), D1
Very rare and very local resident; 150-250 m. Only recorded in two localities. Discovered for Nepal in November 1989 in Chitwan (Baral and Eames 1991). A few later records from the park e.g. six in December 1989 (the maximum number recorded in Nepal) and in April 1990 (Baral and Eames 1991), three in January 1991 (Lama 1995c), March 1993 (Lama 1993b), five in February 2000 (Chaudhary 2004a) and one in April 2005 (Giri and Choudhary 2005a). Also found at Rani Tal, Shukla Phanta: two in May 1998 (Giri 1998), two plus in April 2001 (Giri and Choudhary 2001a, Inskipp and Inskipp 2001b) and four in May 2010 (Baral *et al.* 2010b). Inhabits reedbeds and tall grassland. Threatened by habitat loss and alteration. Possibly overlooked previously.

Turdoides longirostris Slender-billed Babbler

Globally threatened status: VU
Nationally threatened status: CR B2ab(iii)
Very local resident, only recorded in Chitwan, where it is widespread and locally fairly common; 250 m. The Chitwan population was estimated to be more than 1,000 and probably declining (Baral 2001). A 2005 Chitwan survey found the species in 26 out of 35 grassland areas covered (Baral and Chaudhary 2006). Based on actual sightings and potential habitat a population of 720-1080 pairs was estimated (Baral and Chaudhary 2006). Found to be associated with tall *Narenga porphyrocoma* grass assemblages, with other co-dominant species (Baral and Chaudhary 2006). Threatened by untimely cutting and burning of suitable grassland habitat. Nepal is the western limit of the species's range.

Garrulax ruficollis Rufous-necked Laughingthrush

Nationally threatened status: EN A2c, C2a(i), D1
Very local resident. Between 1991 and 2010 mainly recorded in small numbers near Tiger Tops Jungle Lodge and Tiger Tops Tented Camp Chitwan National Park where it was locally fairly common; 275 m, e.g. Baral and Upadhyay (2006), eight in February 1999 (Sterling 1999), three in March 2001 (Wright and Lawson 2001), Bird Education Society (2003), four in March 2006 and six in March 2007 (GC 2010), and twelve in December 2008 (Baral 2009g). However suitable habitat for the species near Tiger Tops Jungle Lodge was destroyed by severe monsoon floodingin 2010 (D. B. Chaudhary verbally to C. Inskipp, December 2010. Now chiefly recorded outside Chitwan National Park in adjoining community forests: Namuna Community Forest, Nawalparasai District where 25 were seen in March 2010 (Chaudhary 2007a, 2010), and also Krishnashar and Gundrahi Dhakaha Community Forests (D. B. Chaudhary verbally to C. Inskipp December 2010). Previously also recorded from Tamaspur just to the west of the park in Chitwan District, e.g. Redman and Murphy (1979), Mills and Preston (1981), but current occurrence there needs confirmation. It inhabits thick undergrowth in dense tropical broadleaved forest. Threatened by habitat loss and habitat degradation. Nepal is the western limit of the species's range.

Leiothrix argentauris Silver-eared Mesia

Nationally threatened status: CR A2ac, D1
Resident, formerly found from west to east Nepal; 305-1830 m. Subject to small altitudinal movements. No known records since 1995. Described as 'occasional' by Fleming *et al.* (1984). Formerly regularly seen in the Mai Valley, Ilam District, but last reported there in 1990 (Halliday and McKnight 1990). Few reports elsewhere between 1980 and 1990 (Inskipp and Inskipp 1991). A flock of 30 in Bardia in February 1995 (Wheeldon 1995) and two at Tiger Tops Karnali Tented Camp, Bardia in January 1996 (Suchit Basnet verbally 2010) were the last known sightings. Evergreen biotope: frequents bushes in evergreen forest and in forest clearings.

Gampsorhynchus rufulus White-hooded Babbler

Nationally threatened status: CR A2ac, D1
Probably former resident or possibly winter visitor. No known records since 1989. Only two known records, both from the far east: one seen north of Bhadrapur (Jhapa District) at 600 m in February 1965 (Fleming and Traylor 1968) and five at Soyang, Ilam District at 1400 m in January 1989 (Shakya 1989). Its habitat of bamboo in moist tropical and subtropical broadleaved forest is now much reduced and highly threatened in Nepal.

Heterophasia annectans Rufous-backed Sibia

Nationally threatened status: CR A2ac, D1

Very rare and local, probably resident; 1450-2650 m. Subject to minor, local altitudinal movements. No known records since 1999. The only recent records are one located at Ghorepani, Kaski District in April 1999, a notable westward expansion of the species' range (Giri and Choudhary 2000b, Basnet 2007a); also a record in 1993 or 1994 in Makalu Barun National Park buffer zone, with no other details reported (Cox 1999b). Previously a few records from the far east: near Mai Pokhari, Ilam District in September 1978 (de Witt 1982, Fleming *et al.* 1984) which constitutes the first Nepal record, from the same area near Phidim, Panchthar District in November 1978 (Cox 1978, Hall 1978), and at Hanga Tham, Ilam District in March 1989 (Dodman and Guinan 1989). The species was not found during a 2008 bird survey of the Mai Valley (Robson *et al.* 2008). It inhabits dense humid broadleaved evergreen forest in subtropical and temperate zones. Threatened by deforestation and forest degradation, but significant suitable areas of suitable habitat still remain in the temperate zone. Nepal is the western limit of the species's range.

Heterophasia picaoides Long-tailed Sibia

Nationally threatened status: CR A2ac, D1

Very rare and local, probably resident: 305-900 m. The species was described from Nepal and found in the tarai and lower hills in the nineteenth century (Hodgson 1829). Recorded as 'tolerably common about Nimboatar', east-central Nepal in winter 1877 (Scully 1879). However, no other records until two were reported near Sauraha, Chitwan in March 1992 (S. Basnet and B. Subba in Inskipp 2006). Later two seen by the Mule Khola, upper Churia hills, Chitwan in April 2006 (Basnet 2007a) and one was reported from the Churia hills in December 1996 (Giri 1997b). Broadleaved evergreen forest in tropical and subtropical zones. Threatened by deforestation and forest degradation. Nepal is the western limit of the species's range.

Irena puella Asian Fairy Bluebird

Nationally threatened status: CR A2ac, D1

Now very rare; no known records since 1997. Probably former resident; only found in the centre and east below 365 m. Regularly recorded north-west of Sunischare, Jhapa District since 1965, e.g. Fleming and Traylor (1968), Madge *et al.* (1974), Inskipp and Inskipp (1981b), Halliday and McKnight (1990), but no known records there since June 1997 when two seen (Choudhary 1997e) and suitable habitat may no longer exist in the area. Two records from Hetauda in the 1970s (Hopkins 1971, Lindvall and Dhital 1978) but none since. The only other records are from Hans Pokhari, Ilam District in March 1989 (Dodman and Guinan 1989) and one near Dharan, Sunsari District in March 1997 (Choudhary 1997e). Inhabits subtropical broadleaved evergreen and dense moist deciduous forest, and in Nepal only in the lowlands, where there is very little suitable habitat left.

Cochoa purpurea Purple Cochoa

Nationally threatened status: EN A2c, C2a(i), D1

Rare, possibly resident in central and eastern areas; 915-2255 m. Recent records: three in May 1994 above Dhunge Sangu on the Milke Danda (Lama 1994c), nest with eggs found in June 1994 in Makalu Barun National Park (Lama 1994d), one on Phulchoki in April 1996 on Phulchoki (Giri and Choudhary 1996) and two in May 2009 on Shivapuri (O'Connell Davidson 2009). Previously also recorded in the Arun valley in November 1973 (Anon. 1988) and the Mai valley (Hall 1978). Inhabits damp, dense broadleaved, evergreen forests. Threatened by forest loss and degradation.

Brachypteryx stellata Gould's Shortwing

Nationally threatened status: EN A2ac, C2a(i), D1

Very rare; probably resident with altitudinal movements; 600-3505 m. Only regularly recorded near Gapte Cave, Langtang National Park: maximum of seven here in May 1982 (Eames 1982, Robson 1982); recorded less frequently here since 1990 with singles in June 1995 (Toohig 1995), May 1997 (Cooper and Cooper 1997), and May 2002 (Wallace and Wallace 2002), two in May 2007 (Byskov 2007) and two or three in May 2008 (Wheatley 2010), but no specific reports located from Gapte in 2009 and 2010.. Only recorded from two other localities since 1990: one seen in March 1997 between Sukhani and Garuwa (Giri and Choudhary 1997) and recorded (numbers unknown) in the Sankhuwa river valley, Makalu Barun National Park buffer zone between 1993 and 1995 (Cox 1999b). Breeds in dense rhododendron and bamboo, juniper shrubberies; winter habitat is poorly known. A skulking species that could be overlooked. Threatened by habitat loss.

Brachypteryx leucophys Lesser Shortwing

Nationally threatened status: EN A2ac, D1

Very rare, current status uncertain; 250 m to 2135 m. No known records since 1988, except for reports of one above Ghandruk, Annapurna Conservation Area in March 1995 (Suchit Basnet verbally 2010) and another between Lendada and Ranidada, Makwanpur District in central Nepal in March 2008 (Basnet and Thakuri 2008). A very secretive species that could be overlooked. Previously recorded in the east between January and April. Collected in the Upper Mai valley Ilam District in April 1912 (Stevens 1925b); also collected at Tarahara, Sunsari District in February 1971 and at Simery in February 1988 (Nepali 1986b). Seen north of Sunischare, Jhapa District in April 1986 (Goodwin 1986); in the upper Arun valley in March 1987 (Turin *et al.* 1987); east of Ilam bazaar, Ilam District in January and March 1988 (van Riessen 1989); and Hanga Tham, Ilam District in March 1988 (Kall and Wallander 1988). Frequents thick undergrowth in moist, broadleaved forest and secondary forest, often near streams. A very secretive species that could be overlooked. Threatened by deforestation and forest degradation. Localities where it was previously recorded in Ilam District have suffered extensively from these threats.

White-throated Bushchat *by Jyotendra Jyu Thakuri*

Saxicola insignis White-throated (Hodgson's) Bushchat

Globally threatened status: VU

Nationally threatened status: EN A2a, C2a(i), D1

Very local winter visitor; up to 150 m (-1380 m). Fairly common at Shukla Phanta which currently holds the largest known wintering population of the species throughout its range (Baral 1998b, 1999b); during a 1997 survey the maximum of 26 was found in December (Baral 1998b). A survey in 2009/2010 recorded 17 birds in December 2009, 19 in February and 29 in April 2010 (J. Thakuri in litt. to H. S. Baral October 2010). Koshi Barrage, its former stronghold, has suffered habitat loss and alteration (Inskipp and Inskipp 1991). Up to ten birds noted at Koshi in 1982 (Martins *et al.* 1983), but only a few recent reports from there, mainly in March: two in 1994 (Choudhary 1994c), two in 1996 (Giri and Choudhary 1996), one in 2000 (Giri and Choudhary 2000a) and one in February 2002 (Malling Olsen 2004). Other recent records: one at Lumbini, Rupandehi District in 1994 (Lama 1995c), near Meghauli, Chitwan District two in April 1991 (Lama 1995c), one in February 2000 (Choudhary 2004), and one in January 2006 (Chaudhary 2010), one in Chitwan in February 2004 (Chaudhary 2004a) and one in August 2000 near Chisapani, Nuwakot District at the unusually high altitude of 1800 m (Giri and Choudhary 2000b). Frequents grassland and tall grass and reeds along rivers. Threatened by habitat loss and poor habitat management, such as overgrazing and ploughing. Flooding in 1986 damaged its habitat at Koshi Barrage.

Saxicola jerdoni Jerdon's Bushchat

Nationally threatened status: CR A2a, C2a(i), D1

Very rare and local, breeding resident; 75 – 150 m. Several recent records of up to ten birds from Shukla Phanta, (Baral 2000b, 2001), including six in May 2008 (Baral 2008c), and nine in May 2010 (Baral *et al.* 2010b). The first Nepal record was one male in May 1975, and another male with a possible juvenile was recorded in June 1976 from Koshi Barrage area (Gregory-Smith and Batson 1976). All recent records have been from Shukla Phanta: four in May 1996 (Choudhary 1996a); two seen near Rani Tal in January 1997 (Chaudhary 1997a); and in May 1997 a pair was seen feeding two fledged immatures near Shikari Tal (Giri and Choudhary 1997). The only other recent record is one in Dobhan grasslands, Bardia in October 1998 (Giri *et al.* 1998). Frequents tall grassland. Threatened by habitat loss. Nepal is the western limit of the species's range.

Dicaeum chrysorrheum Yellow-vented Flowerpecker

Nationally threatened status: CR A2ac, D1

Very local and rare, probably resident; 245 m. No known records since 1997. Recorded from the centre and east. Only two recent records: two birds in Dharan forests in April 1995 (Lama 1995c) and one in the Churia Hills, Chitwan in March 1997 (Harrap and Basnet 1997). Previously seen more frequently. There are several records from north of Sunischare, Jhapa District in March and April between 1977 and 1987 (de Witt 1982, Mills and Preston 1981, Fairbank 1982, Eve and Hibberd 1987), but none since. Also recorded near Dhankuta, Dhankuta District in 1974 (Fleming 1974, Fleming *et al.* 1984) and in the Churia Hills, Chitwan in March in 1985 and 1989 (H. S. Baral *in litt.* 1989). Frequents open forest and forest edges; favours broadleaved evergreen biotope. Threatened by habitat loss. Nepal is the western limit of the species's range.

Dicaeum cruentatum Scarlet-backed Flowerpecker

Nationally threatened status: CR A2a, D1

Possibly former resident. No known recordssince 1979. Only two confirmed records, both from the far east. First recorded from Ilam District at the unusually high altitude of 2135 m (undated) (Fleming *et al.* 1984) and three were seen at Dharan, Sunsari District at 305 m in April 1979 (Redman and Murphy 1979, Redman *et al.* 1984). Inhabits edges of tropical and subtropical forests, that have decreased in extent, but also found in secondary growth elsewhere in its range. The species could be overlooked. It is interesting to note that in Bhutan it is rare and mainly known from records in 1960s and 1970s; the near lack of recent records suggests a decline since the 1960s, for unknown reasons (Spierenburg 2005). The lack of recent Nepal records could possibly be attributed to the same decline. Nepal is the western limit of the species's range.

Arachnothera longirostra Little Spiderhunter

Nationally threatened status: CR A2ac, C2a(i), D1

Very rare and local, found up to 305m. Probably former resident. Since 1990 recorded from the east: north of Sunischare, Jhapa District one was seen in December 1992 (Cox 1992b) and two in March 1997 (Choudhary 1997b), and one east of Dharan, Morang District in June 1999 (Basnet 2003). Recorded from Chitwan in March 2001 (Chaudhary 2004a), two by the Mule Khola Churia hills (Subedi 2010a) and one by the Surung Khola Churia hills in April 2009 (Subedi 2010a). Found more frequently in the 1970s and 1980s: several records from north of Sunischare, including three in

January 1989 (Halliday 1989), and described as a rare resident at Chitwan (Gurung 1983). Frequents wild bananas in broadleaved evergreen and moist deciduous forest, often along streams; this habitat in lowland Nepal has almost entirely disappeared; once found in Papaya Carica papaya gardens.

Ploceus megarhynchus Yellow Weaver (Finn's Weaver)

Globally threatened status: VU
Nationally threatened status: CR C2a(i), D1

Very local resident and summer visitor, 75-150 m. A small population was found at Shukla Phanta in May 1996, when 12 birds were counted (Choudhary 1996a, Baral 1998c, d). The maximum of 53 was seen in March 1998 (Giri 1998). A flock of 36 birds and 20 nests were found in May 2008 (Baral *et al.* 2008b) and 251 birds in May 2010 (Baral *et al.* 2010b). There is an unconfirmed report of the species from Koshi Tappu in February 1993 (Fouarge 1993); the species was confirmed here in October 2002 when a flock of eight was seen at Koshi Camp (Choudhary *et al.* 2003; Giri and Choudhary 2002d). Occurs in grasslands and is threatened by habitat loss and alteration.

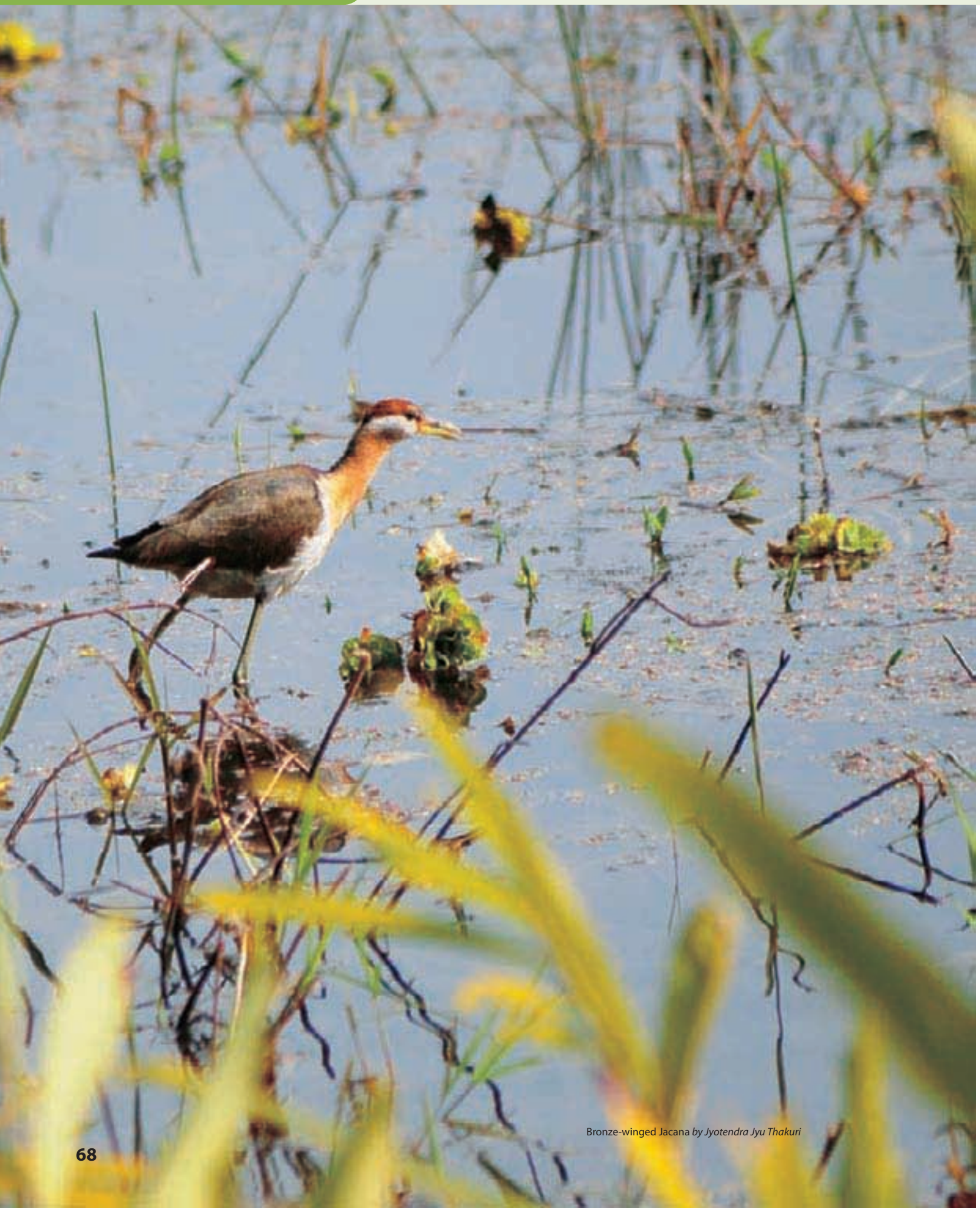
Emberiza aureola Yellow-breasted Bunting

Globally threatened status: VU
Nationally threatened status: EN A2ace

Winter visitor and passage migrant which has sharply declined in the last 20 years. Described as a common winter visitor and passage migrant in 1990 from the terai up to 1370 m (Inskipp and Inskipp 1991). In 1955 a winter visitor to the Kathmandu Valley in large flocks from end of November to May (Proud 1955), but in 1990 mainly a passage migrant to the Valley, with some birds overwintering (Inskipp and Inskipp 1991) and no known records from the Valley for at least ten years. Huge flocks recorded at Koshi in the past: over 7000 in March and April 1982 (Eames 1982); thousands in November 1992 (Murphy and Waller 1992), 600 in February 2003 (Chaudhary 2004a), 300 in December 2007 (Chaudhary 2007c), hundreds in sugar cane fields in 2008 (Tribe 2008); no known later records from Koshi. Enormous flocks reported flying to roost at Chitwan in 1982; the maximum of 3500 in March (Turton and Speight 1982), but few recent Chitwan records, e.g. 20 in December 2001 (Naylor *et al.* 2002b) and one in March 2005 (van der Dol 2005). Recorded from N end of Phewa Tal between 2001 and 2009, with the maximum of 100+ in November 2004 (Naylor and Giri 2004) and a minimum of five in November 2005 (Naylor and GC 2005). The only other recent records are a flock of 2000 NW of Lumbini in Kapilvastu district in January 2006 (Mallalieu 2006a) and one in Langtang village in May 2003 (Giri and Choudhary 2003b). Frequents cultivation. Possibly threatened by changes in agricultural practices, including pesticide use.

Bar-headed Geese *by Bed Bahadur Khadka*

APPENDICES



Bronze-winged Jacana *by Jyotendra Jyu Thakuri*

APPENDIX 3

Summary data on all nationally threatened species

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Grey Francolin	*Francolinus pondicerianus*	Bangladesh, India, Pakistan, Sri Lanka, Iran, Indian Ocean (i), Middle East (i)	R	CGS	75 - 200 m		<500	VU, A3c, C1, D1	4	Loss and degradation of farmland/short grasslands, hunting, trapping and disturbance	Monitoring population, impact of hunting and habitat assessment	Conservation of farmland habitat, re-introductions, education and awareness
Swamp Francolin	*Francolinus gularis*	Bangladesh, India	R	G	75 - 250 m	VU	<500	EN, A2ac, B2a, b(iii,v)	5	Loss and degradation of tall grasslands, hunting, trapping and disturbance	Monitoring population, impact of hunting and habitat assessment	Management of grassland habitat, re-introductions, education and awareness
Blue Quail (Blue-breasted Quail)	*Coturnix chinensis*	Bangladesh, China, India, Myanmar, Sri Lanka, Indonesia, Australasia, Africa, South-East Asia	R	GS	75 - 1350 m		<50	CR, A2ac, D1	2	Loss and degradation of uncultivated field edges and scrub, hunting, trapping and disturbance	Monitoring population, impact of hunting and habitat assessment	Habitat protection, awareness-raising
Satyr Tragopan	*Tragopan satyra*	Bhutan, China, India	R	F	2100 - 3800 m	NT	<1,000	VU, A2acd, C2a(i), D1	2	Loss & degradation of dense forest with bamboo, hunting & trapping	Monitoring population and impact of hunting	Habitat protection, awareness-raising
Red Junglefowl	*Gallus gallus*	Bangladesh, Bhutan, China, India, Myanmar, Oceania (i), South-East Asia	R	F	75 - 915 m		<1,000	VU, A2acd, C2a(i), D1	2	Forest loss & degradation, hunting & trapping	Monitoring population	Habitat protection, awareness-raising
Cheer Pheasant	*Catreus wallichi (Catreus wallichii)*	India, Pakistan	R	FS	1800 - 3050 m	VU	<1,000	VU, A2acd, C2a(i), D1	2	Habitat fragmentation, hunting & trapping, livestock pressure	Monitoring population	Habitat protection, awareness-raising
Comb Duck	*Sarkidiornis melanotos*	Bangladesh (n), China, India, Myanmar, Pakistan, Sri Lanka, South America, South-East Asia, Africa	R	W	75 - 250 m		<500	EN, C2 a(i), b	5	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Management of forested ponds and lakes, protection during nesting, education and awareness
Cotton Pygmy-goose	*Nettapus coromandelianus*	Bangladesh, China, India, Myanmar, Pakistan, Sri Lanka, South-East Asia, Philippines, Australasia	R	W	75 - 250 m		<1000	VU, C1, D1	5	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Management of forested ponds and lakes, protection during nesting, education and awareness
Falcated Duck	*Anas falcata*	Bangladesh (n), China, India (n), Mongolia, Myanmar (n), Russia, East Asia, South-East Asia (n)	WV	W	75 - 915 m	NT	<50	CR, C2a(i), D1	1, 6	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Wetland management
Ferruginous Duck (Ferruginous Pochard)	*Aythya nyroca*	Bangladesh (n), Bhutan (n), China, India, Myanmar (n), Pakistan (n), Africa (n), South-East Asia (n), Central Asia, Middle East, Eastern Europe, Central Europe	WV	W	75 - 915 m	NT	<1000	VU, C1, D1	5	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Wetland management
Painted Stork	*Mycteria leucocephala*	Bangladesh (n), China, India, Myanmar, Pakistan, South-East Asia	R	W	75 - 250 m	NT	<50	CR, D1	5	Loss and degradation of wetlands, hunting and disturbance, pesticides?	Monitoring population	Wetland management
Asian Openbill	*Anastomus oscitans*	Bangladesh, India, Myanmar (n), Pakistan, South-East Asia	R	W	75 - 250 m		<10000	VU, C1	4	Shortage of food, loss and degradation of wetlands, hunting and disturbance	Monitoring population, study on food habits and ecology	Management of food items, protection during nesting

Summary data on all nationally threatened species Contd.

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Black Stork	*Ciconia nigra*	Bhutan (n), China, India (n), Myanmar (n), Pakistan (n), Europe, Africa (n), Central Asia, Middle East (n), South-East Asia (n), East Asia	WV	W	75 - 1500 m		<1000	VU, A2ac, C2a(i), D1	5	Loss and degradation of wetlands, hunting and disturbance, pesticides?	Monitoring population	Wetland management
Black-necked Stork	*Ephippiorhynchus asiaticus*	Bangladesh (n), India, Myanmar, Pakistan, Sri Lanka, South-East Asia, Australasia	R	W	75 - 300 m	NT	<50	CR, D1	2, 6	Disturbance, hunting and degradation of wetlands, pesticides?	Monitoring population, study on food habits and ecology	Wetland management
Lesser Adjutant	*Leptoptilos javanicus*	Bangladesh, China (n), India, Myanmar, Sri Lanka, South-East Asia	R	CW	75 - 250 m	VU	<1000	VU, C2 a(i)	5	Disturbance, hunting and degradation of habitats, pesticides?	Monitoring population, study on food habits and ecology	Habitat and food management
Greater Adjutant	*Leptoptilos dubius*	Bangladesh (n), India, Myanmar, Pakistan (n), South-East Asia	NB	W	75 - 250 m	EN	<50	CR, D1	1	Hunting and disturbance, possibly shortage of food	Monitoring population, study on food habits and ecology	Habitat and food management, re-introductions
Black-headed Ibis	*Threskiornis melanocephalus*	Bangladesh (n), China (n), India, Myanmar (n), Pakistan, Sri Lanka, South-East Asia	WV	W	75 - 200 m	NT	<1000	VU, A2a, C2a(i), D1	2	Loss and degradation of wetlands, hunting and disturbance,pesticides?	Monitoring population	Wetland management
Eurasian Spoonbill	*Platalea leucorodia*	Bangladesh (n), China, India, Myanmar (n), Pakistan, Central Asia, Russia, Europe, Africa (n), East Asia (n), South-East Asia (n), Middle East	WV	W	75 - 250 m		<50	CR, A1a, C2a(i), D1	2	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Wetland management
Spot-billed Pelican	*Pelecanus philippensis*	Bangladesh (n), India, Myanmar (n), Sri Lanka, South-East Asia	NB	W	100 m	NT	<50	CR, C2a(i), D1	1, 6	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Wetland management
Oriental Darter (Darter)	*Anhinga melanogaster*	Bangladesh, India, Myanmar, Pakistan, Sri Lanka, South-East Asia	R	W	75 - 300 m	NT	<1000	VU, C2 a(i), D1	5	Loss and degradation of wetlands, hunting and disturbance	Monitoring population, study on food habits and ecology	Management of food items, protection during nesting
Red-necked Falcon	*Falco chicquera*	Bangladesh, India, Pakistan, Africa	R	CO	75 - 1400 m		<50	CR, A2a, C2a(i), D1	1	Pesticides?	Monitoring population, pesticides effects	Enforcement of pesticide controls, awareness-raising
Oriental Hobby	*Falco severus*	Bangladesh (n), Bhutan, China (n), India, Myanmar, South-East Asia, Indonesia, Papua New Guinea	R	W	75 - 1400 m		<50	CR, D1	6	Deforestation, pesticides?	Pesticides effects	Enforcement of pesticide controls, awareness-raising, habitat protection
Laggar Falcon	*Falco jugger*	Bangladesh, Myanmar, India, Pakistan, Afghanistan	R?	CO	75 - 1400 m	NT	<50	CR, C2a(i), D1	6	Pesticides?	Pesticides effects	Enforcement of pesticide controls, awareness-raising
Jerdon's Baza	*Aviceda jerdoni*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	150 - 250 m		<50	CR, C2a(i), D1	6	Broadleaved evergreen forest loss & degradation	Monitoring population, distribution	Habitat protection, awareness-raising

Summary data on all nationally threatened species Contd.

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Brahminy Kite	*Haliastur indus*	Bangladesh, China, India, Myanmar, Pakistan, Sri Lanka, Indonesia, Australasia, South-East Asia	R	CW	75 - 360 m		<50	CR, A2a, C2a(i), D1	1,6	Wetland loss, pesticides?	Monitoring population, pesticides effects	Wetland management, enforcement of pesticide controls, awareness-raising
Pallas's Fish Eagle	*Haliaeetus leucoryphus*	Bangladesh, Bhutan, China, India, Mongolia, Myanmar, Pakistan, Russia, Central Asia, Middle East (n), South-East Asia (n)	WV	W	75 - 300 m	VU	<50	CR, C2a(i), D1	6	Food shortage, possibly water pollution including pesticides	Monitoring population, pesticides effects	Wetland management, enforcement of pesticide controls, awareness-raising
White-tailed Eagle	*Haliaeetus albicilla*	China, India (n), Pakistan (n), Europe, Central Asia, East Asia (n), Middle East	WV	W	75 - 275 m		<50	CR, C2a(i), D1	6	Food shortage, possibly water pollution including pesticides	Monitoring population, pesticides effects	Wetland management, enforcement of pesticide controls, awareness-raising
Lesser Fish Eagle	*Ichthyophaga humilis*	Bhutan, China (n), India, Myanmar, Indonesia, South-East Asia	R	FW	75 - 915 m	NT	<50	CR, C2a(i), D1	5	Shortage of food, loss and degradation of forested streams , possibly water pollution including pesticides	Monitoring population, study on food habits and ecology	Management of food items, protection during nesting
Grey-headed Fish Eagle	*Ichthyophaga ichthyaetus*	Bangladesh, India, Myanmar, Sri Lanka, Indonesia, Philippines, South-East Asia	R	FW	75 - 915 m	NT	<50	CR, C2a(i), D1	6	Shortage of food, loss and degradation of forested lakes and slow-moving rives, hunting and persecution	Monitoring population, study on food habits and ecology	Management of food items, protection during nesting
Lammergeier (Bearded Vulture)	*Gypaetus barbatus*	Bhutan, China, India, Mongolia, Pakistan, Russia, Central Asia, Middle East, Europe, North East and East Africa	R	O	1200 - 4100 m		<500	VU, A2a, C2a(i), D1	3, 6	Secondary poisoning due to NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAID and harmful drugs from the environment, if needed supply of safe food artificially
Egyptian Vulture	*Neophron percnopterus*	China (n), India, Pakistan, Central Asia, Africa, Europe (more southerly countries), Middle East	R	HO	75 - 2900 m	EN	<1000	VU, A2a, C1	2	Secondary poisoning by NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAID & harmful drugs from the environment, if needed supply of safe food artificially
White-rumped Vulture	*Gyps bengalensis*	Bangladesh, Bhutan, China, India, Myanmar, Pakistan, South-East Asia	R	H	75 - 1800 m	CR	<2000	CR, A2ace	1, 2	Secondary poisoning due to NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAID and harmful drugs from the environment, if needed supply of safe food artificially
Slender-billed Vulture (Long-billed Vulture)	*Gyps tenuirostris*	Bangladesh, India, Myanmar, South-East Asia	R	H	350 -1525 m	CR	<50	CR, A2ace, C2a(i), D1	1, 2	Secondary poisoning due to NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAID and harmful drugs from the environment, if needed supply of safe food artificially
Himalayan Vulture (Himalayan Griffon)	*Gyps himalayensis*	Bhutan, China, India, Pakistan, South-East Asia, Central Asia	R	O	900- 4000 m		<10000	VU, A2ace	2, 3	Secondary poisoning due to NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAID and harmful drugs from the environment, if needed supply of safe food artificially
Red-headed Vulture	*Sarcogyps calvus*	Bangladesh, Bhutan, Cambodia, China, India, Laos, Malaysia, Myanmar, Pakistan, Thailand, Vietnam	R	FO	75 - 2000 m	CR	<500	CR, A2ace	2	Secondary poisoning by NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAID & harmful drugs from the environment, if needed supply of safe food artificially

Summary data on all nationally threatened species Contd.

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Cinereous Vulture	*Aegypius monachus*	Bhutan (n), China, India (n), Myanmar (n), Pakistan, Mongolia, East Asia (n), Central Asia, Middle East, Europe	WV	O	75 - 3000 m	NT	<250	EN, A2a, C2a(i), D1	2	Secondary poisoning by NSAID drug, shortage of safe food	Effect of NSAIDs, monitoring population, food habits, breeding ecology	Removal of NSAIDs & harmful drus from the environment, if needed supply of safe food artificially
Western Marsh Harrier (Eurasian Marsh Harrier)	*Circus aeruginosus*	Bangladesh (n), China, India (n), Myanmar (n), Pakistan (n), Russia, Sri Lanka (n), Africa, South East Asia (n), Central Asia, Europe, Middle East (n)	WV	W	75 - 915 m		<1000	VU, A2a, C2a(i), D1	2	Loss of marshes, shortage of food, pesticides?	Pesticides effect, international scenario	??
Northern Harrier (Hen Harrier)	*Circus cyaneus*	Bangladesh (n), Bhutan (n), China, India (n), Myanmar (n), Pakistan (n), Russia, Africa (n), East Asia (n), South-East Asia (n), Caribbean (n), Central America (n), Europe, Middle East (n), North America, South America (n)	WV	O	75 - 3000 m		<1000	VU, A2a, C2a(i), D1	2	Unknown, shortage of food, pesticides?	Pesticides effect, international scenario	??
Pied Harrier	*Circus melanoleucos*	Bangladesh (n), Bhutan (n), China, India, Myanmar (n), Pakistan (n), Japan, Russia, South-East Asia (n)	WV	GC	75 - 350 m		<1000	VU, A2a, C2a(i), D1	2	Unknown, shortage of food, pesticides?	Pesticides effect, international scenario	??
Indian Spotted Eagle (Lesser Spotted Eagle)	*Aquila hastata (Aquila pomarina)*	Bangladesh, India, Myanmar	R	F	75 - 350 m	VU	<250	EN, C2a(i), D1	6	Unknown, shortage of food, pesticides?	Monitoring population, pesticides effects	Enforcement of pesticide controls, awareness-raising
Greater Spotted Eagle	*Aquila clanga*	Bangladesh (n), Bhutan (n), China, India (n), Myanmar (n), Pakistan, Russia, Africa (n), South-East Asia (n), Central Asia (n), Europe (partly n), Middle East (n)	WV	W	75 - 250 m	VU	<100	EN, C2a(i), D1	6	Unknown, shortage of food, pesticides?	Monitoring population, pesticides effects	Enforcement of pesticide controls, awareness-raising
Tawny Eagle	*Aquila rapax*	Bangladesh (n), India, Pakistan, Africa, Middle East	R	CO	75 - 250 m		<50	CR, A2a, D1	2,6	Unknown, shortage of food, pesticides?	Monitoring population, pesticides effects	Enforcement of pesticide controls, awareness-raising
Eastern Imperial Eagle (Imperial Eagle)	*Aquila heliaca*	Bangladesh, (n), Bhutan (n), China, India, (n), Pakistan (n), Central Asia, Africa (n), South-East Asia (n), Europe, Middle East (n)	WV	OW	100 m	VU	<50	CR, C2a(i), D1	6	Unknown, habitat loss & degradation? pesticides?	Monitoring population	
Rufous-bellied Eagle	*Lophotriorchis kienerii (Hieraaetus kienerii)*	Bangladesh (n), Bhutan, China, India, Myanmar, Sri Lanka, South-East Asia	R	F	200 - 300 m		<50	CR, A2c, C2a(i),D1	5	Broadleaved evegreen & moist deciduous forest loss & degradation	Monitoring population	Habitat protection, awareness-raising
Bengal Florican	*Houbaropsis bengalensis*	Bangladesh, India, Vietnam, Cambodia,	R	G	75 - 300 m	CR	<50	CR, A2ac, C2a(i), D1	2, 3, 5	Loss and degradation of lowland grasslands, disturbance and hunting	Monitoring population and habitat assessment	Grassland management, restoration and expansion
Lesser Florican	*Sypheotides indicus*	India, Pakistan	SV	G	75 - 400 m	EN	<50	CR, A2ac, C2a(i), D1	1, 6	Loss and degradation of lowland grasslands, disturbance and hunting	Monitoring population and habitat assessment	Grassland management, restoration and expansion

Summary data on all nationally threatened species Contd.

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Slaty-legged Crake	*Rallina eurizonoides*	Bangladesh, China, India, Myanmar (n), Sri Lanka (n), Vietnam, South-East Asia (n)	R	FW	250 m		<250	EN, C2a(i), D1	6	Loss and degradation of wet ground and marshes in forests	Monitoring population	Wetland management
Water Rail	*Rallus aquaticus*	Bangladesh (n), China, India, Mongolia, Myanmar (n), Pakistan (n), Russia, Middle East, Europe, Central Asia, South-East Asia, East Asia, North Africa (and Madagascar)	WV	W	75 - 1400 m		<50	CR, C2a(i), D1	5	Loss and degradation of marshes and reedbeds	Monitoring population	Wetland management
Black-tailed Crake	*Amaurornis bicolor (Porzana bicolor)*	Bhutan, China, India, Myanmar, South-East Asia	R	W	1925 m		<250	EN, C2a(i), D1	2, 5	Loss and degradation of upland marshes and pools	Monitoring population	Wetland management
Baillon's Crake	*Porzana pusilla*	China, India, Myanmar (n), Pakistan (n), Sri Lanka (n), Russia, Middle East, Europe, Central Asia, East Asia, Australasia, Indonesia, South-East Asia, Africa (n)	WV	W	75 - 275 m		<500	VU, A2c, C2a(i),D1	2, 5	Loss and degradation of marshes and reedy lake edges	Monitoring population	Wetland management
Sarus Crane	*Grus antigone*	India, Myanmar, Pakistan, Australia, South-East Asia	R	C	75 - 300 m	VU	<500	EN, C2a(i)	2, 4, 5	Disturbance, trapping, hunting, loss and degradation of habitat	Monitoring population, pesticides effects	Farmland habitat management, education and awareness, strict protection during nesting
Great Thick-knee	*Esacus recurvirostris*	Bangladesh, China (n), India, Myanmar, Pakistan, Sri Lanka, Iran, South-East Asia	R	W	75 - 250 m		<50	CR, C2a(i), D1	2, 5	Disturbance, loss and degradation of riparian habitat	Monitoring population, ecology	Wetland management
Ibisbill	*Ibidorhyncha struthersii*	Bhutan, China, India, Myanmar (n), Pakistan, Central Asia	R	W	75 - 915 m winter, 3800 - 4200 m breeding		<250	EN, C2a(i), D1	2, 5	Disturbance, hunting, degradation of wintering habitat on rivers and climate change?	Monitoring population and habitat assessment	Wetland management
Yellow-wattled Lapwing	*Vanellus malarbaricus (Vanellus malabaricus)*	Bangladesh, India, Pakistan, Sri Lanka	R	GO	75 - 250 m		<250	EN, C2a(i), D1	6	Loss of short grasslands, hunting and disturbance	Monitoring population and habitat assessment	Short grassland management
Pheasant-tailed Jacana	*Hydrophasianus chirurgus*	Bangladesh, China, India, Myanmar, Pakistan, Sri Lanka, Japan, Oman, Philippines, South-East Asia	R	W	75 - 1525 m		<250	EN, C2a(i), D1	5	Loss and degradation of wetlands, hunting and disturbance	Monitoring population and habitat assessment	Wetland management
Wood Snipe	*Gallinago nemoricola*	Bhutan, China (n), India, Laos (n), Vietnam (n)	SV	FW	100- 4300 m	VU	<500	VU, A1a, A2c, C2a(i), D1	1	Hunting in the past, livestock pressure on breeding habitat of subalpine shrubberies and grasslands	Monitoring population, distribution	Habitat protection, awareness-raising
Eurasian Curlew	*Numenius arquata*	Bangladesh (n), China, India (n), Mongolia, Myanmar (n), Pakistan (n), Sri Lanka (n), Russia, Africa (n), South-East Asia (n), Indonesia (n), East Asia (n), Central Asia, Europe, Middle East (n)	WV	W	100 m	NT	<50	CR, A2a, C2a(i), D1	2, 5	Loss and degradation of wetlands, hunting and disturbance	Monitoring population	Wetland management

Summary data on all nationally threatened species Contd.

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Indian Courser	*Cursorius coromandelicus*	Bangladesh, India, Pakistan, Sri Lanka	R	O	75 - 275 m		<100	EN, C2a(i)	5	Loss of habitat, hunting and disturbance	Monitoring population and food items	Short grassland management
Gull-billed Tern	*Sterna nilotica (Gelochelidon nilotica)*	(essentially global) Bangladesh, China, India, Myanmar, Pakistan, Russia, Africa, East Asia (n), South-East Asia (n), Australasia, Caribbean, Central America, Central Asia, Europe, Middle East, North America, South America	WV	W	100 m		<50	CR, A2a, C2a(i), D1	1, 2, 6	Shortage of food, loss and degradation of wetlands, hunting and disturbance	Monitoring population and food items	Management of food items, protection during nesting
Caspian Tern	*Sterna caspia*	Bangladesh (n), China, India, Myanmar (n), Pakistan, Russia, Sri Lanka, Africa, Indonesia (n), South-East Asia, East Asia (n), Central Asia, Europe, Middle East, North America, South America (n)	WV	W	75 - 250 m		<50	CR, A2a, C2a(i), D1	1, 2, 6	Shortage of food, loss and degradation of wetlands, hunting and disturbance	Monitoring population and food items	Management of food items, protection during nesting
River Tern	*Sterna aurantia*	Bangladesh, China, India, Myanmar, Pakistan, South-East Asia	R	W	75 - 610 m		<50	CR, A2a, C2a(i), D1	1, 2, 6	Shortage of food, loss and degradation of wetlands, hunting and disturbance	Monitoring population and food items	Management of food items, protection during nesting
Black-bellied Tern	*Sterna acuticauda*	Bangladesh, China, India, Myanmar, Pakistan, South-East Asia	R	W	75 - 730 m	NT	<50	CR, A2a, C2a(i), D1	1, 2, 6	Shortage of food, loss and degradation of wetlands, hunting and disturbance	Monitoring population and food items	Management of food items, protection during nesting
Indian Skimmer	*Rynchops albicollis*	Bangladesh, China (n), India, Myanmar, Pakistan, South-East Asia (n)	SV?	W	75 - 300 m	VU	<50	CR, A2a, C2a(i), D1	1, 2, 6	Shortage of food, loss and degradation of wetlands, hunting and disturbance	Monitoring population and food items	Management of food items, protection during nesting
Tibetan Sandgrouse	*Syrrhaptes tibetanus*	China, India, Tajikistan	R	D	4800 - 5540 m		<500	VU, A2cd?, C2a(i), D1	4, 6	Livestock pressure, possibly hunting & trapping	Monitoring population, distribution	Habitat protection, awareness-raising
Barred Cuckoo Dove	*Macropygia unchall*	Bangladesh (n), Bhutan, China, India, Myanmar, South-East Asia	R	F	300- 2800 m		<1000	VU, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Monitoring population and food items	Habitat protection, awareness-raising
Thick-billed Green Pigeon	*Treron curvirostra*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia, Philippines	R	F	75 - 350 m		<250	EN, A2ac, C2a(i), D1	2	Forest loss & degradation	Monitoring population and food items	Habitat protection, awareness-raising
Mountain Imperial Pigeon	*Ducula badia*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	150 - 1250 m		<50	CR, A2ac, D1	1	Broadleaved evergreen forest loss & degradation	Distribution	Habitat protection, awareness-raising
Vernal Hanging Parrot	*Loriculus vernalis*	Bangladesh, China, India, Myanmar, South-East Asia	R	F	75 - 300 m		<50	CR, A2ac, D1	1	Broadleaved evergreen forest loss & degradation	Distribution	Habitat protection, awareness-raising
Barn Owl	Tyto alba	Bangladesh, India, Myanmar, Pakistan, Sri Lanka, South-East Asia	R		75 - 1320 m		<3000	VU, A2ac	3	Loss of uncultivated field edge and corners, trapping and pesticide poisoning?	Monitoring population, main trade centres and pesticide effects	Enforcenment of pesticide controls, awareness-raising, controlling trade

Summary data on all nationally threatened species Contd.

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Eastern Grass Owl (Grass Owl)	*Tyto longimembris (Tyto capensis)*	Bangladesh, China, India, Myanmar, South-East Asia, East Asia (n), Australasia	R	G	100 - 225 m		<50	CR, D1	4, 5	Unknown, possibly loss and degradation of lowland grasslands	Distribution and population	Grassland management, restoration and expansion
Rock Eagle Owl (Eurasian Eagle Owl)	*Bubo bengalensis (Bubo bubo)*	India, Pakistan	R	FO	75 - 1800 m		<1,000	VU, A2d, C2a(i), D1	2	Trapping and hunting for trade	Monitoring population and main trade centres	Awareness-raising, controlling trade
Spot-bellied Eagle Owl	*Bubo nipalensis*	Bangladesh, Bhutan, China, India, Myanmar, Sri Lanka, South-East Asia	R	F	250 - 2150 m		<250	EN, A2cd, C2a(i), D1	2,6	Dense broadleaved forest loss & degradation, trapping and hunting for trade	Monitoring population and main trade centres	Awareness-raising, habitat protection, controlling trade
Dusky Eagle Owl	*Bubo coromandus*	Bangladesh, China, India, Myanmar, Pakistan, South-East Asia	R	F	75 - 300 m		<50	CR, Acd, C2a(i), D1	3,6	Forest loss & degradation, trapping and hunting for trade	Monitoring population and main trade centres	Awareness-raising, habitat protection, controlling trade
Brown Fish Owl	*Ketupa zeylonensis*	Bangladesh, China, India, Myanmar, Pakistan, Sri Lanka, South-East Asia, Middle East	R	FW	75 - 1525 m		<3,000	VU, A2acd, C2a(i), D1	2	Forest loss & degradation, food shortage, trapping and hunting for trade	Monitoring population and main trade centres	Awareness-raising, habitat protection, controlling trade
Tawny Fish Owl	*Ketupa flavipes*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	FW	305 m		<50	CR, A2acd, D1	2	Dense broadleaved forest loss & degradation, food shortage, trapping and hunting for trade	Distribution, monitoring main trade centres	Awareness-raising, habitat protection, controlling trade
Brown Wood Owl	*Strix leptogrammica*	Bangladesh, Bhutan, China, India, Myanmar, Sri Lanka, South-East Asia	R	F	250 - 2700 m		<500	VU, A2acd, C2a(i), D1	2	Dense broadleaved forest loss & degradation, trapping and hunting for trade	Monitoring population and main trade centres	Awareness-raising, habitat protection, controlling trade
Indian Nightjar	*Caprimulgus asiaticus*	Bangladesh, India, Myanmar, Pakistan, Sri Lanka, South-East Asia	R	CS	75 - 250 m		<100	EN, A2a, C2a(i), D1	1	Unknown, possibly direct poisoning & food shortage caused by pesticides	Distribution, pesticides effects	Enforcement of pesticide controls, awareness-raising
Red-headed Trogon	*Harpactes erythrocephalus*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	75 - 1000 m		<250	EN, A2ac ,C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Population monitoring	Habitat protection, awareness-raising
Ruddy Kingfisher	*Halcyon coromanda*	Bangladesh, Bhutan, China, India, Myanmar (n), Indonesia, Philippines, South-East Asia, East Asia	R?	F	200 - 500 m		<50	CR, A2c, C2a(i), D1	2,6	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Blue-eared Kingfisher	*Alcedo meninting*	Bangladesh, China, India, Myanmar, Sri Lanka, Indonesia, Philippines, South-East Asia	R	FW	75 - 250 m		<250	EN, A2ac, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation, human disturbance, possibly food shortage	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Blyth's Kingfisher	*Alcedo hercules*	Bhutan, China, India, Laos, Myanmar, Thailand (n), Vietnam	R	F	250 m	NT	<50	CR, A2c, D1	6	Broadleaved evergreen forest loss & degradation, possibly food shortage	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Great Hornbill	*Buceros bicornis*	Bhutan, China, India, Myanmar, South-East Asia	R	F	75 - 250 m		<250	EN, A2c, C2a(i), D1	2	Forest loss especially mature trees for feeding & nesting, hunting	Monitoring population	Habitat protection, awareness-raising

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Blue-eared Barbet	*Megalaima australis*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	120 - 305 m		<50	CR, A2ac, D1	2	Broadleaved evergreen forest loss & degradation	Monitoring population	Habitat protection, awareness-raising
Yellow-rumped Honeyguide	*Indicator xanthonotus*	Bhutan, China, India, Myanmar, Pakistan	R	F	1800 - 3300 m	NT	<500	VU, A2cd, C2a(i), D1	2	Human collection of bee's wax, forest loss & degradation	Assessing distribution and food items, monitoring population	Protection of bees' nests, awareness-raising, forest habitat protection
White-browed Piculet	*Sasia ochracea*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	250 - 2135 m		<250	EN, A2ac, C2a(i), D1	2	Loss & degradation of forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Pale-headed Woodpecker	*Gecinulus grantia*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	275 m		<50	CR, A2a, D1	1	Loss of bamboo jungle	Distribution	Habitat protection, awareness-raising
Great Slaty Woodpecker	*Mulleripicus pulverulentus*	Bangladesh, Bhutan, China, India, Myanmar, Philippines, South-East Asia	R	F	75 - 245 m	VU	<250	EN, A2c, C2a(i), D1	2	Loss of forest, especially of large trees	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Blue-naped Pitta	*Pitta nipalensis*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R?	F	1525 m		<250	EN, A2c, D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Hooded Pitta	*Pitta sordida*	Bangladesh, Bhutan, China, India, Myanmar, Indonesia, Papua New Guinea, Philippines, South-East Asia	SV	F	75 - 305 m		<250	EN, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Great Grey Shrike (Southern Grey Shrike)	*Lanius excubitor (Lanius meridionalis)*	Bangladesh (n), China, India, Mongolia, Pakistan, Russia, Africa, Central Asia, Europe, Middle East, North America	R	F	75 - 250 m		<250	EN, A2ac, C2a(i), D1	2	Loss of uncultivated field edges and corners, pesticides?	Assessing distribution, monitoring population and pesticides effects	Enforcement of pesticide controls, awareness-raising
Yellow-cheeked Tit	*Parus spilonotus*	Bhutan, China, India, Myanmar, South-East Asia	R	F	1980 - 2440 m		<50	CR, A2ac, D1	1	Broadleaved forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Sultan Tit	*Melanochlora sultanea*	Bhutan, China, India, Myanmar, South-East Asia	R	F	250 - 1370 m		<250	EN, A2ac, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Monitoring population	Habitat protection, awareness-raising
Rufous-vented Prinia	*Prinia burnesii*	Bangladesh, India, Pakistan	R	G	100 m	NT	<500	CR, B1, 2ab (i,ii,iii)	1, 2, 4, 6	Loss and degradation of lowland grasslands	Monitoring population, assessing habitat and distribution	Grassland management, restoration and expansion
Grey-crowned Prinia	*Prinia cinereocapilla*	Bhutan, India	R	G	75 - 1065 m	VU	950-2375	EN, B2ab(iii)	1, 4, 5	Loss and degradation of lowland grasslands	Monitoring population and assessing habitat	Grassland management, restoration and expansion
White-throated Bulbul	*Alophoixus flaveolus*	Bangladesh, Bhutan, China, India, Myanmar, Thailand	R	F	75 - 455 m		<250	EN, A2ac, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Monitoring population	Habitat protection, awareness-raising
Striated Grassbird	*Megalurus palustris*	Bangladesh, China, India, Myanmar, Pakistan, Philippines, South-East Asia	R	G	75 - 250 m		<250	CR, A2a	2, 6	Loss and degradation of marshland	Monitoring population and assessing habitat	Grassland management, restoration and expansion

Summary data on all nationally threatened species Contd.

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Bristled Grassbird	*Chaetornis striata*	Bangladesh, India, Pakistan	R?	G	75 - 250 m	VU	3250	VU, B2ab(iii)	5	Loss and degradation of lowland, tall riverine grassland	Monitoring population and assessing habitat	Grassland management, restoration and expansion
Rufous-rumped Grassbird	*Graminicola bengalensis*	Bangladesh, China, India, Myanmar, South-East Asia	R	G	75 - 270 m	NT	2120-5300	EN, B2ab(iii)	4	Loss and degradation of lowland, tall riverine grassland	Monitoring population and assessing habitat	Grassland management, restoration and expansion
Slaty-bellied Tesia	*Tesia olivea*	Bangladesh (n), Bhutan, China, India, Myanmar, South-East Asia	R	F	1000 - 1700 m		<250	EN, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Pale-footed Bush Warbler	*Cettia pallidipes*	Bhutan, China, India, Myanmar, South-East Asia	R	F/S	75 - 250 m		1500-3750	VU, B2ab(iii)	4	Habitat loss & degradation	Monitoring population and assessing habitat	Grassland management, restoration and expansion
Hume's Bush Warbler (Yellow-bellied Bush Warbler)	*Cettia brunnescens (Cettia acanthizoides)*	Bhutan, China, India	R	F	2000 - 3660 m		<500	VU, A2c, C2a(i), D1	2	Loss of bamboo thickets	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Yellow-vented Warbler	*Phylloscopus cantator*	Bangladesh (n), Bhutan, China (n), India, Myanmar (n), South-East Asia (n)	R?	F	250 - 1525 m		<250	EN, A2ac, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Broad-billed Warbler	*Tickellia hodgsoni*	Bhutan, China, India, Myanmar, Vietnam	R	F	2195 - 2300 m		<250	EN, A2c, C2a(i), D1	2	Loss & degradation of broadleaved evergreen forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Rufous-faced Warbler	*Abroscopus albogularis*	Bhutan, China, India, Myanmar, South-East Asia	R	F	300 - 1220 m		<50	CR, A2ac, D1	1	Loss & degradation of broadleaved evergreen forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Abbott's Babbler	*Malacocincla abbotti*	Bangladesh, Bhutan, India, Myanmar, South-East Asia	R	F	75 - 275 m		<250	EN, A2ac, C2a(i), D1	2	Loss & degradation of broadleaved evergreen forest with thickets	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Coral-billed Scimitar Babbler	*Pomatorhinus ferruginosus*	Bhutan, China, India, Myanmar, South-East Asia	R	F	2745 - 3660 m		<50	CR, A2ac, D1	1	Loss & degradation of broadleaved evergreen forest with bamboo	Distribution	Habitat protection, awareness-raising
Slender-billed Scimitar Babbler	*Xiphirhynchus superciliaris*	Bhutan, China, India, Myanmar, Vietnam	R	F	1500 - 3050 m		<1000	VU, A2c C2a(i), D1	2	Loss & degradation of moist broadleaved forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Long-billed Wren Babbler	*Rimator malacoptilus*	Bhutan, China, India, Myanmar	R	F	1770 - 2360 m		<50	CR, A2c, D1	2,6	Forest loss & degradation	Distribution	Habitat protection, awareness-raising
Rufous-throated Wren Babbler	*Spelaeornis caudatus*	Bhutan, India	R	F	2135 - 2440 m	NT	<250	EN, A2ac, D1	2	Loss & degradation of dense broadleaved forest	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Spotted Wren Babbler	*Spelaeornis formosus*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	1200 - 2300 m		<50	CR, A2c, D1	2,6	Loss & degradation of dense broadleaved forest	Distribution	Habitat protection, awareness-raising
Blackish-breasted Babbler (Wedge-billed Wren Babbler)	*Sphenocichla humei*	Bhutan, India	R	F	500 m	NT	<50	CR, A2c, D1	2,6	Loss & degradation of broadleaved evergreen forest with bamboo	Distribution	Habitat protection, awareness-raising

Summary data on all nationally threatened species Contd.

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Golden Babbler	*Stachyris chrysaea*	Bhutan, China, India, Myanmar, South-East Asia	R	F	1800 - 2440 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of bamboo thickets & broadleaved forest	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Tawny-bellied Babbler	*Dumetia hyperythra*	India, Sri Lanka	R	G/S	75 - 305 m		<500	VU, B2ab(iii), C2a(i), D1	2	Loss and degradation of lowland scrub and tall grass	Assessing distribution and monitoring population	Grassland management, restoration and expansion
Jerdon's Babbler	*Chrysomma altirostre*	India, Myanmar, Pakistan	R	G	150 - 250 m	VU	<50	CR, C2a(i), D1	6	Loss and degradation of lowland grasslands	Assessing distribution and monitoring population	Grassland management, restoration and expansion
Common Babbler	*Turdoides caudata*	India, Pakistan, Afghanistan, Middle East	R	CS	75 - 120 m		<1000	VU, A2c, C2a(i), D1	4	Loss of uncultivated field edges and corners	Assessing distribution and monitoring population	Grassland management, restoration and expansion
Slender-billed Babbler	*Turdoides longirostris*	India, Myanmar	R	G	250 m	VU	720-1080	CR, B2ab(iii)	4, 6	Loss and degradation of lowland grasslands	Assessing distribution and monitoring population	Grassland management, restoration and expansion
Grey-sided Laughingthrush	*Garrulax caerulatus*	Bhutan, China, India, Myanmar, USA (i)	R	F	1370 - 2745 m		<1000	VU, A2ac, C2a(i), D1	2	Loss and degradation of dense humid forest & bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Rufous-necked Laughingthrush	*Garrulax ruficollis*	Bangladesh, Bhutan, China, India, Myanmar	R	F	275 m		<250	EN, A2c, C2a(i), D1	2	Forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Blue-winged Laughingthrush	*Garrulax squamatus*	Bhutan, China, India, Myanmar, Vietnam	R	F	1220 - 2440 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of broadleaved evergreen forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Silver-eared Mesia	*Leiothrix argentauris*	Bhutan, China, India, Myanmar, South-East Asia	R	F	365 - 1220 m		<50	CR, A2ac, D1	1	Loss & degradation of evergreen biotope	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Himalayan Cutia (Cutia)	*Cutia nipalensis*	Bhutan, China, India, Myanmar, South-East Asia	R	F	1095 - 2700 m		<1000	VU, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution, habitat availability and needs, monitoring population	Habitat protection, awareness-raising
Black-headed Shrike Babbler	*Pteruthius rufiventer*	Bhutan, China, India, Myanmar, Vietnam	R	F	2135 - 2500 m		<500	VU, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
White-hooded Babbler	*Gampsorhynchus rufulus*	Bangladesh, Bhutan, China, India, Myanmar	R	F	600, 1400 m		<50	CR, A2ac, D1	1	Loss & degradation of broadleaved evergreen forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Rusty-fronted Barwing	*Actinodura egertoni*	Bangladesh, Bhutan, China, India, Myanmar	R	F	1785 - 2400 m		<500	VU, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution, habitat availability and needs, monitoring population	Habitat protection, awareness-raising
Golden-breasted Fulvetta	*Alcippe chrysotis*	Bhutan, China, India, Myanmar, Vietnam	R	F	2435 - 3050 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of bamboo stands	Assessing distribution and monitoring population	Habitat protection, awareness-raising

Summary data on all nationally threatened species Contd.

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Rufous-backed Sibia	*Heterophasia annectens (= Heterophasia annectans)*	Bhutan, China, India, Myanmar, South-East Asia	R	F	1450 - 2650 m		<50	CR, A2ac, D1	1	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Long-tailed Sibia	*Heterophasia picaoides*	Bhutan, China, India,Myanmar, South-East Asia	R	F	305 - 900 m		<50	CR, A2ac, D1	1	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
White-naped Yuhina	*Yuhina bakeri*	Bhutan, China, India, Myanmar	R	F	1525 - 2200 m		<500	VU, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Black-chinned Yuhina	*Yuhina nigrimenta*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	250 - 1500 m		<500	VU, A2c, C2a(i), D1	2	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Great Parrotbill	*Conostoma oemodium (Conostoma aemodium)*	Bhutan, China, India, Myanmar	R	F	2700 - 3660 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of bamboo stands	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Brown Parrotbill	*Paradoxornis unicolor*	Bhutan, China, India, Myanmar	R	F	2540 - 3400 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of bamboo stands	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Fulvous Parrotbill	*Paradoxornis fulvifrons*	Bhutan, China, India, Myanmar	R	F	2700 - 3400 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of bamboo stands	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Asian Fairy Bluebird	*Irena puella*	Bangladesh, Bhutan, China, India, Myanmar, Philippines, South-East Asia	R	F	75 - 365 m		<50	CR, A2ac, D1	1	Broadleaved evergreen forest loss & degradation	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Dark-sided Thrush	*Zoothera marginata*	Bangladesh (n), China, India, Myanmar, South-East Asia	R?	F	290 - 2500 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of dense, moist forest	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Purple Cochoa	*Cochoa purpurea*	Bhutan, China, India, Myanmar, South-East Asia	R	F	915 - 3000 m		<250	EN, A2c, C2a(i), D1	2	Loss & degradation of dense, broadleaved evergreen forest	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Gould's Shortwing	*Brachypteryx stellata*	Bhutan, China, India, Myanmar, Vietnam	R	F	3200 - 4000 m		<250	EN, A2ac, C2a(i), D1	2	Loss & degradation of juniper shrubberies & dense forest with bamboo	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Lesser Shortwing	*Brachypteryx leucophrys*	Bangladesh (n), Bhutan, China, India, Myanmar, South-East Asia	R	F	250 - 2135 m		<250	EN, A2ac, D1	1	Loss & degradation of dense, moist broadleaved forest	Assessing distribution and monitoring population	Habitat protection, awareness-raising
White-throated Bushchat (Hodgson's Bushchat)	*Saxicola insignis*	China (n), India (n), Mongolia, Central Asia	WV	G	75 - 250 m	VU	<250	EN, A2a, C2a(i), D1	2, 6	Loss and degradation of tall riverine grassland	Habitat needs and availability, population level	Grassland management, restoration and expansion
White-tailed Stonechat	*Saxicola leucurus*	Bangladesh (n), India, Myanmar, Pakistan	R	G	75 - 275 m		<1000	VU, C2a(i), C2a(i), D1	4, 6	Loss and degradation of tall riverine grassland	Habitat needs and availability, population level	Grassland management, restoration and expansion

Summary data on all nationally threatened species Contd.

ENGLISH COMMON NAME	SCIENTIFIC NAME	DISTRIBUTION (SUMMARY)	OCCURRENCE STATUS	HABITATS	MAIN ALTITUDINAL RANGE	GLOBALLY THREATENED STATUS	POPULATION	NATIONALLY THREATENED STATUS	REASON	KEY THREATS	RESEARCH NEEDS	KEY CONSERVATION INTERVENTIONS NEEDED
Jerdon's Bushchat	*Saxicola jerdoni*	Bangladesh (n), China, India, Myanmar, South-East Asia	R	G	75 - 150 m		<50	CR, A2a, C2a(i), D1	5	Loss of tall moist/marshy grassland	Habitat needs and availability, population level	Grassland management, restoration and expansion
White-gorgeted Flycatcher	*Ficedula monileger*	Bhutan, China (n), India, Myanmar, South-East Asia	R	F	915 - 3000 m		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of dense, moist broadleaved forest	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Yellow-vented Flowerpecker	*Dicaeum chrysorrheum*	Bangladesh, Bhutan (n), China, India, Myanmar, South-East Asia	R	F	75 - 300 m		<50	CR, A2ac, D1	1	Loss of evergreen biotope	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R?	F	305, 2135 m		<50	CR, A2a, D1	1	Unknown	Assessing distribution	
Ruby-cheeked Sunbird	*Anthreptes singalensis*	Bangladesh, Bhutan, China, India, Myanmar, South-East Asia	R	F	75 - 455 m		<500	VU, A2ac, C2a(i), D1	2	Forest loss & degradation, especially evergreens	Monitoring population	Habitat protection, awareness-raising
Little Spiderhunter	*Arachnothera longirostra*	Bangladesh, Bhutan, China, India, Myanmar, Philippines, South-East Asia	R	F	75 - 305 m		<50	CR, A2ac, C2a(i), D1	1	Loss & degradation of broadleaved evergreen & moist decidous forests with wild bananas	Assessing distribution and monitoring population	Habitat protection, awareness-raising
Black-breasted Weaver	*Ploceus benghalensis*	Bangladesh, China, India, Pakistan	R	G	75 - 245 m		<500	VU, A2ac,C2a(i), D1	2	Loss and degradation of moist, tall grasslands and reedy marshes in lowlands	Habitat needs and availability, population level	Grassland management, restoration and expansion
Yellow Weaver (Finn's Weaver)	*Ploceus megarhynchus*	India	R	G	75 - 150 m	VU	<50	CR, C2a(i), D1	4, 6	Loss and degradation of lowland grasslands	Habitat needs and availability, population level	Grassland management, restoration and expansion
Golden-naped Finch (Gold-naped Finch)	*Pyrrhoplectes epauletta*	Bhutan, China, India, Myanmar	R	F	1525 - 3000 m winter, 3260 - 3355 m summer		<500	VU, A2c, C2a(i), D1	2	Loss & degradation of dense broadleaved forest	Monitoring population	Habitat protection, awareness-raising
Yellow-breasted Bunting	*Emberiza aureola*	Bangladesh (n), China, India (n), Japan, Mongolia, Myanmar (n), Pakistan (n), Russia, South-East Asia (n), East Asia (n)	WV	CG	75 - 1370 m	VU	<2000	EN, A2ace	2	Changes in agricultural practices, pesticides?	Population monitoring and pesticides effects	Enforcement of pesticide controls, awareness-raising

1 = past rapid decline
2 = ongoing rapid decine
3= projected rapid decline
4 = small and declining range
5 = small and declining population
6 = extremely small population

C= Cultivation
F = Forest
G = Grassland
H = around Habitation
D = Semi-desert
O = Open country
S = Scrub
W = Wetland

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SPECIES INDEX

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Department of National Parks and Wildlife Conservation

Nepal embarked upon modern era of protected area management with the enactment of the National Parks and Wildlife Conservation Act in 1973. Today the conservation paradigm has shifted from an island approach to landscape level conservation with community participation for biodiversity conservation and sustainable development. The Department of National Parks and Wildlife Conservation, under the aegis of the Ministry of Forest and Soil Conservation, works with a network of protected areas in Nepal including ten national parks, three wildlife reserves, one hunting reserve, six conservation areas and eleven buffer zones, covering an area of 34,186.62 sq. km that is over 23 % of the total area of the country. It was established to conserve, restore and manage Nepal's rich and varied fauna and flora, across the landscape and in all the different ecological zones from the plain Terai to the high Himalayas.

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BirdLife International

BirdLife International is a partnership of 117 national conservation organisations and the world leader in bird conservation. BirdLife's unique local to global approach enables it to deliver high impact and long term conservation for the benefit of nature and people. Over 10 million people support the BirdLife Partnership of national non-governmental conservation organisations and local networks.

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Annapurna Conservation Area, largest IBA in Nepal
by Hum Gurung

Bird Conservation Nepal (BCN)

Established in 1982, Bird Conservation Nepal (BCN) is the leading organisation in Nepal, focusing on the conservation of birds, their habitats and sites. It seeks to promote interest in birds among the general public, encourage research on birds, and identify major threats to birds' continued survival. As a result, BCN is the foremost scientific authority providing accurate information on birds and their habitats throughout Nepal. We provide scientific data and expertise on birds for the Government of Nepal through the Department of National Parks and Wildlife Conservation (DNPWC) and work closely in birds and biodiversity conservation throughout the country.

BCN is a membership-based organisation with a founding President, patrons, life members, friends of BCN and active supporters. Our membership provides strength to the society and is drawn from people of all walks of life from students, professionals, and conservationists. Our members act collectively to set the organisation's strategic agenda.

We are committed to showing the value of birds and their special relationship with people. As such, we strongly advocate the need for peoples' participation as future stewards to attain long-term conservation goals.

As the Nepalese Partner of BirdLife International, a network of more than 110 organisations around the world, BCN also works on a worldwide agenda to conserve the world's birds and their habitats.

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