



HELM FIELD GUIDES

Birds of Nepal

SECOND EDITION



Richard Grimmett • Carol Inskipp
Tim Inskipp • Hem Sagar Baral

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NEPAL

Revised Edition

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Tim Inskipp and Hem Sagar Baral

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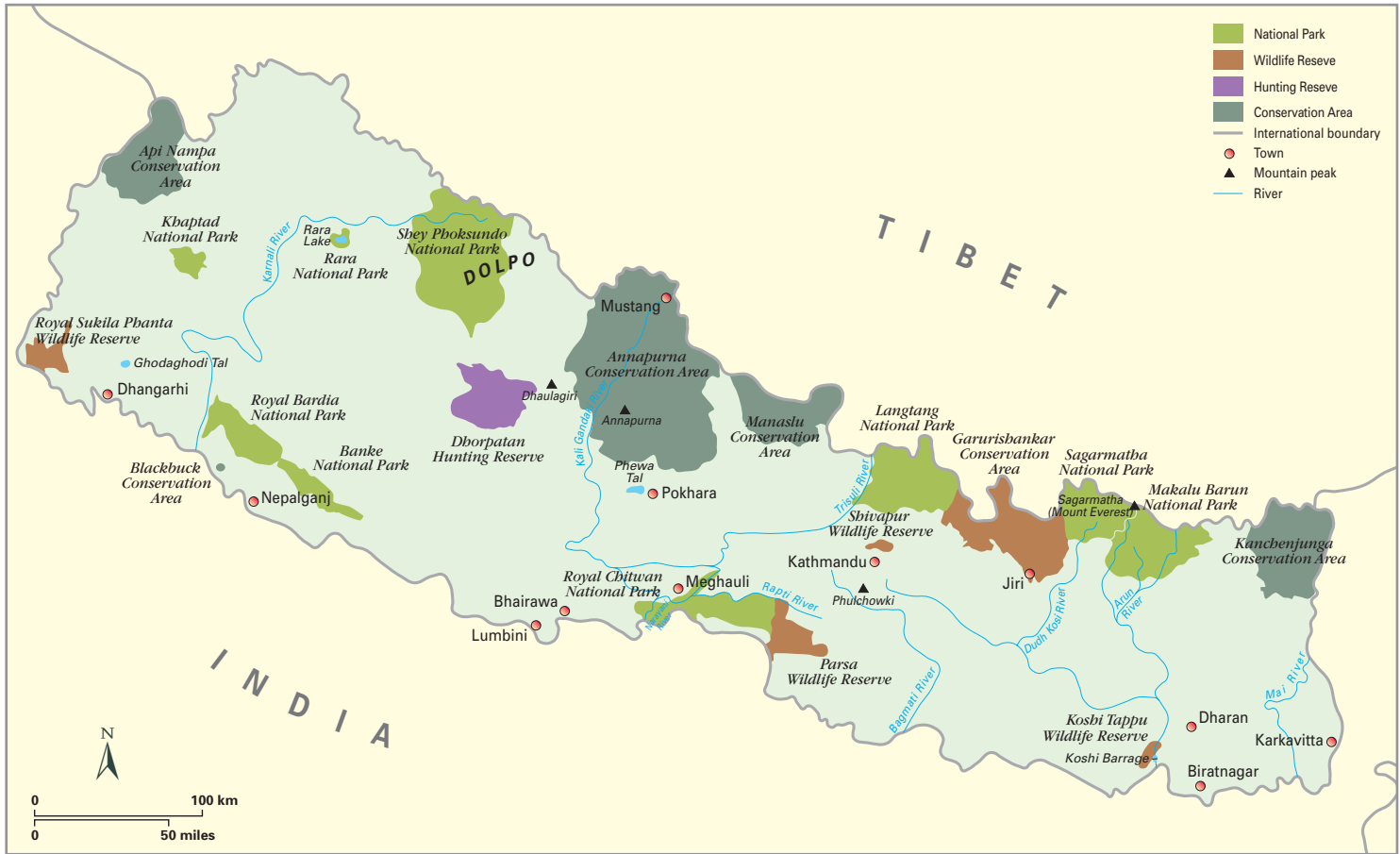
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Chautara (resting point) with views of Annapurna Mountains. (*Hem Sagar Baral*)



INTRODUCTION

Nepal is renowned for its high diversity of bird species, spectacular mountains and rich culture. Here you can enjoy birdwatching in one of the most beautiful places on Earth. This guide aims to help observers identify all of the bird species currently recorded in Nepal.

HOW TO USE THIS BOOK

Species included

All species that are known to have been reliably recorded in Nepal up to the end of June 2015 have been included. Descriptions of vagrants are given in Appendix 1.

Colour plates and species accounts

Species that occur regularly in Nepal are illustrated in colour and described in the species accounts. Vagrant and extirpated/extinct species are described in the appendices, with reference to distinguishing features from other more regularly recorded species where appropriate. The illustrations show distinctive sexual and racial variation whenever possible, as well as immature plumages.

The species accounts summarise the species' distribution, status, altitudinal range and habitats, and provide information on the most important identification characters, including voice and approximate body length.

A general description is given of the species' status as a resident, winter visitor, summer visitor, passage migrant or altitudinal migrant. Data on actual breeding records and non-breeding ranges are very few, so it has not been possible to present comprehensive details. In addition, space limitations have meant that the simple terms, 'breeds' and 'winters' are used to describe altitudinal ranges and habitats for many species. Note that many Himalayan species are recorded in summer over a wider altitudinal range than that within which they actually breed. Altitudes given are those for which the species have been recorded in Nepal, unless otherwise stated. Altitudes thought to be outside the normal range are given in brackets. The identification texts are based on Grimmitt, R., Inskipp, C. & Inskipp, T. *Birds of the Indian Subcontinent*, Christopher Helm (2011). The vast majority of the illustrations have been taken from the same work and, wherever possible, the correct races for Nepal have been depicted. A small number of additional illustrations of races occurring in Nepal were executed for this book. Preparation of the text and plates for that work included extensive reference to museum specimens combined with considerable work in the field.

Distribution maps and species texts are on the page facing the relevant illustrations. The text comprises identification features (**ID**), including voice (**Voice**) for most species, as well as approximate body length of the species, including bill and tail, in centimetres. Length is expressed as a range when there is marked variation within the species (e.g. as a result of sexual dimorphism or subspecific differences). Habitat and habits (**HH**) that are useful for identification are also included where space allows. A taxonomic note (**TN**) or an alternative English name (**AN**) is given at the end where relevant.

Key to the maps



resident



summer visitor



passage visitor



former range



winter visitor

Taxonomy and nomenclature

Taxonomy and nomenclature largely follow Inskipp *et al.* (1996). However, many proposals for taxonomic change have been made since that date, particularly in Rasmussen & Anderton (2012). Some of these proposals for elevation to species status are adopted here, where they are supported by what are considered to be adequate published justifications in other sources:

Greater Flamingo *Phoenicopterus roseus* split from (Greater) American Flamingo *P. ruber*
Brown-cheeked Rail *Rallus indicus* split from Water Rail *R. aquaticus*
Eastern Grass Owl *Tyto longimembris* split from (African) Grass Owl *T. capensis*
Hume's Bush Warbler *Cettia brunnescens* split from Yellowish-bellied Bush Warbler *C. acanthizoides*
Hume's Whitethroat *Sylvia althaea* split from Lesser Whitethroat *S. curruca*
Hodgson's Treecreeper *Certhia hodgsoni* split from Eurasian Treecreeper *C. familiaris*
Great Myna *Acridotheres grandis* split from White-vented Myna *A. cinereus*
Black-throated Thrush *Turdus atrogularis* split from Dark-throated (Red-throated) Thrush *T. ruficollis*
Dusky Thrush *Turdus eunomus* split from Naumann's Thrush *T. naumanni*
Red-tailed Wheatear *Oenanthe chrysoptigia* split from Kurdish Wheatear *O. xanthopyrmina*
Taiga Flycatcher *Ficedula albicilla* split from Red-breasted Flycatcher *F. parva*

One proposed split has not been adopted because the justification available is considered to be inadequate:

Green Warbler *Phylloscopus nitidus* from Greenish Warbler *P. trochiloides*

A further nine do not merit consideration for elevation to species status because they were only provisionally split by Rasmussen & Anderton (2012):

Black-eared Kite *Milvus [migrans] lineatus*
Grey-headed Swamphen *Porphyrio [porphyrio] poliocephalus*
Eastern Black-tailed Godwit *Limosa [limosa] melanuroides*
Steppe Gull *Larus [heuglini] barabensis*
Fork-tailed Drongo Cuckoo *Sumiculus [lugubris] dicruroides*
Eastern Jungle Crow *Corvus [macrorhynchos] levaillantii*
Indian Jungle Crow *Corvus [macrorhynchos] culminatus*
Indian Reed Warbler *Acrocephalus [stentoreus] brunnescens*
Siberian Chiffchaff *Phylloscopus [collybita] tristis*

Another 13 are proposals for splitting from polytypic species where the entire complex of subspecies needs to be reviewed before decisions are made:

Himalayan Buzzard *Buteo burmanicus* (= *refectus*) from Common Buzzard *B. buteo*
Ashy-headed Green Pigeon *Treron phayrei* from Pompadour Green Pigeon *T. pompadora*
Collared Scops Owl *Otus lettia* from (Collared) Indian Scops Owl *O. bakkamoena*
Himalayan Wood Owl *Strix nivicola* from Tawny Owl *S. aluco*
Scarlet Minivet *Pericrocotus speciosus* from (Scarlet) Orange Minivet *P. flammeus*
Spangled Drongo *Dicrurus bracteatus* from (Spangled) Hair-crested Drongo *D. hottentottus*
Cinereous Tit *Parus cinereus* from Great Tit *P. major*
Black-crested Bulbul *Pycnonotus flaviventris* from (Black-crested) Black-capped Bulbul *P. melanicterus*
Hill Prinia *Prinia supercilialis* from (Hill) Black-throated Prinia *P. atrogularis*
Chestnut-bellied Nuthatch *Sitta cinnamoventris* from (Chestnut-bellied) Indian Nuthatch *S. castanea*
Tibetan Blackbird *Turdus maximus* from Common Blackbird *T. merula*
Siberian Stonechat *Saxicola maurus* from Common Stonechat *S. torquatus*
Plain Flowerpecker *Dicaeum minullum* from (Plain) Nilgiri Flowerpecker *D. concolor*

The remaining 15 proposals fall into the category of requiring further research and compilation of data before their justification can be reassessed:

Bewick's Swan *Cygnus bewickii* from Tundra Swan *C. columbianus* (needs clarification of extent of interbreeding)
Eastern Marsh Harrier *Circus spilonotus* from (Eurasian) Western Marsh Harrier *C. aeruginosus* (needs clarification of extent of interbreeding)

Eastern Cattle Egret *Bubulcus coromandus* from (Western) Cattle Egret *B. ibis* (molecular differences more consistent with subspecific distinction)

Indian Thick-knee *Burhinus indicus* from Eurasian Thick-knee *B. oedicnemus* (needs molecular study)

Whistling Hawk Cuckoo *Hierococcyx niscalor* from Hodgson's Hawk Cuckoo *H. fugax* (plumage and song differences relatively minor)

Indian Eagle owl *Bubo bengalensis* from Eurasian Eagle Owl *B. bubo* (Rasmussen & Anderton 2012 state that specific status 'is not fully established')

Grey Nightjar *Caprimulgus jotaka* from (Grey) Jungle Nightjar *C. indicus* (needs molecular study)

House Swift *Apus nipalensis* from (House) Little Swift *A. affinis* (the subspecies *nipalensis* has a square tail and is not part of the eastern complex with slightly forked tails)

Indian Golden Oriole *Oriolus kundoo* from Eurasian Golden Oriole *O. oriolus* (needs clarification of vocal differences)

Grey-throated Martin *Riparia chinensis* from Plain Martin *R. paludicola* (needs molecular study)

Swamp Prinia *Prinia cinerascens* from Rufous-vented Prinia *P. burnesii* (needs more information on morphometrics, and relationships of newly described subspecies *nepalicola*)

Eastern Orphean Warbler *Sylvia crassirostris* from (Western) Orphean Warbler *S. hortensis* (needs data on morphology and vocalisations in area of close approach/overlap)

Himalayan Shrike Babbler *Pteruthius ripleyi* and Blyth's Shrike Babbler *Pteruthius aeralatus* from White-browed Shrike Babbler *P. flaviscapis* (need clarification of distribution and vocalisations of these forms)

Himalayan Bluetail *Tarsiger rufilatus* from Red-flanked Bluetail *T. cyanurus* (needs molecular study)

Chestnut Munia *Lonchura atricapilla* from Black-headed (Tricoloured) Munia *L. malacca* (needs clarification of introgression)

Spotted Great Rosefinch *Carpodacus severtzovi* from Great Rosefinch *C. rubicilla* (needs molecular study)

In most cases, where the above potential splits represent additional forms to the parent species in the subcontinent, they are given separate accounts for clarity in the text. To indicate their provisional status the header text is in roman font (not bold), and the parent species name is included in parentheses after the generic name, e.g. Black-eared Kite *Milvus (migrans) lineatus*.

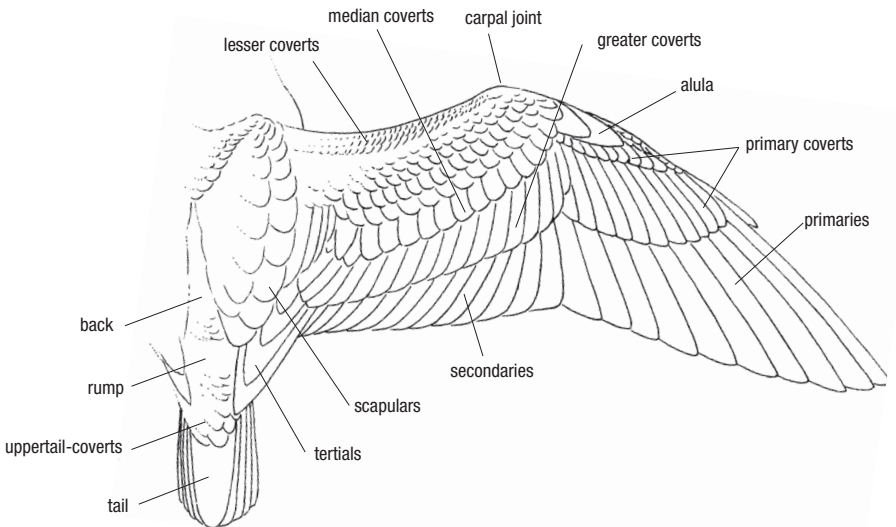
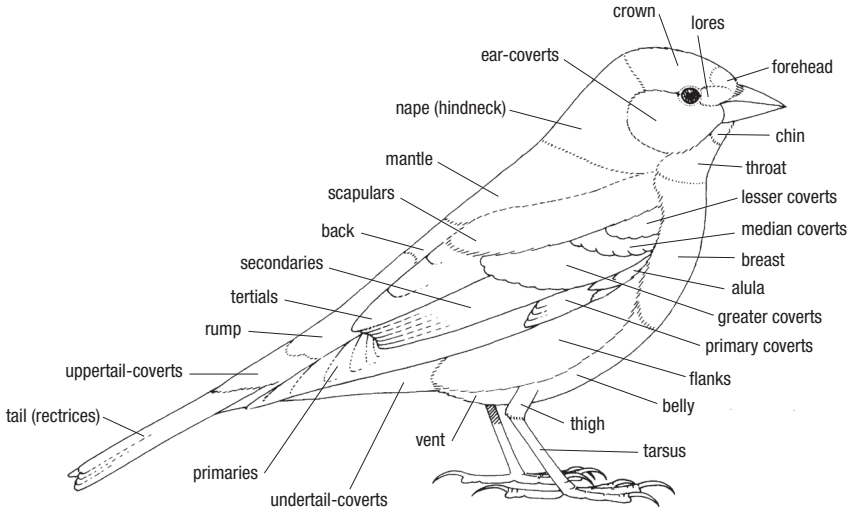
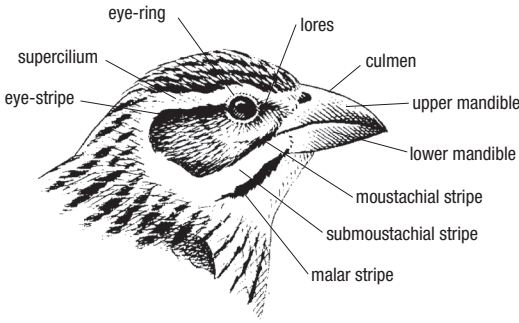
The sequence largely follows Dickinson (2003, *The Howard & Moore Complete Checklist of the Birds of the World*), although some species have been grouped out of this systematic order to enable useful comparisons to be made.

English names of birds represent another contentious issue, with almost as many different names for some species as there are books describing them. The names adopted here mainly follow Gill & Wright (2006 *Birds of the World: Recommended English Names*, and updates), the exceptions being those which, in the opinion of the authors, are more appropriate for the species concerned.

Plumage terminology

The figures opposite illustrate the main plumage tracts and bare-part features, and are based on Grant & Mullarney (1988–89). This terminology for bird topography has been used in the species accounts. Other terms used are defined in the Glossary. Juvenile plumage is the first plumage on fledging, and in many species it is looser and fluffier than subsequent plumages. In some families, juvenile plumage is retained only briefly after leaving the nest (e.g. pigeons), or hardly differs from adult plumage (e.g. many babblers), while in other groups it may be retained for the duration of long migrations or for many months (e.g. many waders). In some species (e.g. *Aquila* eagles), it may be several years before all of the juvenile feathers are finally moulted. The relevance of juvenile plumage to field identification therefore varies considerably. Some species reach adult plumage after their first post-juvenile moult (e.g. larks), whereas others go through a series of immature plumages. The term 'immature' has been employed more generally to denote plumages other than adult, and is used either where a more exact terminology has not been possible, or where more precision would give rise to unnecessary complexity. Terms such as 'first-winter' (resulting from a partial moult from juvenile plumage) or 'first-summer' (plumage acquired prior to the breeding season of the year after hatching) have, however, been used where it was felt that this would be useful.

Many species assume a more colourful breeding plumage, which is often more striking in the male compared to the female. This can be realised either through a partial (or in some species complete) body moult (e.g. waders) or results from the wearing-off of pale or dark feather fringes (e.g. redstarts and buntings).



GLOSSARY

See also figures on p. 13, which cover bird topography.

Altitudinal migrant: a species which breeds at high altitudes (in mountains) and moves to lower levels and valleys in the non-breeding season.

Arboreal: tree-dwelling.

Axillaries: the feathers in the 'armpit' at the base of the underwing.

Cap: a well-defined patch of colour or bare skin on the top of the head.

Carpal: the bend of the wing, or carpal joint.

Carpal patch: a well-defined patch of colour on the underwing in the vicinity of the carpal joint.

Casque: an enlargement on the upper surface of the bill, in front of the head, as on hornbills.

Cere: a fleshy (often brightly coloured) structure at the base of the bill and enclosing the nostrils.

Culmen: the ridge of the upper mandible.

Eclipse plumage: a female-like plumage acquired by males of some species (e.g. ducks or some sunbirds) during or after breeding.

Edgings or edges: outer feather margins, which can frequently result in distinct paler or darker panels of colour on wings or tail.

Flight feathers: the primaries, secondaries and tail feathers (although not infrequently used to denote the primaries and secondaries alone).

Fringes: complete feather margins, which can frequently result in a scaly appearance to body feathers or wing-coverts.

Gape: the mouth and fleshy corner of the bill, which can extend back below the eye.

Graduated tail: a tail in which the longest feathers are the central pair and the shortest the outermost, with those in between being intermediate in length.

Gregarious: living in flocks or communities.

Gular pouch: a loose and pronounced area of skin extending from the throat (e.g. in hornbills).

Gular stripe: a usually very narrow (and often dark) stripe running down the centre of the throat.

Hackles: long and pointed neck feathers that can extend across the mantle and wing-coverts (e.g. on junglefowls).

Hand: the outer part of the wing, from the carpal joint to the tip of the wing.

Hepatic: used with reference to the rufous-brown morph of some (female) cuckoos.

Iris (plural irides): the coloured membrane that surrounds the pupil of the eye and which can be brightly coloured.

Lappet: a wattle, particularly one at the gape.

Leading edge: the front edge of the forewing.

Local: occurring or common within a small or restricted area.

Mandible: the lower or upper half of the bill.

Mask: a dark area of plumage surrounding the eye and often covering the ear-coverts.

Morph: a distinct plumage type that occurs alongside one or more other distinct plumage types of the same species.

Nomenclature: the scientific naming of species, subspecies, as well as genera, families and other categories in which species may be classified.

Nominate: the first-named race of a species, which has its scientific racial name the same as the specific name.

Nuchal: relating to the hindneck, used with reference to a patch or collar.

Ocelli: eye-like spots of iridescent colour; a distinctive feature in the plumage of peafowls.

Orbital ring: a narrow circular ring of feathering or bare skin surrounding the eye.

Plantation: a group of trees (usually exotic or non-native species) planted in close proximity to each other, used for timber or as a crop.

Primary projection: the extension of the primaries beyond the longest tertial on the closed wing; this can be of critical importance in identification (e.g. of larks or *Acrocephalus* warblers).

Race (subspecies): a geographical population whose members show constant differences (e.g. in plumage or size)

from those of other populations of the same species.

Rectrices (singular **rectrix**): the tail feathers.

Remiges (singular **remex**): the primaries and secondaries.

Rictal bristles: bristles, often prominent, at the base of the bill.

Shaft-streak: a fine line of pale or dark colour in the plumage, produced by the feather shaft.

Speculum: the often glossy panel across the secondaries of, especially, dabbling ducks, often bordered by pale tips to these feathers and a greater coverts wing-bar.

Subspecies: see Race.

Subterminal band: a dark or pale band, usually broad, situated inside the outer part of a feather or feather tract (used especially in reference to the tail).

Taxonomy: the scientific classification of species, subspecies, genera, families and other categories.

Terai: this undulating alluvial, often marshy strip of land, 25–45 km wide, north of the Gangetic plain, extending from Uttarakhand through Nepal and northern West Bengal to Assam, naturally supports tall elephant grass interspersed with dense forest, but large areas have been drained and converted to cultivation.

Terminal band: a dark or pale band, usually broad, at the tip of a feather or feather tract (especially the tail), *cf.* Subterminal band.

Terrestrial: living or occurring mainly on the ground.

Trailing edge: the rear edge of the wing, often darker or paler than the rest of the wing, *cf.* Leading edge.

Vent: the area around the cloaca (anal opening), just behind the legs (should not be confused with the undertail-coverts).

Vermiculated: marked with narrow wavy lines, usually visible only at close range.

Wattle: a lobe of bare, often brightly coloured skin attached to the head (frequently at the bill base), as on mynas or wattled lapwings.

Wing-linings: the entire underwing-coverts.

Wing panel: a pale or dark band across the upperwing (often formed by pale edges to the remiges or coverts), broader and generally more diffuse than a wing-bar.

Wing-bar: generally, a narrow and well-defined dark or pale bar across the upperwing, often referring to a band formed by pale tips to the greater or median coverts (or both, as in 'double wing-bar').



Sagarmatha National Park. (Philip Robinson)

GEOGRAPHICAL SETTING

Most of Nepal lies in the central Himalayas and includes eight of the highest peaks in the world, each above 8,000 m. Nepal is surrounded by the world's two most populous countries, India and China, but is one of the smallest nations. The country covers an area of 147,181 km², little more than England and Wales combined, and averages about 870 km from east to west. Nepal exhibits more contrasts of landscape and culture than in most other countries many times its size. There is a narrow strip of lowlands, known as the *terai*, in the south that differs sharply from the rugged terrain of the rest of the country. Slightly higher up lies the dry *bhabar* zone that extends to about 300 m. Beyond the *bhabar* are the first Himalayan foothills known as the Siwalik or Churia hills, rising to 1,220 m. To the north lies the Mahabharat Lekh climbing to 2,740 m. Between these two ranges are the dun valleys or inner *terai*. Until relatively recently the *terai* and inner *terai* were malaria-ridden jungle and rich in wildlife, but today they hold almost all of Nepal's industry and most areas are highly cultivated. Beyond the Mahabharat Lekh lies a broad complex of midland hills and valleys including the Kathmandu Valley, the traditional heartland of Nepal. North of the midland regions lies the main Himalayan range including Sagarmatha (Mount Everest), at 8,848 m, which is no more than 160 km as the crow flies from the *terai* at 75 m. Some of the world's deepest river gorges, notably the Kali Gandaki, cut through the Himalayan range. In the north-west of the country, a drier trans-Himalayan range marks the boundary between Nepal and Tibet, and the southern edge of the Tibetan plateau. These peaks of 6,000 m to 7,000 m are less rugged, and wind-eroded landforms are dominant.

CLIMATE

Nepal has extremes of climate varying from tropical in the lowlands to arctic in the high peaks. At Meghauri near Chitwan, maximum temperatures reach 23°C to 33°C between October and March and 37°C between April and early June. In sharp contrast, maximum temperatures in Namche Bazaar in Khumbu (Everest region) vary from 6°C to 8°C from October to March and 11°C to 15°C between April and June. However, Nepal's capital, Kathmandu which lies at 1,330 m, has a mild climate. From October to March skies are clear and there is little rain. Maximum temperatures are 17°C to 25°C but may drop to near freezing at night. Maximum temperatures average 27°C in April and 30°C in June, and rain falls more frequently.

Nepal's climate is dominated by the monsoon of south Asia. About 90% of the rain falls between June and September. The region north of the Himalayan range, including Mustang, Manang and Dolpo districts, lies in the rainsadow and experiences very low precipitation. Western Nepal is generally drier than the east as the monsoon rains reach there later and last for a shorter period than in the east. However, there are pockets of high rainfall in the west caused by the topography, notably the area south of Annapurna, which is the wettest in the country. Rainfall also increases with altitude until the clouds have lost most of their moisture and then it decreases again. Slope aspect has a marked influence on climate, southern slopes being significantly warmer and sunnier than those facing north.

MAIN HABITATS AND BIRD SPECIES

The vegetation is classified following Dobremez, J. F. (1976) *Le Népal écologie et biogéographie*. Centre National de la Recherche Scientifique, Paris. Nepal's bird habitats can be roughly divided into forest, scrub, alpine habitats, wetlands, grasslands, agricultural land and that around human habitation.

Forests and scrub

Nepal has a very rich diversity of forest types. Forests and bushes hold the high proportion of 77% of Nepal's breeding birds.

Tropical forest lies between approximately 75 m and 1,000 m. Tropical forest is the richest in bird species. It includes Sal *Shorea robusta*, which is by far the most extensive forest, and tropical evergreen forest, which is restricted to narrow belts in damp shady areas in the centre and east, often within Sal forest. The globally threatened and restricted-range species Himalayan Wedge-billed Babbler has been recorded in the east. Yellow-vented Warbler is the only other restricted-range species that occurs in this forest type. It is probably mainly a winter visitor to Nepal, but has bred in dense, moist, broadleaved evergreen forest in the east. Malayan Night Heron and Jerdon's Baza are rare and local specialities.



Sal Forest, Bardia National Park. (Hem Sagar Baral)



Tropical forest, Chitwan National Park. (Carol Inskipp)

Subtropical forest lies between approximately 1,000 m and 2,000 m in the west and between 1,000 m and 1,700 m in the east.

Broadleaved subtropical forest is second in species-richness to tropical forest. *Schima–Castanopsis* is a moist broadleaved forest type that once covered much of subtropical central and eastern Nepal, but now only small patches remain in most places. Riverine forest grows along watercourses within *Schima–Castanopsis*. Alder *Alnus nipalensis* also grows along streams and often colonises abandoned cultivation and landslides. Three restricted-



Subtropical forest, Churia Hills. (Carol Inskipp)



Subtropical forest, Pokhara Valley. (*Carol Inskipp*)

range species breed: White-naped Yuhina and Yellow-vented Warbler, both of which are rare and local in the east, and Hoary-throated Barwing, although the last species mainly visits Nepal's subtropical forests in winter. Spot-bellied Eagle Owl, Blue-naped Pitta, Pied Thrush and Purple Cochoa are other breeding specialities.

Chir Pine *Pinus roxburghii* forest is widespread in the west, but in the centre and east is confined to drier situations. These forests are typically open with little or no understorey because of frequent fires. They are poor in bird species and hold no specialities. Breeding birds include Blue-capped Rock Thrush.

Lower temperate forest lies between approximately 2,000 m and 2,700 m in the west and between 1,700 m and 2,400 m in the east.

Moist broadleaved lower temperate forest grows in central and eastern Nepal and mainly comprises species of oaks *Quercus* with laurels Lauraceae. This habitat is important for the restricted-range species Broad-billed Warbler, which is very local and rare in the east, as well as the more widespread Hoary-throated Barwing, Nepal



Temperate forest, central Nepal. (*Hem Sagar Baral*)



Upper temperate forest, Langtang National Park. (Hem Sagar Baral)

Wren Babbler and White-naped Yuhina. Satyr Tragopan, Spot-bellied Eagle Owl, Yellow-rumped Honeyguide, Pied Thrush, Long-billed Thrush, Purple Cochoa, Slender-billed Scimitar Babbler, Fire-tailed Myzornis and Black-headed Shrike Babbler are other breeding specialities.

Dry broadleaved lower temperate forest occurs in the west and on drier slopes in the centre. Most remaining forest is degraded and supports a low number of bird species compared to moist forest types. Brown-fronted Woodpecker is characteristic of this dry forest.

Blue Pine *Pinus wallichiana* forest has a large altitudinal range, from 1,800 m to 4,000 m. It is widespread in the west and on dry slopes in the centre and east, but is species-poor in birds. Breeding birds include Yellow-billed Blue Magpie.

Upper temperate forest occurs between about 2,700 m and 3,100 m in the west and centre, and from 2,400 m to 2,800 m in the east. It is much less disturbed than forests lower down.

Broadleaved upper temperate forest Oak and mixed broadleaved forests grow in the centre and east. Rhododendrons are most widespread in high rainfall areas where they are dominant in many areas. They are also common in forests of fir *Abies*, hemlock *Tsuga* and birch *Betula*. Broadleaved upper temperate forest is relatively rich in birds. Hoary-throated Barwing is fairly common and widespread in mossy oak forests. Nepal Wren Babbler, Satyr Tragopan, Yellow-rumped Honeyguide, Long-billed Thrush, Slender-billed Scimitar Babbler and Fire-tailed Myzornis all occur in the breeding season.

Upper temperate coniferous forest Blue Pine is the most common and widespread conifer in the upper temperate zone. In moister areas it is mixed with other conifers, such as spruce *Picea smithiana* and fir *Abies pindrow*, which sometimes also form pure stands. In drier regions it is associated with juniper *Juniperus indica*. Characteristic species include White-throated Tit, White-cheeked Nuthatch and Kashmir Nuthatch.

Subalpine forest lies between 3,000 m and 4,200 m in the west, and 3,000 m to 3,800 m in the east. This includes some of the least disturbed forest, especially that of fir *Abies spectabilis*. Fir usually forms a continuous



Broadleaved temperate forest, Makalu Barun National Park. (*Carol Inskipp*)



Himalayan fir forest, central Nepal. (*Hem Sagar Baral*)



Alpine habitat, Langtang National Park. (*Hem Sagar Baral*)

belt between 3,000 m and 3,500 m on the southern slopes of the main ranges in central Nepal. Birch *Betula utilis* forest occurs between 3,300 m and the treeline, and both fir and birch usually possess a rhododendron understorey. In very wet sites *Rhododendron* spp. forest often replaces other forest types and forms shrubberies at higher altitudes. In drier areas juniper *Juniperus* occurs both as a tree and a small shrub. Specialities include Satyr Tragopan, Gould's Shortwing, Rufous-breasted Bush Robin, Slender-billed Scimitar Babbler and Fire-tailed Myzornis.

Bamboo *Arundinaria* spp. and *Bambusa* spp. flourishes in very high rainfall areas and in a few places, such as the Modi Khola Valley, south of Annapurna, it forms pure dense stands. Bamboo is an important component of forests for many birds. These include Broad-billed Warbler and Golden-breasted Fulvetta in temperate forests, and Fulvous Parrotbill and Great Parrotbill in subalpine forest.

Alpine habitats lie between the treeline (3,800 m in the east and 4,200 m in the west) and the region of permanent snow. Alpine scrub, including rhododendron and juniper, grows as high as 4,870 m in places. Only a small number of bird species breed, notably the globally threatened Wood Snipe, which occurs in alpine meadows with scattered bushes and a few streams. Other breeding species include Tibetan Snowcock, Robin Accentor and Grandala, which occur as high as 5,500 m.

Tibetan steppe zone

North and north-west of Dhaulagiri and Annapurna and in northern Humla district the country is almost treeless with a climate and flora of Tibetan character. The dominant vegetation is of shrubs, especially *Caragana*, grasses and alpine flora. Characteristic species include White-browed Tit Warbler and Red-fronted Serin, and in summer Desert Wheatear and Blue Rock Thrush.

Wetlands

Koshi Tappu Wildlife Reserve and Koshi Barrage area in the south-east *terai* is listed as a Ramsar Site of international importance for migrating wildfowl, waders, gulls and terns. Koshi comprises a large expanse of open



Rara Lake National Park. (*Carol Inskipp*)

water, marshes, grassland and scrub. In recent years, numbers of these species have sharply declined but several globally threatened wetland species still occur: Baer's Pochard, Pallas's Fish Eagle, Greater Spotted Eagle, Eastern Imperial Eagle, Woolly-necked Stork, Lesser Adjutant, and also Swamp Francolin, which inhabits tall grasses and swamps.

Lakes are scattered at all altitudes throughout the country, including Rara Lake (3,050 m) in the north-west, Phewa Tal (915 m) near Pokhara, and Jagdishpur Reservoir, Gaidahawa Tal and Ghodaghodi Tal in the western *terai*. These act as staging posts for small numbers of migrating wetland birds; those in the lowlands and foothills also support resident and wintering species.

Rivers and streams are generally fast-flowing and support a good variety of breeding species, including kingfishers, forktails, dippers, wagtails, redstarts and Blue Whistling Thrush.

There are numerous small ponds and marshes, often in cultivation and around habitation, throughout Nepal. The globally threatened Sarus Crane occurs in open cultivation in well-watered country with marshes and pools in the western *terai*.

Grasslands

Only small grassland areas remain and these are almost all within protected areas in the lowlands. These are important for several globally threatened species that breed or probably breed: Swamp Francolin, Bengal Florican, Jerdon's Babbler, Slender-billed Babbler, Grey-crowned Prinia, Bristled Grassbird and Finn's Weaver (very local). Hodgson's Bushchat is a regular but localised winter visitor.

Agricultural land

Only a small number of species inhabit agricultural land compared to the natural habitats of forests, wetlands and grasslands that it replaced. Nearly all of them are widespread and common, either in Nepal or in the plains of India south of the border. One exception is the globally threatened Sarus Crane. The globally threatened Lesser Adjutant also regularly forages in agricultural fields. Typical breeding species of agricultural land in the tropical



Lowland grassland is an important bird habitat. (*Carol Inskipp*)

and subtropical zones are Spotted Dove and Paddyfield Pipit. Oriental Turtle Dove and Grey Bushchat are common in the temperate zone.

Urban areas

A small number of species are especially associated with human habitation, including White-rumped Vulture, Spotted Owlet, House Crow, Asian Pied Starling, Common Myna and *Passer* sparrows – House Sparrow, Eurasian Tree Sparrow and Russet Sparrow. Three aerial species commonly nest under the eaves of houses: House Swift, Red-rumped Swallow and Barn Swallow. The last species even nests in some streets of Kathmandu.



Farmland bird and farmer, Lumbini, central lowland Nepal. (*Hem Sagar Baral*)

IMPORTANCE FOR BIRDS

Nepal's avifauna is highly diverse considering the size of the country. A total of 884 species has been recorded, including about 600 that probably breed or have bred.

Vagrants

A total of 75 vagrant species has been recorded to date. These are listed and described, together with habitat and voice details, in Appendix 1.

Extinct species

The following species were all recorded in the 19th century by Hodgson, but are now extirpated in Nepal: Jungle Bush Quail, Rufous-necked Hornbill, White-bellied Heron, Silver-breasted Broadbill, Green Cochoa, Red-faced Liocichla and Black-breasted Parrotbill. Hodgson also collected Pink-headed Duck in Nepal, but this species may be extinct worldwide. These species are also described in Appendix 1.

Additional species

An additional 15 species collected in the 19th century by Brian Hodgson were listed for Nepal by Gray (1863), but may have originated from forests in India close to the Nepalese border (Inskipp & Inskipp 1991). These species are listed in Appendix 2.

Endemic species

Spiny Babbler is the only endemic species. It has been found from east to west Nepal and may occur west into India, but there are no definite records. Nepal Wren Babbler, which was only recently described to science (Martens & Eck 1991), was previously thought to be endemic, but has also since been recorded in northern India.

Reasons for species-richness

Nepal's species-richness can be partially explained by the wide range of altitudes in the country, from 75 m above sea level in the *terai* up to the summit of the Himalayas, the world's highest mountains. Other factors are Nepal's highly varied topography and climate, and associated diverse vegetation. Also important is the country's geographical position in a region of overlap between two biogeographical provinces: the Indo-Malayan (South and Southeast Asia) and Palearctic. As a result, species typical of both realms occur.

Restricted-range species

There are three areas of especially high biological diversity in Nepal that are of global importance. These are known as the Western Himalayas, Central Himalayas and Eastern Himalayas Endemic Bird Areas (EBAs) and are four of eight such areas identified in the Indian Subcontinent. BirdLife International identified EBAs throughout the world. First, BirdLife analysed the distribution patterns of birds with restricted ranges, i.e. landbird species which have, throughout historical times (i.e. post-1800), had a total global breeding range of < 50,000 km² (about the size of Sri Lanka) (Stattersfield *et al.* 1998). BirdLife's analysis showed that restricted-range species tend to occur in places that are often islands or isolated patches of a particular habitat.

The Western Himalayas EBA is important for its west Himalayan temperate forests (broadleaf, mixed coniferous/broadleaf and coniferous). This EBA extends along the mountain chain from western Nepal (west of the Kali Gandaki Valley) through Uttarakhand, Himachal Pradesh, Jammu and Kashmir in north-west India and northern Pakistan, and then south-west along the mountains in the border region between Pakistan and Afghanistan. Six of the 11 restricted-range species in this EBA occur in Nepal: Cheer Pheasant, Kashmir Flycatcher, Tytler's Leaf Warbler, White-throated Tit, Kashmir Nuthatch, and Spectacled Finch.

The Central Himalayas EBA lies entirely within Nepal; its key habitats are moist temperate forest and dense secondary forest and scrub. It supports three restricted-range species: Nepal Wren Babbler, Hoary-throated Barwing (also found in the eastern Himalayas) and Spiny Babbler.

The Eastern Himalayas EBA is important because of its wet forests. It encompasses southern and eastern Bhutan and extends into north-eastern India, eastern Nepal, south-eastern Tibet, the Chittagong Hills in Bangladesh, the Chin Hills in western Myanmar and northeastern Myanmar to south-western China. Six of the

22 restricted-range species in this EBA occur in Nepal: Rufous-throated Wren Babbler, Himalayan Wedge-billed Babbler, Hoary-throated Barwing, White-naped Yuhina, Yellow-vented Warbler and Broad-billed Warbler. All are forest species.

The Assam Plains EBA comprises the plains and foothills of the Brahmaputra watershed in the north-east of the Indian subcontinent and includes extreme eastern Nepal. The original vegetation of the plains was seasonally inundated floodplain forest and grassland, with an adjacent strip of *terai* at the base of the foothills; this land was often marshy and supported tall elephant grass and forest. Most of the plains and foothills, however, have been converted to agricultural land. Black-breasted Parrotbill is one of the three restricted-range species in this EBA that was recorded in Nepal, but is now extirpated.

Globally threatened species

Thirty-nine species recorded in Nepal have been identified as globally threatened (BirdLife International 2015). These are: Swamp Francolin, Cheer Pheasant, Bengal Florican, Great Slaty Woodpecker, Sarus Crane, Wood Snipe, Lesser Adjutant, Woolly-necked Stork, White-rumped Vulture, Slender-billed Vulture, Red-headed Vulture, Egyptian Vulture, Indian Spotted Eagle, Grey-crowned Prinia, Bristled Grassbird, Jerdon's Babbler, Slender-billed Babbler and Finn's Weaver, which currently breed or probably breed. Baer's Pochard, Common Pochard, Eastern Imperial Eagle, Pallas's Fish Eagle, Greater Spotted Eagle, Steppe Eagle, Saker Falcon and Hodgson's Bushchat are regular winter visitors and passage migrants. Yellow-breasted Bunting is now an uncommon winter visitor. Kashmir Flycatcher is a rare passage migrant; Lesser Florican and Black-bellied Tern are very rare and local visitors. Greater Adjutant has not been recorded since 1995 and Indian Skimmer has not been seen since 2006. Black-necked Crane was previously thought to be a vagrant, but in 2014 was found possibly nesting in northern Humla (Acharya & Ghimirey in press). Long-tailed Duck and Indian Vulture are vagrants. Rufous-necked Hornbill, White-bellied Heron and Black-breasted Parrotbill have been extirpated in Nepal, and Pink-headed Duck may now be globally extinct.

Important Bird and Biodiversity Areas

A total of 36 Important Bird and Biodiversity Areas (IBAs) has been identified in Nepal. IBAs are key sites of international significance for bird and biodiversity conservation, which have been identified using standardised global criteria. Three IBAs are the most important for globally threatened species: Sukla Phanta and Kosi Tappu Wildlife Reserves, and Chitwan National Park and Buffer Zone, which are protected areas in the lowlands. Annapurna Conservation Area and Makalu Barun National Park and Buffer Zone are the two IBAs that are the most important for restricted-range species and biome-restricted species, and lie in the mountains. Half of IBAs are wholly within protected areas, one is partially protected, but the large number of 16 are unprotected (BCN and DNPWC in prep.).



Makalu Barun National Park. (Carol Inskipp)

MIGRATION

Many Himalayan residents are altitudinal migrants, the level to which they descend in winter frequently depending on weather conditions. For instance, Red-billed Chough occurs as high as 7,950 m, and usually remains above 2,440 m in winter, but has been noted as low as 1,450 m in cold weather. Some residents are sedentary throughout the year, while others undertake irregular movements, either locally or more widely in the region, depending on food supply, for example Speckled Wood Pigeon.

About 62 species are summer visitors or partial migrants including species of cuckoos, swifts, bee-eaters, *Phylloscopus* warblers, flycatchers and drongos. Many species winter further south in the subcontinent, including Common Hoopoe, Blue-tailed Bee-eater, Asian Brown Flycatcher and Asian Paradise-flycatcher. The winter quarters of some of these summer visitors is poorly known, for example Himalayan Cuckoo, Fork-tailed Swift and Dark-sided Flycatcher. Other species move south-eastwards, perhaps as far as Malaysia and Indonesia, for example Crow-billed Drongo, whereas Lesser Cuckoo and Common Swift winter in Africa.

Nepal attracts about 150 winter visitors, originating mainly from northern and Central Asia, some of which are also passage migrants. These include ducks, waders, birds of prey, gulls, terns, thrushes, bush warblers, *Acrocephalus*, *Locustella* and *Phylloscopus* warblers, pipits, wagtails, finches and buntings.

Some birds breeding in the Palearctic, mainly non-passerines, migrate directly across the Himalayas to winter in the subcontinent. Birds have been seen flying over the highest parts of these ranges; for example a flock of Bar-headed Geese was recorded flying as high as 9,375 m above Sagarmatha. Other birds follow the main valleys, such as those of the Kali Gandaki, Dudh Kosi and Arun. Spot-winged Starling undertakes east–west movements along the Himalayas. Large numbers of birds of prey, especially *Aquila* eagles, have also been found to use the Himalayas as an east–west flyway when migrating from their breeding grounds. The raptors leave the Tibetan Plateau and northern Asia and head south to uncertain wintering grounds (for some species possibly as far as sub-Saharan Africa) following the Himalayan range of Nepal and India. Each year, between 2012 and 2014, 10,000 to 14,000 individuals were counted, comprising 37 migrating raptor species. The majority were Steppe Eagles, and the globally threatened Pallas's Fish Eagle, Eastern Imperial Eagle and Greater Spotted Eagle; Egyptian Vulture, White-rumped Vulture, Saker Falcon, and Near Threatened Himalayan Vulture and Cinereous Vulture were also seen (Subedi 2015).

BIRDWATCHING AREAS

The following areas are some of the most interesting localities and treks for birdwatching in Nepal, but there are many others; for example, all of Nepal's protected areas have very good bird habitat.

Key: r = resident, w = winter visitor, s = summer visitor, pm = passage migrant

Chitwan National Park

Location: South-central Nepal.

Habitat: Grasslands, sal and riverine forests on low ground, sal forest on hills and sal/Chir Pine on ridges, rivers and small lakes.

Best time to visit: October–May, especially late April.

Birds: Oriental Pied and Great Hornbills, Red-headed Trogon, Blue-eared Kingfisher (rare), White-rumped Spinetail, Spot-bellied and Dusky Eagle Owls (rare), Bengal Florican, Grey-headed Fish Eagle, Greater Spotted Eagle (w), Collared Falconet, Darter, Lesser Adjutant, Woolly-necked Stork, Hooded Pitta (s), Indian Pitta (s), White-throated Bulbul, Black-backed Forktail, Golden-headed Cisticola, Pale-footed Bush Warbler, Chestnut-crowned Bush Warbler (w), Grey-crowned Prinia, Dusky and Smoky Warblers (w), Bristled Grassbird (s), Rufous-rumped Grassbird, Rufous-necked Laughingthrush, Jerdon's Babbler (rare), and Chestnut-capped, Yellow-eyed and Slender-billed Babbler (best location in Indian Subcontinent for this species).

Phulchowki Mountain (2,760 m)

This locality is one of the best birdwatching sites in Nepal. At the time of writing (June 2015), security is an issue, although the situation is likely to improve. Please check with a Nepalese travel agent before visiting.

Location: Edge of Kathmandu Valley, east-central Nepal.



Marshy reeds, Chitwan National Park . (*Hem Sagar Baral*)

Habitat: Subtropical broadleaved and moist broadleaved temperate forests.

Best time to visit: October–early May.

Birds: Good variety of subtropical and temperate forest species, including Striated Bulbul, Orange-bellied Leafbird, Long-billed Thrush (w, rare), Black-faced Warbler, Striated and Rufous-chinned Laughingthrushes, Grey-throated Babbler, Himalayan Cutia, Hoary-throated Barwing, Black-throated Parrotbill (rare), Nepal Fulvetta, Yellow-bellied Flowerpecker (w), Golden-naped Finch (w?).

Shivapuri Nagarjun National Park (2,730 m)

Location: Edge of Kathmandu Valley, east-central Nepal.

Habitat: Dense scrub and subtropical broadleaved forest on lower slopes, broadleaved temperate forest higher up.

Best time to visit: October–early May.

Birds: Good variety of subtropical and temperate forest species including Long-tailed Broadbill (s?), Spotted Forktail, Black-faced Warbler, Pale Blue Flycatcher (s), Spiny Babbler, Grey-throated Babbler, Nepal Fulvetta, Grey-sided Laughingthrush, Scarlet Finch, Golden-naped Finch and Brown Bullfinch.

Koshi Tappu Wildlife Reserve

Location: South-east lowlands.

Habitat: Marshes, impounded river, wet grasslands, scrub and riverine forest.

Best time to visit: Late November–late May.

Birds: Passage migrant and wintering wildfowl, including Bar-headed Goose, Baer's Pochard (rare), Falcated Duck (rare), Pacific Golden Plover and Oriental Pratincole (rare); also a good variety of birds of prey, especially in winter and on passage including Pallas's Fish Eagle, White-tailed Eagle, White-rumped Vulture, Pied Harrier, Greater Spotted Eagle and Red-necked Falcon. Regular winter visitors and passage migrants include Baillon's Crake and Spotted Bush Warbler, Clamorous Reed, Dusky and Smoky Warblers, Siberian Rubythroat, while Watercock and Bristled Grassbird are summer visitors. Residents include Swamp Francolin, Black, Cinnamon and Yellow Bitterns, Indian Courser, Lesser Adjutant, White-tailed Stonechat, Graceful and Rufous-vented Prinia (the only location for this endemic subspecies) and Striated Grassbird.



Rani Tal, Sukla Phanta Wildlife Reserve. (*Hem Sagar Baral*)

Sukla Phanta Wildlife Reserve

Location: Far western lowlands.

Habitats: Grasslands, sal forest, marshes and small lakes.

Best time to visit: October–May, especially from December onwards.

Birds: Most of Nepal's grassland specialities and a good variety of lowland sal forest species. Swamp Francolin, Bengal Florican, Dusky Eagle Owl (rare), Black Bittern, Lesser Adjutant, Woolly-necked Stork, White-naped and Great Slaty Woodpeckers, Rufous-rumped Grassbird, Bristled Grassbird (s), Yellow-bellied Prinia, Spotted Bush Warbler (w), Dusky and Smoky Warblers (w), Jerdon's Bushchat (s), Hodgson's Bushchat (w and pm – best locality in Indian Subcontinent for this species), Tawny-bellied, Chestnut-capped, Yellow-eyed and Jerdon's Babbler, Finn's and Black-breasted Weavers.

Bardia National Park

Location: Far western lowlands.

Habitats: Sal forest, deciduous hill forest and Chir pine; grasslands, river and riverine habitats.

Best time to visit: October–April, especially from December onwards.

Birds: Good variety of forest, grassland and river species, including White-naped and Great Slaty Woodpeckers, Oriental Pied Hornbill, Darter, Lesser Adjutant, Woolly-necked Stork, Indian Pitta, Tickell's Blue Flycatcher, Chestnut-capped and Yellow-eyed Babbler, Silver-eared Mesia.

Lumbini and Jagdishpur

Location: Western lowlands.

Habitats: Farmlands and wetlands in and around Lumbini; reservoir at Jagdishpur.

Best time to visit: October–April, especially from December onwards.

Birds: Good variety of waterbirds, birds of prey and farmland birds: Sarus Crane, Indian Spotted Eagle, vultures, Common and Large Grey Babbler, Brown Rock Chat, Short-eared Owl (w, pm), Yellow-crowned Woodpecker, Rufous-tailed and Crested Larks, Falcated Duck (w, rare), Cotton Pygmy Goose, Pheasant-tailed Jacana, Grey-headed Lapwing (w).

Pokhara Valley

Location: West-central Nepal.

Habitats: Subtropical broadleaved forest, lake, rivers and farmlands.

Best time to visit: October–May.

Birds: Kalij Pheasant, nearly all *Aquila* eagles (pm), vultures (eight species) and other birds of prey, Chestnut-headed and Grey-bellied Tesias (w), Long-billed Thrush (w), Blue-naped Pitta (rare, s), Long-tailed Broadbill, Spiny Babbler, Spotted, Little and Slaty-backed Forktails, Green Magpie, Upland Pipit, Yellow-breasted Bunting (w), waterbirds (pm).

The hills above Kande (= Khare) and Thoolakharka are excellent for raptor migration, mainly between late October and mid November (see Subedi 2015).

Chepang Hill–Siraichuli trek [information kindly provided by Bird Education Society (BES), Sauraha]

Location: Mahabharat Hills central Nepal, just north of Chitwan National Park.

Habitats: Subtropical broadleaved and Chir Pine forests.

Best time for trek: October–early June.

Recommended time for trek: Four days.

Route: Sauraha – Saktikhori (one-hour drive) – Upardang Gadhi (1,275 m) overnight – Chisapanitar – Siraichuli 1,945 m (overnight) – Saktikhori (overnight) – Sauraha. Home stay is available on this trek.

Birds: More than 300 species have been recorded on this trek by BES including Long-tailed Broadbill, Red-headed Trogon, Mountain Hawk Eagle, Himalayan, Cinereous and Red-headed Vultures, Grey-chinned Minivet, Blue-capped Rock Thrush (s), Pale Blue Flycatcher, Spiny Babbler, Striated and Blue-winged Laughingthrushes, Himalayan Cutia, Silver-eared Mesia, Black-chinned Yuhina, White-browed Shrike Babbler, Streaked and Little Spiderhunters, and Black-throated and Crimson Sunbirds.

Trekking in Langtang National Park

Following the 2015 earthquakes, avalanches destroyed Langtang village and other settlements in the upper Langtang Valley, and large parts of the trails in the park. Many teahouses were also damaged. At the time of



Langtang National Park. (Hem Sagar Baral)

writing (March 2016), some trekking trails and lodges have re-opened. Please check with the Langtang National Park authority or your Nepal trekking agent before starting these treks.

Location: East-central Nepal

Habitats: Lower temperate and upper temperate broadleaved forests; subalpine forests of fir, rhododendron, birch and juniper; alpine scrub of rhododendron and juniper, and alpine grasslands.

Best time for treks: Late April–early June.

Recommended time: 3–4 weeks.

Gosainkund

Route: Sundarjal, Kathmandu Valley (1,265 m) – Pati Bhanjyang (1,770 m) – Kutumsang (2,470 m) – Thare Pati (3,505 m) – Ghopte Cave (3,565 m) – Laurebina Pass (4,600 m) – Gosainkund lakes (4,380 m) – Sing Gomba (= Chandanbari) (3,255 m) – Dhunche (1,965 m).

Birds: Snow Partridge (Gosainkund lakes), Blood Pheasant, Himalayan Monal, Spotted Nutcracker, Long-billed Thrush, Gould's Shortwing (near Ghopte), Rufous-breasted Bush Robin, Grandala, Smoky Warbler (above Ghopte), Spotted Laughingthrush, Fire-tailed Myzornis (near Ghopte), Spot-winged Rosefinch, Red-fronted Rosefinch (Laurebina Pass).

Langtang Valley

Route: Dhunche (1,965 m) – Syabru (2,120 m) – Kyanjin, upper Langtang Valley (3,750 m).

Birds: Blood Pheasant, Satyr Tragopan (Syabru, rare), Himalayan Monal, Brown-capped Woodpecker, Yellow-rumped Honeyguide, Wood Snipe, Ibisbill (Kyanjin), Pied Thrush (s), Nepal Wren Babbler (Dhunche – below Lama Hotel), Mrs Gould's Sunbird, Yellow-bellied Flowerpecker, Spot-winged Rosefinch, Scarlet Finch.

Trekking in Annapurna Conservation Area

Location: West-central Nepal.

Thak Khola trek

Route: Pokhara (915 m) – Birethanti (1,065 m) (mainly by bus to Naya Pul) – Tirkhedhungha (1,525 m) – Ghorepani (2,775 m) – side trips to Poon Hill and along trail to Tatopani (1,190 m) – Ghasa (2,000 m) – Jomsom (2,715 m) –



Annapurna Conservation Area. (Kim Robinson)

Kagbeni (2,805 m) – Muktinath (3,800 m). Nowadays there is a drivable road to Jomsom. This trek can easily be linked to the Annapurna Sanctuary trek by using the trail from Ghorepani to Ghandruk.

Habitats: Broadleaved subtropical forest, Chir pine lower down and blue pine forest higher up, broadleaved lower and upper temperate forests, coniferous upper temperate, subalpine forests of fir, birch and *Caragana* scrub in the Tibetan steppe zone.

Best time for trek: December–March; also October (for migrants)

Recommended time: 17 days.

Birds: White-rumped, Himalayan, Red-headed, Cinereous and Egyptian Vultures, Bearded Vulture, Greater Spotted Eagle (w, Pokhara–Ghorepani), Crested Kingfisher, Little, Slaty-backed and Spotted Forktails (especially between Birethanti and Tirkhedhunga), Koklass Pheasant (Ghorepani and Ghasa), White-browed and Rufous-breasted Bush Robins, Hume's Bush Warbler, Great, Brown and Black-throated Parrotbills (Ghorepani, Ghorepani–Ghandruk), Spotted Laughingthrush, Spot-winged Rosefinch (Ghorepani and Ghasa), Variegated Laughingthrush (Ghasa), Crimson-browed Finch (Ghorepani), White-throated and Gldenstdt's Redstarts, White-browed Tit Warbler, Brown, Robin, Altai and Alpine Accentors, Red-fronted Serin, Streaked and Great Rosefinches (Tukche–Muktinath), Solitary Snipe (Muktinath and nearby Jharkhot), and Tibetan and Himalayan Snowcocks (above Muktinath on trail to Thorong La).

Annapurna Sanctuary trek

Route: Pokhara – Phedi (bus), Phedi – Pothana (2,035 m) – Landruk (1,715 m) – Chhomrong (2,050 m) – Khuldi (2,550 m) – Bagar (3,300 m) – Annapurna Base Camp (4,130 m). On the return, there is an option via Ghandruk to Naya Pul, from where there are buses to Pokhara.

Best time for trek: March, April, October, early November.

Recommended time: 14 days.

Habitats: Moist broadleaved lower temperate forest; upper temperate forest of oak and rhododendron, bamboo jungles, subalpine birch and rhododendron; alpine scrub and grasslands.

Birds: Cinereous Vulture (w), Yellow-rumped Honeyguide, Rufous-breasted Bush Robin, Grandala, Slender-billed Scimitar Babbler, Golden Babbler, Black-headed Shrike Babbler (scarce), Golden-breasted Fulvetta, Great and Fulvous Parrotbills, Yellow-bellied Flowerpecker, Spot-winged, Streaked and Red-fronted Rosefinches.

Makalu Barun National Park

Location: Eastern Nepal

Best time for trek: April and May.

Habitats: Moist broadleaved subtropical, lower temperate and upper temperate forests, subalpine forests of rhododendron, fir and birch, rhododendron shrubberies and alpine meadows.

Arun Valley

Route: Kathmandu – Tumlingtar (550 m; flight) – Khandbari (900 m) – Bhotebas (1,900 m) – Num (1,700 m) – Seduwa (1,500 m) – Navagaon (2,200 m) – Tashigaon (2,300 m) – Shunin Oral (3,300 m) – Kongma (3,800 m) – return by same route.

Recommended time for trek: 19 days.

Barun Valley extension

Route: Kongma – Makalu Base Camp – Kongma.

Recommended time for trek: Six days.

Birds: Snow Partridge, Blood Pheasant, Himalayan Monal, Yellow-rumped Honeyguide, Solitary Snipe, Wood Snipe (Barun Valley), Gould's Shortwing (Barun Valley), White-browed and Rufous-breasted Bush Robins, Grandala, Purple Cochoa, Sultan Tit and Yellow-vented Warbler (lower elevation), Broad-billed Warbler, Rufous-chinned, Spotted, Grey-sided and Blue-winged Laughingthrushes, Slender-billed Scimitar Babbler, Rufous-throated and Nepal Wren Babblers, Fire-tailed Myzornis, White-naped Yuhina, Great, Fulvous and Black-throated Parrotbills, Yellow-bellied Flowerpecker, Maroon-backed Accentor, Crimson-browed and Golden-naped Finches.

WHAT BIRDWATCHERS CAN DO

By recording their observations, birdwatchers can play a valuable role by increasing knowledge of the country's birds and helping to conserve them. Studies of globally threatened species would be especially useful. Much is still to be learned concerning the breeding behaviour of many of Nepal's birds. Please post any information that corrects or adds to that presented here on www.ebird.org.

CHANGES IN BIRD DISTRIBUTION AND STATUS

Since the early 1990s, there have been significant changes in the known distribution and status of Nepal's birds. This partly reflects much increased survey effort, especially since the first edition of this field guide in 2000. Surveys have been undertaken by Bird Conservation Nepal, the Bird Education Society, Department of National Parks and Wildlife Conservation, as well as individuals. This has greatly increased our knowledge of areas that have not been previously surveyed, e.g. Api Nampa, Kanchenjunga, Manaslu and Gaurishankar Conservation Areas and the Limi Valley, or areas that have previously been subject to little recording effort such as Dang district. Major efforts have been made to survey new protected areas, Important Bird and Biodiversity Areas (IBAs) and potential IBAs. These surveys have filled in previous gaps in distribution such as the mid-west, far north-west and far north-east. Some areas are now under surveillance very regularly or almost continually such as Chitwan National Park and Buffer Zone, and the Koshi area. Seventeen species have been added to the Nepal list since 2000.

This survey work has revealed the presence of four new probable residents for Nepal, which were probably overlooked previously. These include the Near Threatened Himalayan Wedge-billed Babbler, which was first recorded near Dharan in 1996 (Karki & Choudhary 1997). Long-billed Wren Babbler was first recorded in Makalu Barun National Park in 1995 (Cox & Sherpa 1998) and confirmed in 2006 (Cox 2010). Mottled Wood Owl was discovered in Bardia National Park in June 2015 (Ram Shahi & Benj Smelt). The most remarkable find was a small population of a new subspecies of the Near Threatened Rufous-vented Prinia *Prinia burnesii nepalicola* from grassland on islands in the Koshi River (Baral *et al.* 2007, 2008).

Field surveys, as well as a comprehensive review of all Nepal's bird records since 1990, for the Nepal national bird Red Data Book (research to be completed by the end of 2015) have revealed that some species have not been seen for a considerable period of time or have become very rare. These include a number of wetland species that have declined mainly as a result of over-fishing and habitat loss, such as Indian Skimmer and Caspian Tern (last known records 2006), Gull-billed Tern (last known record 2007), and River Tern and Black-bellied Tern (now very rare and local).

Some specialities of moist broadleaved evergreen or semi-evergreen forests have not been recorded for some years as a result of habitat loss and degradation, especially in the east. These include Mountain Imperial Pigeon (last known record 1996), Blue-eared Barbet (last known record 2006), Yellow-cheeked Tit (last known record 1997), White-hooded Babbler (last known record 1989), Long-tailed Sibia (last known record 2006) and Rufous-backed Sibia (last known record 2007). Two lowland bamboo specialists have not been found since the early 1980s, almost certainly because of habitat loss: Rufous-faced Warbler (last known record 1982) and Pale-headed Woodpecker (last known record 1981). The only known record of the lowland grassland specialist, Eastern Grass Owl, since the 1990s is an injured bird from Bardia National Park in 2011.

Some species have become absent from the far east because of habitat loss, although they have still been recorded (although rarely and very locally) further west, notably Little Spiderhunter and Silver-eared Mesia.

A number of species are now being regularly recorded at higher altitudes than previously, presumably as a result of climate change, e.g. Greater Coucal and Pale Blue Flycatcher.

Vulture populations have decreased dramatically in Nepal since the 1990s, as they have in the rest of the Indian Subcontinent because of poisoning by diclofenac, a livestock drug. This has resulted in White-rumped Vulture, Slender-billed Vulture, Red-headed Vulture and Egyptian Vulture becoming listed as globally threatened, and Bearded Vulture, Himalayan Vulture and Cinereous Vulture being listed as Near Threatened. Widespread, concerted and determined conservation efforts within Nepal and elsewhere in the subcontinent are bringing about a recovery in some species at least.

The 2010 assessment of the state of Nepal's birds (BCN and DNPWC 2011) concluded that 16 additional species were nationally threatened compared to the 2004 assessment of 133 threatened species (Baral & Inskipp

2004). There was considered to be a much a larger number of Critically Endangered species (61) in 2010 than in 2004 (40 species), as well as 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.

More time was available for the 2010 study, however, and more records were received from a larger number of contributors, revealing a truer picture of the state of Nepal's birds. The more detailed analysis undertaken in 2010 revealed that some species were much more threatened in 2004 than now. Even so, overall, the situation for birds had worsened.

Since 2004, more research work has been carried out to identify threats and the extent of their impact on Nepal's birds: for example, the impacts of diclofenac (a non-steroidal anti-inflammatory drug used to treat livestock) on White-rumped Vulture and Slender-billed Vulture; 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 desk study which revealed the strong impacts of agricultural changes (Inskipp & Baral 2011).

It is clear that some threats are increasing, 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 many projects benefiting local livelihoods.



White-capped Redstart. (*Sagar Giri*)

BIRD CONSERVATION

*This magnificent picture of thine is very charming indeed, O Lord
Of the forest, when these birds are happily enjoying themselves upon trust.
Oh! And their sweet musical notes are heard distinctly as they sing
Beautifully during the season of fragrant flower (the Spring).*

Mahabharat 12.150.14–15

RELIGIOUS ATTITUDES AND TRADITIONAL PROTECTION

Attitudes to wildlife that stem from the teachings of Hinduism and Buddhism have undoubtedly helped to conserve Nepal's rich natural diversity. Nepal's birds are generally tame, at least outside heavily disturbed areas.

Wildlife, forests and water are viewed primarily as important resources, and so people have traditionally created many ways to preserve, manage and use them. In every aspect of communal interest, such as forestry and pasture, local people established unwritten laws that have become a way of life. Special permission was required to cut down trees in community forests, for example. Defaulters were fined and the revenue collected was used in community welfare. Forests protected for religious reasons, for example in Pashupatinath, Swayambhunath, Dakshinkali and Chapagaon, are important wildlife habitats. These traditional conservation methods were effective but, unfortunately, many have broken down in more recent times, giving rise to increasing deforestation and environmental degradation.

CURRENT THREATS

Nepal's rich biodiversity is seriously at risk. The principal reason is an expanding and poor population that remains reliant on natural resources and hence continues to put severe pressure on the environment. In 2010, the alarming number of 149 bird species (17%) of Nepal's birds was considered nationally threatened. Eight species are believed to have been recently extirpated from Nepal (see Appendix 1). Habitat loss was the major threat to 86% of the birds at risk nationally (BCN and DNPWC 2011).

A 2010 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 & Baral 2011). Urbanisation and the construction of an increasing road network are other significant threats to natural habitats. Threats extend into protected areas, albeit to a lesser extent. Almost all protected areas and buffer zones face pressure from livestock grazing, fodder collection and fuelwood gathering by local villagers whose basic needs have not always been met. There is a general lack of awareness amongst poorer people of the importance and conservation of wildlife. Park staff often lack sufficient resources to implement regulations and improve their own management skills.

Threats to forest birds

At one time Nepal was extensively forested, but the latest assessment gave a forest area of only 25% and other wooded area (mainly shrubs) of 13% (FAO 2010). Forest losses have been so widespread and extensive in the lower and middle hills that some forests have become very fragmented. As a result many bird species no longer lack the continuum of habitats that they require to move altitudinally with the seasons, and their distributional range is becoming restricted.

Major causes of forest losses are: the spread of settlements and cultivation; unregulated construction, including roads and illegal building of schools, temples and hospitals etc., as well as government-planned conversion of forests for the development of projects such as road construction, electric transmission lines and reservoirs.

One quarter of Nepal's forest area is heavily degraded (World Bank 2008), which has led to loss of biodiversity, increased landslides, and soil erosion. The main causes of forest degradation are: unsustainable overharvesting of biological resources to meet persistently high demands for fuel; felling for construction timber, and collection of fodder and other forest products. Illicit felling of commercially valuable trees, the trans-boundary timber trade, uncontrolled forest fires and overgrazing by domestic livestock are also major problems.

The vast majority of Nepalese people depend on forests for their essential requirements of fuel, animal fodder and other basic materials; fuelwood, for example, provides 78% of Nepal's domestic energy (Bhusal 2010). There are initiatives to provide alternative energy sources to wood, for example small-scale solar power and hydropower schemes. However, the issue of firewood can be rather difficult to solve, even if alternative energy sources are available, as people living in rural areas/villages mostly prefer to use wood as fuel.

With 55% of nationally threatened birds depending on forests, loss and deterioration of the latter are major threats to the country's birds. Many of the threatened species require plenty of undergrowth, moist conditions or trees covered in epiphytes. Hornbills and Great Slaty Woodpecker depend on mature trees (BCN and DNPWC 2011).

Nepal's large annual precipitation and dense river networks provide high potential for hydroelectricity. However, construction of hydroelectric dams brings substantial threats to wildlife and people. They can inundate important habitats, act as barriers to wildlife migration, lead to associated developments, displace people into new sensitive habitats, and can also alter local microclimates.

Threats to wetland birds

Wetland birds face a wide range of threats in Nepal. These threats are increasing and include: drainage and encroachment for agriculture, settlement and infrastructure development; diversion and abstraction of water for irrigation; unsustainable exploitation of wetland resources, including overfishing and destructive fishing; widespread extraction of gravel from streams and riverbeds; water pollution from households, industrial discharges and agricultural run-off; invasion of alien species into wetland ecosystems; illegal hunting and trapping of birds and other wildlife; siltation, and channelling and damming of rivers (MoFSC 2014).

Many observers have noted a decline in wetland birds in recent years. The Annual Waterbird Counts are now providing data to illustrate trends on a national level; for example there has been a sharp fall in bird numbers at the internationally important wetland at Koshi, which was first noted around 1990 (Choudhary 2003). This trend was confirmed by subsequent Annual Waterbird Counts at Chitwan and in the Pokhara Valley.

Threats to grassland birds

Cultivation has significantly reduced the once extensive subtropical grasslands that border Nepal's lowland rivers and formed the northern extension of the huge Gangetic plain. Remaining areas are fragmented and almost entirely lie within protected areas. Within protected areas, Nepal's grassland specialist birds, for instance the globally threatened Bengal Florican, Swamp Francolin and Hodgson's Bushchat, are suffering from inappropriate grassland management, including untimely and intensive annual cutting, burning and ploughing, which alter species composition and are aimed at the conservation of mammals, not birds (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. Nowadays fires seem essential to maintain lowland grassland ecosystems in protected areas and are a very useful management tool to maintain biodiversity. However, fires carried out during the breeding season can be extremely damaging to nests and eggs and, if burning is too comprehensive, no shelter remains for grassland wildlife (Baral 2001).

Overexploitation

Hunting and trapping

Hunting is contributing to the decline of some species, including the globally threatened Lesser Adjutant, Sarus Crane, Spot-billed Pelican and Cheer Pheasant. In some areas, hunting is on the increase as traditional values wane. The slaughter of many larks and buntings for sale as snacks (locally known as *bagedi*) in village inns has been observed in the *terai*. Illegal bird trading goes on near Koshi Barrage year-round. Buyers from Bihar in India purchase birds for food, including ducks, jacanas, doves, moorhens, egrets, munias, larks and francolins. Once widespread throughout lowland Nepal, Great Hornbill is now confined to Chitwan in central Nepal and Bardia in the west. The oil from this bird's casque and the beak itself are much valued in traditional medicine (Fleming *et al.* 1984). Hunters and villagers routinely shoot such large and conspicuous birds both for medicine and for food.

Some globally threatened species, such as Lesser Adjutant and Sarus Crane, live close to human settlements making them easy targets. The establishment of protected areas does not necessarily ensure their conservation. What is needed is improved conservation awareness amongst local people. The increased illegal bird trade in the Kathmandu Valley is a threat to some bird species (Thapa & Thakuri 2009).

Overfishing

Overfishing, which has led to a marked decline in prey, is a serious threat to many fish-eating bird species, for example Black-bellied Tern, gulls, Indian Skimmer and fish-eating raptors and owls such as Grey-headed Fish Eagle, Lesser Fish Eagle and Tawny Fish Owl (BCN and DNPWC 2011).

Overexploitation of forest products

A number of mountain IBAs are suffering from very large numbers of people illegally gathering non-timber forest products, including yarsagumba *Cordyceps sinensis*, a fungus that parasitises moth larvae and is highly valued as a herbal remedy in Chinese medicine. Every year, these huge influxes of people are causing high levels of wildlife disturbance and poaching mammals and birds, especially pheasants. Forests are becoming reduced and thinned as a result of their collecting fuelwood. Wildlife disturbance is especially high because these forest products are gathered during the breeding season for most birds and some mammals.

Climate change

Climate change is a major threat to biodiversity and is having a significant impact on the Himalayan environment. However, the impacts of climate change on Nepal's biodiversity are poorly understood. The ranges of many species are very likely to move upwards from their current locations. Species with specialist habitat requirements will be especially vulnerable as they have nowhere to go when the climate warms. High-mountain ecosystems are likely to be worst affected by climate change (MoFSC 2014).

Some of Nepal's threatened birds are largely confined to protected areas, notably grassland species. 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, grassland species will have no suitable habitat to colonise (BCN and DNPWC 2011).

Invasive alien species

Introduced species of fauna and flora are a common threat to native birds and other wildlife worldwide. In Nepal, many pools and small lakes have become overgrown by an exotic plant species, Water Hyacinth *Eichhornia crassipes*. The species produces free-floating mats, causing a sharp decline in the number of open-water dwelling species, especially cormorants, grebes and many ducks. Water Hyacinth can also lead to low dissolved oxygen levels and thereby reduce insect and fish populations on which many bird species feed (Dahal 2007).

More recently, another alien plant, *Mikania micrantha*, has been having devastating effects in some areas, notably in Chitwan National Park and Koshi Tappu Wildlife Reserve. It is a climber that can cover trees and shrubs, as well as the entire forest floor, making it impossible for terrestrial species, such as thrushes and pipits to feed (Baral 2002).

Chemical poisoning

In Europe, use of some pesticides has been demonstrated to cause widespread declines of numerous bird species, many of which were previously common, including birds of prey and finches.

Persistent chemical pesticides have been banned for use in agriculture and public health since April 2001 in Nepal. However, there is serious concern concerning the illegal import of pesticides. This was illustrated by an investigation of threats to Sarus Crane in Lumbini, where Paudel (2009 a,b) carried out a survey of local markets and found that a wide range of pesticides was available and a disturbingly large range of insecticides was being used in the area. There is widespread documentation of farmers' lack of awareness of pesticides, including impacts on the environment and the ongoing need for farmers' education and development of a safety culture in pesticide use (Palikhe 2005).

Poisoning by diclofenac, a drug used to treat livestock ailments, was identified as the cause of drastic vulture declines in the Indian Subcontinent, including Nepal (Oaks *et al.* 2004). In a bid to stop the illegal use of diclofenac for veterinary use after its ban by the Nepal government in 2006, Diclofenac Free Zones have been created in many of Nepal's districts. In 2007 Bird Conservation Nepal (BCN) set up the first community-managed Vulture Safe Feeding Site at Pithauli and a number of such sites have now been established across Nepal. Pharmaceutical firms are encouraged to promote a safe alternative called meloxicam (Swan *et al.* 2006). BCN has undertaken a widespread awareness programme on vulture conservation. The use of diclofenac has since declined by 90% across parts of Nepal, although its complete elimination from the scavenger food chain has yet to be achieved (Gilbert *et al.* 2007).

NATURAL DISASTERS

Natural disasters such as the 2008 monsoon flooding of the Koshi River have had major impacts on wildlife and the environment. More recently, the large earthquakes of April and May 2015, and numerous accompanying aftershocks, have seriously damaged or destroyed infrastructure, villages, towns and parts of Kathmandu, as well as causing major environmental damage to between one third to one half of the country. Further encroachment of forests and degradation of habitats are likely, as large numbers of hard-pressed people will be forced to find new settlements and farmland.

CONSERVATION MEASURES

Nepal's Protected Area system

Nepal's Protected Area system covers 23.33% of the country and almost 4% is covered by buffer zones. The protected area system includes ten national parks: Chitwan, Bardia, Sagarmatha, Shey Phoksundo, Langtang, Makalu Barun, Rara, Khaptad, Shivapuri Nagarjun and Banke; as well as three wildlife reserves: Sukla Phanta, Parsa and Koshi Tappu; six Conservation Areas: Annapurna, Api Nampa, Manaslu, Kanchenjunga, Blackbuck and Gaurishankar; and one hunting reserve: Dhorpatan. Nepal is the second most important country in Asia for the percentage of its surface area that is protected, illustrating Nepal's enlightened attitude to both biodiversity and landscape conservation.

The Department of National Parks and Wildlife Conservation (DNPWC) is the body authorised to maintain and conserve protected areas in Nepal. In addition, Annapurna, Gaurishankar and Manaslu Conservation Areas are managed by the National Trust for Nature Conservation, a not-for-profit organisation, working in Nepal for nature conservation. The Nepal army guards most of the national parks and wildlife reserves. Involvement of local people in the management of protected areas has been further promoted by the establishment of buffer zones around most of these sites.

In 2006 the government handed over management responsibility of Kanchenjunga Conservation Area to local communities. Local people are also involved in the management of Annapurna, Manaslu and Gaurishankar Conservation Areas through conservation committees. These initiatives have put Nepal at the forefront in linking communities to benefits from protected areas (MoFSC 2014).

Government policies and legislation

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

The Convention on Biological Diversity (CBD) was ratified by Nepal in November 1993. In 2002, Nepal developed a comprehensive Nepal Biodiversity Strategy to fulfil its obligations to the CBD. The latest strategy covers the period 2014–20.

Community forests

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. By June 2013, more than half of