BIRD CONSERVATION PRIORITIES OF THE ANNAPURNA CONSERVATION AREA

Report to UNEP-WCMC/King Mahendra Trust for Nature Conservation/Annapurna Conservation Area Project

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EXECUTIVE SUMMARY

Importance for birds

The high number of 485 bird species has been recorded in the Annapurna Conservation Area so far, over half (56%) of the bird species found in Nepal. Several factors contribute towards the species-richness of the Conservation Area. Birds typical of the Palearctic and Oriental realms, as well as the eastern and western Himalayas occur. Other important contributing factors are the combination of highly varied topography and climate and wide altitudinal range that have resulted in a large number of habitat types and associated rich bird diversity. The relatively large number of passage migrant and vagrant species (108) that has been recorded add to the species total.

The Annapurna Conservation Area (ACA) is of international importance for birds and has been identified by BirdLife International as an Important Bird Area. Eight species listed as globally threatened by BirdLife International have been recorded, including the resident Cheer Pheasant *Catreus wallichii*, for which the ACA may be particularly important. Seven near-threatened species occur, notably Satyr Tragopan *Tragopan satyra* and Yellow-rumped Honeyguide *Indicator xanthonotus* that are both resident. There are six species in the ACA classified by BirdLife International as having restricted ranges. The Area has good populations of the following breeding restricted-range species: Spiny Babbler *Turdoides nipalensis* (Nepal's only endemic bird species), Nepal Wren Babbler *Pnoepyga immaculata* and Hoary-throated Barwing *Actinodura nipalensis*. It is the only known wintering area in Nepal for Spectacled Finch *Callacanthis burtoni*; this species may also breed. The ACA is the country's only protected area that has all of Nepal's six pheasant species. The Kali Gandaki valley is a migration corridor for bird moving south to winter in India. In addition large numbers of birds of prey migrate west through the ACA just south of the main Himalayan chain.

Most important bird sites

Six forest areas have been identified as the most important bird sites in the ACA based on the following criteria, the number of: globally threatened species, near-threatened species, restricted range species, nationally threatened species, species characteristic of relatively undisturbed forests, and the total number of species recorded. The sites are Pipar, Santel, Modi Khola watershed, Ghorepani, Ghorepani to Ghandrung and Ghasa. Since the late 1970s Pipar has been the site of a partnership between the World Pheasant Association and the villagers of Karuwa, who live closest to Pipar, because of the importance of the area for pheasants. A Pipar conservation plan has recently been prepared jointly by the World Pheasant Association with the ACAP and Bird Conservation Nepal. Pipar and Santel are of national importance for pheasants, supporting five of Nepal's six species, including a good population of the near-threatened Satyr Tragopan, and are also notably rich in other species. Surveys at Pipar over the last 20 years show that the population of Satyr Tragopan is stable while it is declining elsewhere in the ACA (with the probable exception of nearby Santel) and elsewhere in Nepal. The Modi Khola watershed supports over half the total species (53%) recorded in the whole ACA, including Satyr Tragopan and Yellow-rumped Honeyguide although both are rare there. Ghasa is of special importance for the globally threatened Cheer Pheasant as it is the only currently known site for the species in the ACA and only one of two recent sites in

Nepal where it has been recorded. Satyr Tragopan and Yellow-rumped Honeyguide also occur although both are rare. There is a good population of the restricted-range species Nepal Wren Babbler close to Ghasa. Ghorepani and between Ghorepani and Ghandrung support a good variety of species although there are few recent records of globally and near-threatened species. Ghorepani is the only known site where the restricted-range Spectacled Finch is regularly found in Nepal.

Most important forest types

Forests and shrubs form by far the most important habitat in the ACA for birds. The high proportion of 66% of bird species recorded (excluding passage migrants and vagrants) depend on forests and shrubs. In general in Nepal broadleaved forests (that have not been regularly burned) are richer in bird species than coniferous forests at the same altitude as the former are moister and support higher populations of invertebrate food supplies than the latter. Lower temperate and upper temperate forests support the largest numbers of globally, near-threatened and nationally threatened, as well as restricted-range species in the ACA and are considered the most important for bird species. Lower temperate *Quercus lamellosa* and lower temperate mixed broadleaved forest are especially species-rich. Upper temperate moist forests of *Quercus semecarpifolia* and mixed broadleaved forests are also notable for their bird diversity. Subalpine forests, notably those of *Abies spectabilis, Betula utilis* and *Juniperus* spp. are next in importance for birds.

Threats to birds

Forest loss and depletion are significant threats to bird species in the ACA. Forests at Pipar, Santel and in remote parts of the Modi Khola watershed are still little touched. By contrast forests around Ghorepani, between Ghorepani and Ghandrung and in the more accessible parts of the Modi Khola watershed are significantly degraded. Tourism can bring benefits, but can also impact heavily on the environment. Trekking tourism has damaged some forests that were previously intact, notably those between Ghorepani and Ghandrung. The ACAP, which was set up in 1986 in response to the impacts of trekking tourism on the area's ecology and culture, is actively working to reverse these negative trends by promoting a strategy for sustainable use as well as conservation and development programmes. The effects of hunting and trapping on bird populations in the ACA are unknown but are probably much less than forest loss and deterioration. Since the establishment of the ACA hunting and trapping have reduced, but some communities still continue these practices. Impacts on pheasants are particularly significant. The use of catapults by young people may be impacting on bird populations around villages.

Bird survey methods

Bird survey methods are recommended including the Mackinnon's Species-richness Counting Method that is useful to determine the species-richness of a habitat or area. The results can be used to identify the most important habitats or areas for birds or it can be used to compare habitats or areas. The Call Counting Method, the best technique for surveying pheasants, is described. Estimating the population or density of many species in the forests and shrubberies of the ACA is difficult as they frequently occur in mixed species flocks. The classic methods of point counts or line transects are therefore of limited use. Significant ways in which local communities can help in surveys of Cheer Pheasant, Satyr Tragopan and Yellow-rumped Honeyguide are described.

Recommendations

Basic surveys and long-term monitoring of globally threatened and near-threatened species with breeding populations in the ACA as well as rare or uncommon restricted-range species are recommended. A survey of Cheer Pheasant is highly recommended as the ACA may be particularly important for this species. Surveys are also advocated for Satyr Tragopan, Yellow-rumped Honeyguide, Nepal Wren Babbler and Wood Snipe. Long-term monitoring of Himalayan vultures that have apparently declined in the ACA since the 1970s is also recommended. Survey methods suitable for individual species are described and advice on actively involving local communities is given.

Raising awareness of local people of reasons for conserving birds is recommended. Birds are valuable for moral, ethical and economic reasons, for our enjoyment and as monitors of the environment. An illustrated poster could be produced and displayed in villages and schools. A draft poster text is suggested. Bird or Nature Clubs could be established in schools. Activities could include regular local field outings and nature walks, painting and essay competitions, quiz competitions, environmental games and raising awareness of the damage that can be caused by the use of catapults. Interested teachers could be invited to attend a two or three day workshop.

Local people have a wide knowledge of bird ecology and have their own names for many species. This knowledge could be used as a basis for increasing conservation awareness of birds, especially amongst adults.

The establishment of core areas, even small ones, inside the ACA that are free from human impacts, such as trekking tourism and utilisation of forests is recommended. These areas could act as valuable breeding grounds for many species of birds and other wildlife, that could recolonise disturbed areas. More remote but species-rich areas such as Santel and parts of the Modi Khola watershed are recommended.

Annotated checklists

A checklist of bird species recorded annotated with status, abundance and threat status is included. Checklists are given of bird species recorded at the six sites identified as the most important for birds. Finally checklists are given of bird species recorded in all the main forest types.

Modi Khola Valley by Tim Inskipp

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Colour illustrations of birds are taken from Grimmett, R., Inskipp, C. and Inskipp, T. (1998) *Birds of the Indian Subcontinent.* London, Christopher Helm.

CONTENTS

NOMENCLATURE

Taxonomy, nomenclature and sequence follow *An Annotated Checklist of the Birds of the Oriental Region* by Tim Inskipp, Nigel Lindsey and William Duckworth (1996), Oriental Bird Club, Sandy, U.K.

Scientific names are given in the Appendices.

HABITAT TYPES

At the lowest levels of the Conservation Area there are subtropical forests of broadleaved *Schima wallichii, Castanopsis indica,* Chir Pine *Pinus roxburghii* on dry slopes, as well as Alder *Alnus nepalensis*, which mainly occurs along rivers and streams. Higher up, these are replaced by temperate forests of mixed broadleaves and oaks *Quercus lamellosa, Q. lanata* and *Q. semecarpifolia* with rhododendron species. In the wettest places, in the upper Modi Khola valley, grow bamboo jungles of *Arundinaria* species. Coniferous forests, mainly of fir *Abies spectabilis,* blue pine *Pinus wallichiana* and hemlock *Tsuga dumosa* grow on the dry ridges and slopes. Above the temperate zone lie the subalpine forests of birch *Betula utilis*, blue pine and juniper species. Finally rhododendron and juniper scrub grow in the alpine zone. The area to the north of the Himalayas is semi-desert and small scattered bushes of *Caragana* species and juniper replace the forests (Dobremez 1976). Fast-flowing rivers and streams flow south of the main range throughout the ACA.

IMPORTANCE FOR BIRDS

REASONS FOR SPECIES-RICHNESS

The high number of 485 bird species has been recorded so far, over half (56%) of the species found in Nepal, see Appendix 1. Additional species are still being found, notably Tibetan Sandgrouse, a new species for Nepal which was found during the breeding season in June 2002 (Shah *et al.* 2002). Several factors contribute towards the species-richness of the Conservation Area. Birds typical of both the eastern and western Himalayas occur as the Area is situated across the biogeographic divide in the mountain chain. The combination of highly varied topography, climate and wide altitudinal range has resulted in a large number of habitat types and associated rich bird species diversity. For instance the area south of Annapurna is the wettest in Nepal because the monsoon rain from India has relatively low hills to cross before reaching it, resulting in the growth of luxuriant broadleaved forests. This is in marked contrast to the semi-desert of the trans-Himalayan region in Mustang with a consequent change in avifauna. Also important is the great range of altitude within the Conservation Area from 790 m to 8091 m on Annapurna I. Another contributing factor is that the Conservation Area lies in a region of overlap between the Palearctic and Oriental realms with species from both realms breeding, for example Tibetan Snowcock from the Palearctic and Golden-throated Barbet from the Oriental realm. The relatively large number of passage migrants (108 species) that has been recorded adds to the species total.

Table 1
Bird species status

Status	Number of bird species	Percentage of total bird species recorded
Resident	319	66
Summer visitor	51	11
Winter visitor	54	11
Passage migrant	94	19
Vagrant	15	3

IMPORTANCE FOR BIRDS

The Annapurna Conservation Area is of international importance for birds. It has been identified as an Important Bird Area by BirdLife International (Baral and Inskipp 2001). Eight species listed as globally threatened by BirdLife International (BirdLife International 2001) have been recorded, including the resident Cheer Pheasant, for which the Area may be particularly important. Seven near-threatened species occur, notably Satyr Tragopan and Yellow-rumped Honeyguide, which are both resident.

There are six species classified by BirdLife International as having restricted-ranges and from the Western and Central Himalayas Endemic Bird Areas (Stattersfield *et al.* 1998) that occur in the Conservation Area. Endemic Bird Areas are centres of endemism that are sometimes known as 'conservation hotspots' and are found throughout the world. They each have a number of bird species with restricted-ranges, that is land-bird species that have, throughout historical times (i.e. post-1800) had a total global breeding range of below 50,000 km^2 (about the size of Sri Lanka). The Area has good populations of the following restricted-range breeding species: Spiny Babbler (Nepal's only endemic bird species), Nepal Wren Babbler and Hoary-throated Barwing. It is the only known wintering area in Nepal for Spectacled Finch; this species may also breed.

The Conservation Area is the country's only protected area that has all of Nepal's six pheasant species, including the national bird, Himalayan Monal. Since the late 1970s Pipar has been the site of a partnership between the World Pheasant Association and the villagers of Karuwa, who live closest to Pipar, because of the importance of the area for pheasants. A Pipar conservation plan has recently been prepared jointly by the World Pheasant Association with the ACAP and Bird Conservation Nepal (WPA/ACAP/BCN 2003).

The Kali Gandaki valley is a migration corridor for birds moving south to winter in India. About 40 bird species have been recorded migrating along the valley, including Demoiselle Crane and nearly 20 raptors. In addition, larger numbers of birds of prey, thousands each autumn, most of which of Steppe Eagles, migrate west through the ACA just south of the main Himalayan chain (de Roder 1989).

Table 2
Globally threatened and Restricted-range Species

Globally threatened species	Threat status	Abundance, habitat and altitudinal range in ACA
Satyr Tragopan *Tragopan satyra*	Near-threatened	Resident and altitudinal migrant in moist evergreen forest with dense undergrowth. Fairly common in undisturbed forest otherwise rare. Mainly summers 2500-3800 m; winters down to 2100 m.
Cheer Pheasant* *Catreus wallichii*	Vulnerable	Rare and local resident on steep grassy slopes with rocky outcrops and scattered trees. 1800-3050 m.
Ferruginous Pochard *Aythya nyroca*	Near-threatened	Rare passage migrant along the Kali Gandaki valley
Yellow-rumped Honeyguide *Indicator xanthonotus*	Near-threatened	Uncommon resident and altitudinal migrant; occurs near Giant Rock Bee nests on cliffs where it feeds on bees' wax, and in adjacent forest. 1800-3300 m.
Wood Snipe *Gallinago nemoricola*	Vulnerable	Rare altitudinal migrant, probably partially resident. Summers c. 3650 m and higher; winters below 3050 m.
Pallas's Fish Eagle *Haliaeetus leucoryphus*	Vulnerable	Rare passage migrant
White-tailed Eagle *Haliaeetus albicilla*	Near-threatened	Rare passage migrant
Imperial Eagle *Aquila heliaca*	Vulnerable	Rare passage migrant
White-rumped Vulture *Gyps bengalensis*	Critical	Altitudinal migrant, found in open country near human habitation; now rare; up to 1000 m all year and to 1800 m in summer. Probably mainly a summer visitor
Slender-billed Vulture *Gyps tenuirostris*	Critical	Altitudinal migrant found in open country near human habitation; now rare and probably only a summer visitor. Mainly below 350 m all year and summers up to 1525 m.
Cinereous Vulture *Aegypius monachus*	Near-threatened	Winter visitor to open country, now rare. Mainly below 2900 m.
Red-headed Vulture *Sarcogyps calvus*	Near-threatened	Resident in open country and well-wooded hills, now rare. Chiefly below 2000 m (-3100 m).
Pallid Harrier *Circus macrourus*	Near-threatened	Rare passage migrant

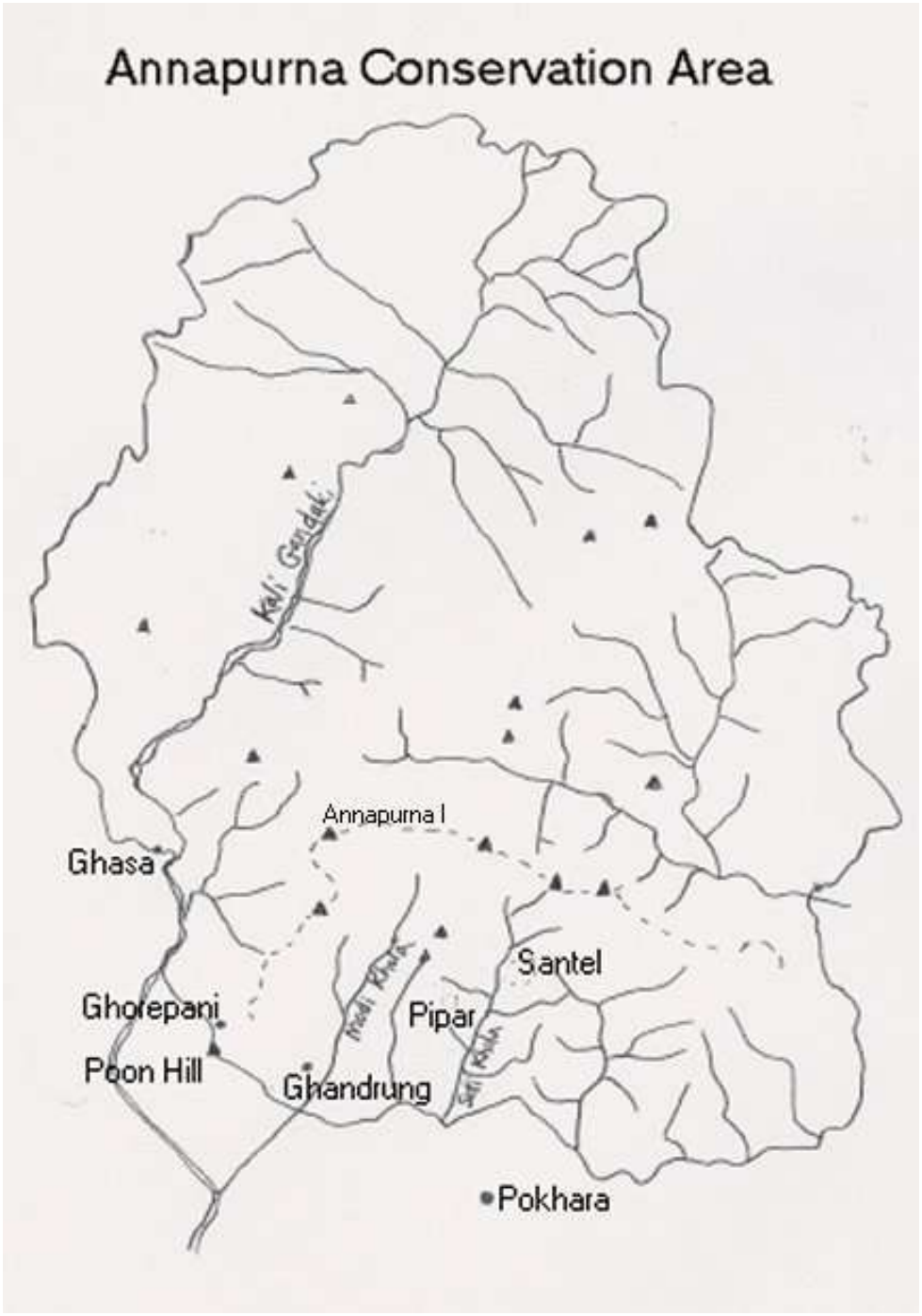
Globally threatened species	Threat status	Abundance, habitat and altitudinal range in ACA
Greater Spotted Eagle *Aquila clanga*	Vulnerable	Frequent passage migrant in October/November, mainly west through the Area, also in small numbers along the Kali Gandaki valley
Lesser Kestrel *Falco naumanni*	Vulnerable	Uncommon passage migrant in open country
* also restricted-range species		

Other restricted-range species		
White-throated Tit *Aegithalos niveogularis*		Rare winter visitor; found in oak and coniferous forest; 2560-2800 m.
Nepal Wren Babbler *Pnoepyga immaculata*		Very local resident and altitudinal migrant; found in tall herbage near forest edges or in open forest near running water; mainly recorded 2400-2600 m in May and June.
Spiny Babbler *Turdoides nipalensis*		Frequent and widespread resident and altitudinal migrant in dense scrub. Summers 1500-2135 m; winters 915-1830 m.
Hoary-throated Barwing *Actinodura nipalensis*		Fairly common resident and altitudinal migrant in mossy broadleaved forest, especially of oaks *Quercus.* Mainly 1980-3000 m.
Spectacled Finch *Callacanthis burtoni*		Uncommon and local winter visitor, possibly resident in open mixed forest. 2135-3355m.

IMPORTANT BIRD SITES

Six forest areas have been identified as the most important bird sites in the ACA (see Appendix 2). Criteria for choosing these sites are the number of:

- globally threatened species (identified by BirdLife International 2001)
- near-threatened species (identified by BirdLife International 2001)
- restricted-range species (identified by Stattersfield *et al.* 1998)
- nationally threatened species (identified by Baral *et al.* 1996)
- species characteristic of relatively undisturbed forests (Inskipp 1989)
- total species recorded



PIPAR

Location

Pipar ($28^0$25'N $83^0$57'E) is located on a steep ridge descending from the Machapuchare peak and forms the north-western part of the Seti river catchment area. It encompasses an area of 46 km^2 and covers an altitudinal range from 1300 m to over 4000 m (Kaul and Shakya 1998, Kaul and Shakya 2001).

Vegetation

The vegetation of the area ranges from subtropical near the Seti River through temperate forests to alpine grasslands. Dominant trees in the canopy are *Quercus lamellosa, Q. semecarpifolia, Sorbus* spp., *Rhododendron arboreum, R. barbatum, R. campanulatum* and *Betula utilis.* The main species in the undergrowth are *Arundinaria* spp., *Viburnum grandiflorum* and *Berberis asiatica.* Pipar forests are especially valuable in the ACA because they are little disturbed. There are no habitations inside the area, but a few small villages lie just beyond its south-eastern boundary near the Seti River. Signs of human impact are largely confined to the area below Siano Khobang, a small pastureland at about 1500 m. Above here the area seems relatively undisturbed but for some shelters used by migratory graziers who move up with their flocks for the summer months (May – September) (Kaul and Shakya 2001). At the present time no tourist trekking is allowed in this part of the ACA, although the introduction of carefully controlled ecotourism is now being considered by ACAP.

Importance for birds

Total number of species recorded: 225

Pipar is of national importance for pheasants, supporting populations of five Nepalese species: Blood Pheasant, Koklass Pheasant, Himalayan Monal, Kalij Pheasant and the globally near-threatened Satyr Tragopan. Since the late 1970s seven surveys have been conducted in Pipar by various teams (Lelliott and Yonzon 1980b, Tamarkar and Lelliott 1981, Yonzon 1982, Picozzi 1987, Howman and Garson 1993, Kaul and Shakya 1998). The chief objective of these was to monitor pheasant populations in a standard fashion using the Call Counting method (see p. 36) and counting point locations originally specified by Lelliott (1981). This is the longest running regular bird population monitoring scheme in Nepal. The survey results show that the Satyr Tragopan population is stable, unlike in other areas in the ACA (with the probable exception of nearby Santel) and elsewhere in Nepal where it is declining. In the latest survey that was carried out in 1998, a maximum of 12 callers in a morning was heard. The mean number of calls heard per site was 6 +/- 0.4 (Kaul and Sakya 2001). This is a far greater density of Satyr Tragopans than recorded elsewhere in Nepal, apart from nearby Santel (see p. 16).

Participants of pheasant surveys and a handful of other observers have collected records of other bird species: Gaston (1974), Lelliott (1979), King (1982), Warwick (1986), Wartmann and Schonjahn (1992) and Kaul and Shakya (1998). Almost all observations have been made in April/May; winter visits would undoubtedly significantly increase the species list. The current checklist indicates that the Pipar area is notably species-rich.

The globally threatened Wood Snipe was recorded displaying in the Pipar bowl in May 1985 (Warwick 1986) and the species has apparently been regularly recorded there since (B. F. King verbally 1998 to BirdLife International). The globally threatened White-rumped Vulture has been recently seen (Kaul and Shakya 1998). The near-threatened Yellow-rumped Honeyguide (Lelliott 1979) and Cinereous Vulture (Kaul and Shakya 1998) and restricted-range Hoary-throated Barwing (Lelliott 1979, King 1982) have all been recorded.

A number of species identified as nationally threatened have been found: Barred Cuckoo Dove, Long-billed Thrush, Grey-sided and Blue-winged Laughingthrushes, Golden Babbler, Cutia, Black-headed Shrike Babbler, Golden-breasted Fulvetta, and Great, Brown and Fulvous Parrotbills. In addition, several birds characteristic of relatively undisturbed temperate forests have been recorded: White-browed Shortwing, Little Pied Flycatcher, Scaly Laughingthrush, Black-throated Parrotbill and Scarlet Finch. The parrotbills and Golden-breasted Fulvetta indicate the presence of good growths of bamboo, a habitat that has been widely over-exploited in Nepal, including in parts of the ACA.

SANTEL

Location
The Santel area of forest (1500-4000 m) is located in the upper Seti valley lying on the east bank and adjacent to Pipar.

Vegetation
The subtropical broadleaved forest is composed of *Schima wallichii* and *Castanopsis indica.* The lower and upper Temperate broadleaved forests are dominated by oaks *Quercus* spp. and *Rhododendron arboreum*, with *Alnus nepalensis. R. barbatum* and *R. campanulatum* at higher elevations and scattered birch *Betula utilis* above 3000 m. Bamboo *Arundinaria* spp., *Viburnum erubescens* and *Berberis* spp. are the dominant understorey/shrub species. Higher up there are alpine grasslands on the hill tops. Tourism is not permitted in this area and the forest remains in an almost pristine condition (Baral *et al.* 2001).

Importance for birds
Total number of species recorded: 191
The only survey of Santel was carried out between 30 April and 9 May 2001 and produced a particularly high species total, despite being impaired by bad weather (Baral *et al.* 2001). With further surveys especially in the breeding season and in winter the list could be significantly increased.

Five pheasant species were recorded in Santel: Blood Pheasant, Koklass Pheasant, Himalayan Monal, Kalij Pheasant and Satyr Tragopan. As at Pipar a high number of Satyr Tragopans was noted, as many as 36 calling males, highlighting the importance of this site for the species.

Other species of note at Santel were the restricted-range species Nepal Wren Babbler and Hoary-throated Barwing and the globally threatened White-rumped Vulture. Several nationally threatened species were recorded: Asian Emerald Cuckoo, Blue-winged Laughingthrush, Golden-breasted Fulvetta, Cutia and Great Parrotbill.

Additionally, two birds characteristic of relatively temperate undisturbed forests were found: Large Niltava and Black-throated Parrotbill.

MODI KHOLA WATERSHED

Location

The source of the Modi Khola is the melting ice from the Annapurna glaciers and the river flows down the southern slopes of the range. The boundary of the Modi watershed in the south is Lumle and Chandrakot, Deurali, Kogar, Keu and the Machhapuchare Himal in the east, Birethante, Mesram-Barah, Tadapani, Chuinle in the west and the Annapurna range in the north. The altitude ranges between 1025 m at Birethante and the peak of Annapurna I at 8091 m.

Vegetation

The exceptionally high rainfall south of the Annapurnas has led to the development of lush, moist forests in the Modi Khola watershed. The vegetation varies from subtropical to alpine. The subtropical broadleaved forest comprises *Schima wallichii, Castanopsis indica* and *Alnus nipalensis* as dominant species. Coniferous *Pinus roxburghii* grows on dry slopes. Lower temperate broadleaved forests consist of moist *Quercus lamellosa* and *Q. lanata* on drier slopes. Forests of *Q. semecarpifolia* with *Rhododendron arboreum* and *Arundinaria* spp. including some dense tall stands of the latter grow in the upper temperate zone. Subalpine coniferous forests comprise the dominant species *Abies spectabilis, Tsuga dumosa, Pinus wallichii, Taxus baccata* and also subalpine broadleaved *Betula utilis* forest. There is alpine vegetation of grasslands and shrubberies of *Rhododendron* spp./*Juniperus* spp above 4000 m. While good forest habitat still remains, the Modi Khola forests have suffered extensively from over-exploitation for fuelwood, timber and fodder resulting in the reduction of forest extent and a reduction in quality of forests that remain.

Importance for birds

Total number of species recorded: 264

The wet forests of the Modi Khola and their associated bamboo stands support an exceptionally high species-diversity for Nepal (Inskipp and Inskipp 1986a). An April and May survey found a total of 210 species (Suwal 2000). Records from other observers increase the total to 254, over half (54%) of the bird species recorded in the ACA.

There are a few records of the near-threatened Satyr Tragopan north of Chomrong, e.g. Lege (1987) and recently it has been found on the west-facing slopes of the Landrung catchment (Suwal 2000). Another near-threatened species, the Yellow-rumped Honeyguide has been reported on a few occasions around Giant Rock Bees' nests on cliffs e.g. north of Khuldi (Inskipp 1988) and one was seen at Sinuwa at the forest edge, away from bees' nests (Inskipp and Inskipp 1986b). There are recent records of three threatened vultures: White-rumped and Cinereous Vultures (Suwal 2000), and Red-headed Vulture (Suwal 2000, J. B. Giri *in litt.* to C. Inskipp April 2003).

Nepal's only endemic bird species, Spiny Babbler, has been reported from several locations, e.g. Landrung (Cox 1989) and Chane (Suwal 2000). The other restricted-

range species recorded is Hoary-throated Barwing, which is frequent in the valley, and, while the recently discovered Nepal Wren Babbler has not yet been found here, it is likely to occur.

The Modi Khola forests support a relatively high number of resident species identified as nationally threatened: Barred Cuckoo Dove, Long-billed Thrush, Gould's Shortwing, Golden Babbler, Cutia, Black-headed Shrike Babbler and several species dependent on bamboo – Slender-billed Scimitar Babbler, Great and Fulvous Parrotbills and Golden-breasted Fulvetta. In addition, a significant number of birds characteristic of moist forests occur: Bay Woodpecker, Brown Wood Owl, White-browed Shortwing, White-tailed Robin, Scaly Laughingthrush, Black-throated Parrotbill and Scarlet Finch.

Many of the speciality birds can be found in the temperate oak/rhododendron/ bamboo forests north of Chomrong e.g. Slender-billed Scimitar Babbler, Golden Babbler, Golden-breasted Fulvetta and Great and Fulvous Parrotbills (pers. obs. Inskipp and Inskipp 1986b). Suwal (2000) identified the west-facing slopes of the Landrung catchment as having dense forest and rich in bird species.

Thousands of birds of prey migrate west through the ACA over ridges south of the main Himalayan chain each autumn. The passage of many of these birds is concentrated over the Kanre/Lumle saddle. In 1985 over 8,000 individuals of about 20 species, mainly Steppe Eagles, but including the globally threatened Imperial Eagle and Lesser Kestrel and the near-threatened Pallid Harrier, were counted in one season (de Roder 1989).

Note: The forests around Ghasa, Ghorepani and Poon Hill and between Ghorepani and Ghandrung have been well recorded from December to the end of March when they are popular sites for visiting birdwatchers, although no systematic bird surveys have been undertaken there. All three areas are poorly recorded in other months, notably in the birds' breeding seasons.

FORESTS AROUND AND ABOVE GHASA (2000 M AND HIGHER)

Location

Ghasa ($28^{0}37'$N $83^{0}38'$E) lies in the upper Kali Gandaki valley on the main tourist trekking route to Jomosom.

Vegetation

There are upper temperate and subalpine forests, sometimes with an extensive bamboo understorey and often on steep slopes. These comprise mixed broadleaves and conifers (mainly pines); conifers and rhododendrons, and conifers, with birch *Betula utilis* at higher altitudes. Grassland grows on some steep slopes and bamboo in gullies. The exceptionally steep slopes have probably given the forests some degree of protection. In December 2002 a visiting birdwatcher, N. Brickle (*in litt.* to C. Inskipp April 2003), reported that on the west side of the river forests close to the path and river were quite degraded with evidence of much firewood collecting and cattle grazing. Forests higher up were less disturbed. On the east side of the river the forest was nearly all broadleaved with a good bamboo or rhododendron understorey and was

more restricted to the narrower valleys. Here there was evidence of wood and bamboo collecting but not grazing.

Importance for birds

Total number of species recorded: 187

This is the only known area in Nepal where all six pheasant species resident in the country are found. No pheasant surveys have been carried out in the Ghasa area. There is at least a small population of the globally threatened Cheer Pheasant that still remains, although local people say that it is declining (Bräunlich 1987, Gawn 1987) (see p. 23). A group of seven birds was flushed from long grass on the east side of the river in December 2002 with the help of a local guide from Eagle Nest Lodge, Ghasa village (Brickle 2003). Birdwatchers have regularly visited Ghasa since at least 1982, especially to look for Cheer and other pheasants with the assistance of local residents (Eames 1982, Grimmett 1982, Mills *et al.* 1982, Cocker and Adams 1983, Suter 1983, Calladine 1985, Harrap 1985, Goodwin 1986, Bland 1987, Bräunlich 1987, Gawn 1987, Nielsen 1993, Puckin 1993, Flack 1994, Drijvers 1995, Daulne and Goblet 1996, Wright and Lawson 2001, Brickle 2002). Satyr Tragopan has been recorded a number of times above Ghasa e.g. Grimmett (1982), Heath (1986), Fletcher (1994), Wright and Lawson (2001) and in December 2002 was still reported to be present in the broadleaved forest on the east side of the river by a local guide (Brickle 2003). The other pheasants around Ghasa are Blood Pheasant, Koklass, Kalij and Himalayan Monal. In 1987 S. Gawn (*in litt.* to C. Inskipp September 1987) reported that all pheasant species were indiscriminately hunted in the area by local people. This was confirmed by Bräunlich (1987). In December 2002 pheasant traps (big rocks propped to fall when bait is taken) were found in the area (N. Brickle *in litt.* to C. Inskipp April 2003).

Only one record is known of the globally threatened Wood Snipe, in April 1984 (Innes and Lewis 1984). There are several records of the near-threatened Yellow-rumped Honeyguide on cliffs around Giant Rock Bees' nests; up to three and possibly four on the east side of the river, also singles on the west side and about 30 minutes walk north along the main trail towards Lete e.g. Farrow (1982), Nilsson *et al.* (1982), Heath (1986), Gawn (1987). The vicinity of Ghasa is the best known site in the ACA for this species.

Ghasa is given as a site for the recently discovered Nepal Wren Babbler, although most of the birds have been observed between Ghasa and Lete where there is a good population in the breeding season (Martens and Eck 1995) (see p. 28).

The other globally important species recorded are the near-threatened Cinereous Vulture e.g. Robson (1982), Naylor *et al.* (2002b), J. B. Giri *in litt.* to C. Inskipp April 2003) and the restricted-range Spectacled Finch (Mills *et al.* 1982) that are both rare.

In addition two species identified as nationally threatened (Baral *et al.* 1996): Long-billed Thrush and Great Parrotbill have been recorded.

FORESTS AROUND GHOREPANI (2775 M) AND POON HILL (3195 M)

Location

Ghorepani lies on the main tourist trekking route to Jomosom at $28^{0}24'$N $83^{0}43'$E.

Vegetation
There are upper temperate forests mainly of oak/rhododendron lower down and subalpine coniferous forests higher up. The extent and quality of forest have suffered as a result of a huge growth in tourist lodges since the late 1970s (see p. 31).

Importance for birds
Total number of species recorded: 202
The importance of Ghorepani's forests for birds has been highlighted previously (Inskipp and Inskipp 1986a). The forests' high species total partly reflects the especially good coverage by visiting birdwatchers in winter. There are old records of the globally threatened Wood Snipe (unspecified numbers) in February 1971 (Aarestrup *et al.* 1971) and the near-threatened Satyr Tragopan (Redman and Murphy 1979) but no later records of either species from Ghorepani. The near-threatened Cinereous (e.g. Powell and Pierce 1984) and Red-headed Vultures (e.g. Redman 1984) have both been seen. Other notable species include the restricted-range White-throated Tit, which is a rare winter visitor (Mills and Preston 1981). Ghorepani is the chief site in the ACA and Nepal for Spectacled Finch, another restricted-range species. The latter is recorded most winters in small numbers and possibly also breeds (Rossetti 1978, Grimmett 1982, Mills *et al.* 1982, Lama 1993a, Giri and Choudhary 2001a, Wright and Lawson 2001, Basnet 2002). The other restricted-range species found is the altitudinal migrant, Hoary-throated Barwing, which is frequent here, e.g. Toohig (1986), Wright and Lawson (2001). Nationally threatened species that have been regularly recorded in the past are Long-billed Thrush, and Great and Brown Parrotbills. There is an unusual record of Rufous-backed Sibia in April 1999 (Giri and Choudhary 2000a), another nationally threatened species, which has previously only been recorded in far east Nepal. However, a survey is needed to confirm the continued presence of these threatened and restricted-range species considering the deterioration of forests around Ghorepani since the late 1970s. Birds of prey migrating west over the Ghorepani/Deorali pass have been recorded in autumn, for example 54 Steppe Eagles and one Imperial Eagle in 20 minutes in November 1986 (Inskipp and Inskipp 1986b).

FORESTS BETWEEN GHOREPANI (2775 M) AND GHANDRUNG (2010 M)

Location
These forests lie on the southern flanks of Annapurna between Ghorepani $28^0$24'N $83^0$43'E and Ghandrung $28^0$23'N 83^0 48'E.

Vegetation
Forests consist mainly of upper temperate oak/rhododendron with a bamboo understorey in places and subalpine coniferous forest higher up. The Ghorepani to Ghandrung trail was once little used by local people and ran through almost unbroken forest but since the late 1970s it has gradually become a popular trekking route and a number of large clearings with lodges have been created (see p. 31).

Importance for birds
Total number of species recorded: 186
These forests have been less well covered by birdwatchers than those around Ghorepani and this probably accounts for the lower species total. There are a few

records of the near-threatened Satyr Tragopan, e.g. Fairbank (1980), Mills and Preston (1981), Lama (1994a), Cinereous Vulture (Redman 1984, Naylor *et al.* 2002a) and Red-headed Vulture (Mills and Preston 1981); all three species are now rare. The restricted-range White-throated Tit (rare) (Clements and Bradbear 1981), Hoary-throated Barwing (regular) e.g. Scharringa (1987), Turner *et al.* (2002) and Spectacled Finch (rare) (Robson 1982) have been found. Nationally threatened species reported include Pygmy Blue Flycatcher, Slender-billed Scimitar Babbler, Black-headed Shrike Babbler, Golden-breasted Fulvetta, and Great and Fulvous Parrotbills. A few additional species identified as characteristic of relatively undisturbed forests have been recorded: Bay Woodpecker and Rufous-chinned Laughingthrush. Deterioration and disturbance of forests are likely to have impacted on the populations and distribution of birds and a survey is needed to confirm whether these species still occur.

IMPORTANCE OF HABITAT TYPES FOR BIRDS

The ACA comprises five altitudinal zones ranging from subtropical to alpine (Dobremez 1976), see Table 3 below. The number of resident and summer and winter visitors recorded in each zone was totalled, see Table 4.

Table 3

Altitudinal zone	Altitudinal range (m)
Subtropical	1000-2000
Lower temperate	2000-2400
Upper temperate	2400-3000
Subalpine	3000-3800
Alpine	Above 3800

The high proportion of 66% of bird species (excluding passage migrants and vagrants) recorded in the ACA are dependent on forests and shrubs. In general broadleaved forests (that have not been regularly burned) in Nepal are richer in bird species than coniferous forests at the same altitude as the former are moister and support higher populations of invertebrate food supplies than coniferous forests. (Inskipp 1989).

An analysis was made of the number of resident and summer and winter visitors recorded in each main forest type, see Table 4 and Appendix 3. Passage migrants and vagrants were excluded.

Table 4

Analysis of bird species recorded (residents, summer and winter visitors) by main forest type

Forest type	No. of residents, summer & winter visitors	No. of globally threatened species	No. of near-threatened species	No. of restricted-range species	No. of nationally threatened species
Subtropical	175	0	1	1	12
Lower temperate	175	1	3	2	16
Upper temperate	181	2	2	3	13
Subalpine	114	1	1	1	8
Alpine	33	0	0	0	0

Over Nepal as a whole the species diversity of forests has been found to decrease with altitude (Inskipp 1989). In the ACA however, upper temperate forests are the most species-rich. This is probably because the majority of subtropical forests in the ACA are degraded and so their value for birds and other wildlife is reduced. Some forests at higher altitudes in the ACA are in much better condition.

The large majority of subtropical species are confined to broadleaved forests (Inskipp 1989). The subtropical coniferous forest of Chir Pine *Pinus roxburghii* is very

species-poor and its diversity has been reduced by frequent burning of the forest floor by local people, which eventually eliminates the understorey and produces an open, dry forest.

Lower temperate and upper temperate forests support the largest numbers of globally, near-threatened and nationally threatened species as well as restricted-range species (see Table 4) and are considered the most important for bird species in the ACA. The lower temperate *Quercus lamellosa* and lower temperate mixed broadleaved forest with abundant Lauraceae, which grow in the wetter parts of Nepal, are especially common on the southern slopes of the Annapurna Himal (Dobremez 1976) and are especially rich in bird species (Inskipp 1989). By contrast dry lower temperate oak forests of *Q. leucotrichophora* and *Q. lanata* are relatively species-poor for birds (Inskipp 1989).

Upper temperate moist forests of *Quercus semecarpifolia* and mixed broadleaved forests are also notable for their high bird diversity. Where the forest is not burned the trees are often covered with mosses, ferns and epiphytes. The species-richness of upper temperate mixed broadleaved/coniferous forests is usually similar to that of broadleaved forests, for example the forests around Ghasa in the upper Kali Gandaki valley. Bamboo flourishes in very high rainfall upper temperate areas such as the Modi Khola valley, south of Annapurna, where it forms pure stands in places up to 7 m high. *Arundinaria* spp. and *Bambusa* spp. are also common in the understorey of *Quercus semecarpifolia,* upper temperate mixed broadleaved forests and rhododendron forests. Bamboo is an important component of upper temperate forests for many birds, including Satyr Tragopan, Slender-billed Scimitar Babbler, Snowy-browed Flycatcher and Black-throated Parrotbill. Pure bamboo stands are impoverished for birds but are important for four species: Great, Brown and Fulvous Parrotbills, and Golden-breasted Fulvetta (Inskipp 1989).

Subalpine forests, notably those of *Abies spectabilis, Betula utilis,* and *Juniperus* spp. are next in importance for birds (see Table 4). These forests are generally less disturbed than lower and upper temperate forests and much less than subtropical forests in the ACA.

No threatened or restricted-range species have been recorded in alpine shrubberies of the ACA.

A recent study of upper Mustang, which mainly consists of Tibetan steppe habitat, found 96 species. An additional 38 species recorded in the area were extracted from other sources (Suwal 2003), making a total of 134 for upper Mustang. This arid habitat supports an interesting and characteristic avifauna although it is species-poor. No globally, near-threatened or nationally threatened species or restricted-range species have so far been recorded there.

Rivers and streams support a good variety of birds dependent on this habitat in the ACA, notably Crested Kingfisher, four forktail species, Brown Dipper, White-capped Water Redstart and Plumbeous Water Redstart.

IMPORTANT BIRD SPECIES – CURRENT STATUS AND THREATS

GLOBALLY THREATENED SPECIES

Cheer Pheasant

Artist: Daniel Cole

Rare and local resident in the ACA and in Nepal.
The ACA is one of only two areas in Nepal where Cheer Pheasant has been seen in recent years, the other being Dhorpatan Hunting Reserve, which is being surveyed in May 2003 (Subedi 2002). There is at least a small population of Cheer Pheasant that still remains near Ghasa (see p. 18). Since at least 1982 birdwatchers have regularly visited Ghasa especially to look for Cheer and other pheasants, usually aided by local guides (Eames 1982, Grimmett 1982, Mills *et al.* 1982, Cocker and Adams 1983, Suter 1983, Calladine 1985, Harrap 1985, Goodwin 1986, Bland 1987, Bräunlich 1987, Gawn 1987, Nielsen 1993, Puckin 1993, Flack 1994, Drijvers 1995, Daulne and Goblet 1996, Wright and Lawson 2001, Brickle 2002). A maximum of seven was seen in December 1992 (Nielsen 1993) and December 2002 (Brickle 2003). S. Gawn (*in litt.* to C. Inskipp, September 1987) reported that the local owner had told him the species was declining at Ghasa and seems to suffer disproportionately compared to other pheasants, probably because they roost communally and at lower elevations closer to habitation. Bräunlich (1987) confirmed the hunting pressure on Cheer Pheasants; his local guide had told him that other threats to Cheer in the Ghasa area were burning of hillsides that removed cover for pheasants and disturbance by wood and bamboo collectors, even in the remotest places. No survey of Cheer or other pheasants has been ever been carried out in forests around Ghasa. In November 1985 one was seen at Lete (Halberg 1987) and it was also reported by local people from Kopechepani which lies close to and north of Ghasa in the upper Kali Gandaki valley (Gawn 1987), but there are no later records from either site.

Wood Snipe

Artist: Peter Hayman

Rare altitudinal migrant; probably a partial resident in the ACA and in Nepal.
Wood Snipe may well be under-recorded in the ACA. It is most conspicuous when displaying on its breeding grounds in alpine meadows from May onwards, a season which has been very poorly covered here. Wood Snipe is an altitudinal migrant which can travel long distances; some individuals migrating as far as south India. There are, however, several winter records from the ACA and so some individuals at least must only undergo short altitudinal migrations.

A pair was seen displaying at Pipar in May 1985 (Warwick 1986) and the species is apparently seen at this site fairly regularly (B. F. King verbally 1998 to BirdLife International). There are single records from other sites: unspecified numbers at Ghorepani in February 1971 (Aarestrup *et al.* 1971) one at Ghasa in April 1984 (Innes and Lewis 1984), one at Bagarchap in November 1984 (Calladine 1985), one at Lete December 1984 (Calladine 1985), two between Ghasa and Marpha in April 1991 (J. Nordin *in litt.* to BirdLife International 1999). The current rarity of the species in Nepal and elsewhere in its range is a puzzle considering that its high altitude breeding areas are not threatened and it is generally not persecuted there. BirdLife International (2001) attribute the Wood Snipe's decline to factors operating on its wintering grounds. It may be hunted in the ACA in its forest habitat in winter, although there is no direct evidence of this.

White-rumped Vulture
Altitudinal migrant, probably mainly a summer visitor; now rare.
Slender-billed Vulture
Altitudinal migrant, probably only a summer visitor; now rare.
Both vultures were regularly seen in the ACA and Nepal in the 1970s and 1980s but have declined recently and are now rare in the ACA and generally in the country. White-rumped and Slender-billed Vultures are mainly lowland species and so their main populations lie outside the ACA. Reasons for their decline are currently under investigation; a virus is suspected to be a major cause.

Himalayan Griffon
While Himalayan Griffon is not a globally threatened or near-threatened species a 2002 Peregrine Fund/Bird Conservation Nepal/Himalayan Nature study revealed that the species declined in the ACA between the late 1970s and 1998 and may still be declining (Baral *et al.* 2002). Reasons for the decline are not known.

NEAR-THREATENED SPECIES
Satyr Tragopan

Artist: Daniel Cole

Resident and altitudinal migrant in the ACA, fairly common in undisturbed forests, rare elsewhere; generally rare in Nepal.
The ACA is the most important known area for this species in Nepal. Good populations are known from Pipar (Kaul and Shakya 2001) and Santel (Baral *et al.* 2001). These populations are not hunted by local people although visiting hunting parties have visited Pipar from time to time (Siddhartha Bajracharya verbally). The Pipar population has been monitored since the late 1970s and found to be stable (Kaul and Shakya 2001), unlike elsewhere in the ACA (with the probable exception of Santel) and generally in Nepal where it is declining. Small numbers of Satyr Tragopan have been recorded at Ghasa (Grimmett 1982, Heath 1986, Fletcher 1994, Wright and Lawson 2001), near Ghorepani (one record, Redman and Murphy 1979), a few records between Ghorepani and Ghandrung e.g. Fairbank (1980), Mills and Preston (1981), Lama (1994a), and north of Chomrong (Lege 1987) and in forests on the west-facing slopes of the Landrung catchment in the Modi Khola valley (Suwal 2000). The apparent scarcity of Satyr Tragopan in suitable habitat indicates that the species is probably still hunted widely in the ACA. Satyr Tragopan is particularly susceptible to depletion and disturbance of forests. Surveys are needed to confirm its continued presence in forests around Ghorepani and between Ghorepani and Ghandrung.

Yellow-rumped Honeyguide

Artist: Carl D'Silva

Uncommon resident and altitudinal migrant in the ACA and in Nepal.
The Yellow-rumped Honeyguide is probably under-recorded in the ACA, especially the males that hold territories on cliffs around Giant Rock Bees' nests away from main trails. It is easily overlooked when away from the bees' nests because of its unobtrusive behaviour and drab coloration. Honeyguides are unique in the bird world for their ability to digest bees' wax. The Chinese call the Yellow-rumped Honeyguide, 'the spiritual sparrow' because of this.

All but one record (from Sinuwa in Modi Khola valley, Inskipp and Inskipp 1986b) in the ACA are associated with bees' nests. The vicinity of Ghasa and also cliffs half to one hours walk north on the trail towards Lete are the best known in the ACA for the species. At Ghasa up to three and possibly four have been seen on the east side of the river, also singles on the west side and about 30 minutes walk north along the main trail towards Lete, e.g. Farrow (1982), Nilsson (1982), Heath (1986), Bräunlich (1987) and Gawn (1987). There are a few reports from the Modi Khola valley north of Khuldi (Inskipp 1988) and also single records from: 4.5 km north of Dana (Field Museum Chicago 2003), half an hours walk below Ghorepani (Woodcock 1979), Pipar (Lelliott 1979), between Ghorepani and Hille (Mayer 1986), near Tirkedhunge (Cooper and Cooper 1989), and north of Birethante (Cooper and Cooper 1989),

Cinereous Vulture
Winter visitor, now rare
Red-headed Vulture
Resident, now rare.
Both species were regularly seen in the ACA in the 1970s and 1980s, but the current importance of the ACA for Cinereous and Red-headed Vultures is unclear. Reasons for their decline are not known with certainty. In Asia the intensification of

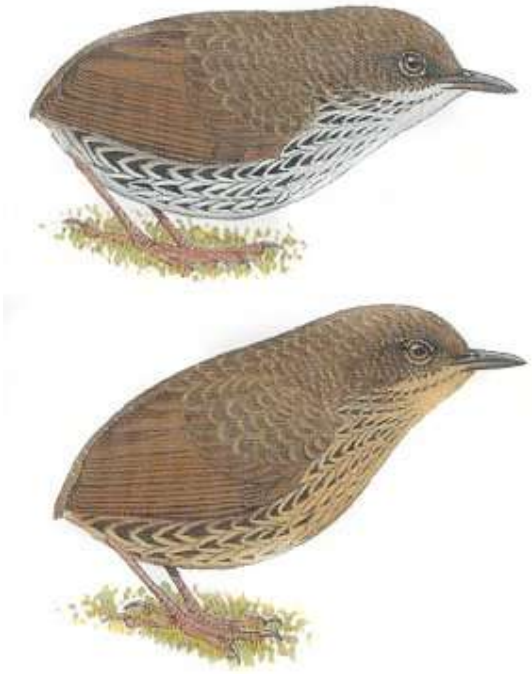
agriculture, increased sophistication of waste disposal techniques, and direct persecution and disease may be contributing to the decline of vultures (BirdLife International 2000). It is not known whether these factors are operating in the ACA. Habitat change in its breeding areas is threatening Cinereous Vulture (BirdLife International 2000).

RESTRICTED-RANGE SPECIES

White-throated Tit

Rare and local winter visitor to the ACA; frequent resident in north-west Nepal. There are only a few records from the ACA: Ghorepani in March 1981 (Mills and Preston 1981), close to Ghorepani on the trail to Ghandrung (Clements and Bradbear 1981) in November 1981, and at Kalopani at 2560 m in March 1984 (Vernon and Griffin 1984). White-throated Tit is not thought to be threatened in the ACA.

Nepal Wren Babbler



Artist: Craig Robson

Local resident and altitudinal migrant in the ACA and in Nepal. This species was described for science in 1991 (Martens and Eck 1991) and is currently only known from Nepal and northern India. The species is very skulking, keeping amongst vegetation close to the ground, but has a distinctive song in the breeding season. Martens and Eck (1991, 1995) described its main occurrence in the ACA. The species was found in the upper Kali Gandaki valley between Ghasa and Lete including the left banks of the lower Chadziou Khola valley and right banks of the lower Lete Khola. A not very detailed investigation, which covered only the right banks of the lower Lete Khola and the right banks of the Kali Gandaki between Lete and Ghasa in May 1995, revealed a well established population there. At least 20 males were located by playback sound recordings in this area, including forests along the path leading northward from the upper village of Ghasa to Lete. The population was estimated to

possibly exceed, perhaps considerably, 100 pairs. In the optimum habitat population density may be high. Along the path between Ghasa and Lete at several places every 100-150 m a male could be provoked into song by tape playback and even two males were heard at one site at several localities.

The habitat was heavy mixed deciduous forest, with a few *Pinus wallichiana* and *Tsuga dumosa* and a dense understorey of bushes, bamboo, ferns and tangled vines along rivers. Martens and Eck (1995) considered that human pressure on the wren babbler's habitat was low, at least at that time, although it was vulnerable to habitat change.

There is only one other record from the ACA to date; by the Ghatte Khola on the way to Santel village on 30 April 2001 (Baral *et al.* 2001). It is likely that the species is under-recorded and more localities are likely to be found in the ACA with more survey work.

Spiny Babbler
Frequent and widespread resident and altitudinal migrant in the ACA and in Nepal; the country's only endemic bird species. Spiny Babbler is an elusive and secretive species and is undoubtedly under-recorded in the ACA. Records indicate that it is widespread and include: just north of Ulleri (Fairbank 1979), Lumle (Inskipp and Inskipp 1977), between Naudanda and Chandrakot (Byrne and Harris 1975), near Khare (Rossetti 1978), near Birethante (Turton and Speight 1982), Sikha (Nickel 1983), Tirkedhunge (Cooper and Cooper 1989), Landrung (Cox 1989), Bhulbule (Calladine 1985) and Chane (Suwal 2000). The species inhabits dense scrub, especially away from cultivation and is not thought to be threatened.

Hoary-throated Barwing
Fairly common resident and altitudinal migrant in ACA and generally in Nepal; widespread in the centre and east of the country, more local in the west. Widespread in the ACA over a fairly narrow altitudinal range, mainly from 1980-3000 m. Localities include: Ghorepani, Chitre, Ghorepani to Ghandrung, Pipar, Santel and the Modi Khola watershed. As Hoary-throated Barwing inhabits broadleaved forests with mossy trunks and branches, depletion of forests could affect their habitat leading to opening and drying of forests, with a reduction in epiphytic mosses.

Spectacled Finch
Uncommon and local winter visitor in the ACA and Nepal, possibly resident.
Above Ghorepani is the main site for Spectacled Finch in Nepal. It is recorded most years in February and March in small numbers (Rossetti 1978, Grimmett 1982, Mills *et al.* 1982, Lama 1993a, Giri and Choudhary 2001a, Wright and Lawson 2001, Basnet 2002). A July record from Ghorepani (Rossetti 1978) indicates that it may also breed. The lack of late spring and summer reports can be attributed to the absence of observers during this period. There are single records from elsewhere in the ACA: below Chitre (Puckrin 1993), Ghandrung (Turton and Speight 1982), between Ghorepani and Ghandrung (Robson 1982), Ghasa (Mills *et al.* 1982), Deorali, near Ghorepani (Turner *et al.* 2002). A maximum of 11 birds was seen at Ghorepani in February 2001 (Basnet 2002). Spectacled Finch is a species of open forest and shrubberies; no threats are known in the ACA.

THREATS TO BIRDS

FOREST LOSS AND DEPLETION

Forest loss and depletion are significant threats to bird species as this habitat type is by far the most important for birds in the ACA and results in declines in both available habitat and habitat quality for the majority of species.

Tree branches are cut for fuel and foliage and oaks *Quercus* spp. are often heavily lopped to provide animal fodder and bedding. Lopping often leads to the stunting and finally the death of trees and an impoverishment of the variety of species as only some species can survive this treatment (Rieger 1981).

Over-grazing by livestock reduces the forest understorey contributing to forest depletion. Many species, including babblers, warblers, chats and thrushes inhabit the understorey and their populations are much reduced or disappear when it is removed. Heavy over-grazing can prevent forest regeneration.

In some forests the undergrowth and ground layer are burned regularly to improve the growth of grasses for grazing livestock. This practice favours the spread of fire-resistant species, such as pines. Pines are often succeeded by broadleaves, but frequent fires prevent this. The result is an open forest of old pines lacking undergrowth and only supporting a low variety of bird species (Inskipp 1989).

Bamboo *Arundinaria* spp. is valued for weaving mats and baskets and for construction work and is extensively harvested in the ACA. Four nationally threatened ACA bird species require bamboo as a major component of their habitat and many species frequent forests where bamboo is an important feature of the understorey (see p. 22).

Selective felling over a long period can change forest composition and also its wildlife. For instance oaks *Quercus* spp. are especially valuable species for local people but also support rich bird populations. During a study of a seemingly healthy forest in the Arun valley, the observer was surprised at the lack of certain bird species. He found that local villagers had felled oak in preference to other species. As a result *Castanopsis* trees had become dominant and a drier forest had been produced with a lower variety of plants and birds than previously (Cronin 1979).

Removal of foliage and bamboo, lopping of branches, over-grazing and frequent burning of the undergrowth result in forests becoming more open and drier. The growth of mosses and ferns and associated invertebrates is reduced. These depleted forests become unsuitable for numerous species that need dense or moist forest growth, for instance the restricted-range species Hoary-throated Barwing, Nepal Wren Babbler and the nationally threatened Long-billed Thrush and Black-headed Shrike Babbler (Inskipp 1989).

The ACAP, which was set up in 1986, is actively working to reverse these negative trends by promoting a strategy for sustainable use to minimise damage to nature and resources in the area. Resource conservation measures include forest management, soil and water conservation, training for local nursery workers, local forest guards, and promotion of alternative energy and fuel-efficient technologies (Gurung undated).

TOURISM

Tourism can bring benefits but can also impact heavily on the environment and local culture. Far greater quantities of wood are used to service most tourists to the ACA than are used by local people. Deforestation to fulfil tourist demands has been heavy in some areas close to trails. Impacts have been particularly noticeable on the species-rich forests around Ghorepani. In December 1977 there were two or three lodges; by November 1986 the number had increased to 16 in Ghorepani and nearby Deorali (pers. obs.). In December 2002 there were around 20 lodges, each apparently cooking with wood. There was evidence of much wood-collecting in all the forest around Ghorepani and a constant sound of wood-cutting. While there did not seem to be any clear-felling, many trees had branches removed and the understorey was sparse in many places. However, there was no ACAP checkpost at Ghorepani as a consequence of the Maoist situation current at the time (N. Brickle *in litt.* to C. Inskipp April 2003).

Trekking tourism has also impacted on some forests that were previously intact. Harmful environmental impacts in the Annapurna Sanctuary result almost entirely from tourism. The trail between Ghorepani and Ghandrung was once little used by local people and an extensive oak/rhododendron forest, important for rare species such as the Satyr Tragopan, covered the surrounding ridges (Inskipp 1989). While this forest is still an important site in the ACA for wildlife, its quality is now significantly reduced. Several large clearings around lodges recently constructed for trekkers were seen in 1986 (pers. obs.). Suwal (2000) noted that a group of lodges at Tadapani have impacted a two kilometre radius due to the harvest of timber for lodge-building, fuel wood and for grazing livestock. In December 2002 forests along the trail close to Ghorepani at least, were much disturbed (N. Brickle *in litt.* to C. Inskipp April 2003).

The ACAP project was set up in response to the negative impacts of trekking tourism on the area's ecology and local culture. Conservation and development programmes include Tourism Management that is run in two modes. One is inside the Special Zone, where ecological impacts are chiefly due to tourism and the other is in the General Zone, where local communities had some ecological impact before tourists came and added to the impact. Tourism Management measures include the formation of local Lodge Management Committees, training courses for lodge operators, the provision of information posts for tourists, and the promotion of alternative energy and fuel-efficient technologies in lodges (Gurung undated).

HUNTING AND TRAPPING

The effects of hunting on bird populations in the ACA are unknown, but are probably much less than forest loss and deterioration. Local hunting pressures were very high in some parts of the ACA in the past, such as in the Himalaya south of the Annapurna Himal (Lelliott and Yonzon 1979). Here, amateur and professional hunters trapped and shot pheasants for food throughout the year. Flashlight shooting is particularly effective and can wipe out all the Kalij Pheasants in an area over a short time period. A survey of trapping carried out in 1979 revealed that tolls comprised Kalij Pheasant 43 per cent, Satyr Tragopan 36 per cent and Himalayan Monal 21 per cent (Lelliott and Yonzon 1979). After the establishment of the ACA these hunting practices have reduced. Some incidences of poaching have come to the notice of ACA officials resulting in convictions of some individuals (Suwal 2000). Some communities still take part in these hunting activities, however. For example, pheasants are still

persecuted in forests around Ghasa; pheasant traps were found near the village in December 2002 (N. Brickle *in litt.* to C. Inskipp April 2003) (see p. 18). The apparent scarcity of Satyr Tragopans in suitable habitat in some parts of the ACA indicates that the species is probably still hunted widely in the ACA (see p. 25).

Birds of prey may be persecuted near villages as they sometimes take chickens. In 1986 the skins of a Mountain Hawk Eagle and Crested Serpent Eagle, apparently shot for this reason, were found at a lodge at Pothana, north-west of Pokhara (pers. obs.).

In Upper Mustang Shah (2001) reported several live traps intended for birds. Local people in this area still believe and widely practice using the intestine of Lammergeier to treat diarrhoea. Hanging the head of a Golden Eagle on the main door is believed to keep evil away from the home. Feathers of Black Kites and owls are used in a special ceremony of praying with god before people begin their winter trade (Acharya in prep. 2003). However, in a recent bird survey of upper Mustang, Suwal (2003) reports that generally poaching pressure is low because of the local peoples' Buddhist religion and reverence for life.

Catapults are sometimes used to drive away some pest bird species and monkeys feeding on crops. Many children and teenagers in the ACA play with catapults and this may result in impacts on bird populations around farms and villages (pers. obs., Suwal 2000).

PESTICIDES

The extent of use of pesticides and their impact on wildlife in the ACA and generally in Nepal is not known. Studies outside Nepal have shown that some pesticides, notably DDT and other organochlorines can have a serious impact on bird populations. The chemicals reduce the birds' insect food supply and accumulate in the food chain leading to reproductive failure of top predators, such as birds of prey (e.g. Ratcliffe 1967, 1970). Most developed countries have banned the use of these chemicals, but still manufacture and export them to Nepal and many other developing countries.

BIRD SURVEY METHODS

TIMING

Activity patterns vary between species. Many species are most active and most easily located and surveyed during the first few hours after dawn. There is often another peak of activity in the two or three hour period before dusk. The middle of the day is often the most quiet time for these species. Most soaring birds of prey reach an activity peak between around 10h00 and 12h00, however. Certain birds, particularly owls and nightjars, are active only at dawn and dusk and at night. These species are often under-recorded and it is necessary to spend time in the study area at night in order to stand a chance of recording them. Many nocturnal species are very vocal and can usually be identified by call alone. A tape recording of the calls of possible species can be used to elicit a response (Bibby *et al.* 1998).

One important factor in Himalayan forests is to watch the position of the sun. Bird activity will be greatest on slopes that the sun reaches first in the mornings. At this time many birds will often perch on bare branches or tree tops in the first rays of sunshine. By contrast slopes lying in shadow in the early morning are likely to be very quiet for birds and are best surveyed later when in sunshine (pers. obs.).

KNOWLEDGE OF CALLS

Many Himalayan species have distinctive calls and songs that are useful in breeding season surveys. Knowledge of the calls of target species and of shy or skulking species will greatly increase the chances of recording these species at a site. Tapes of a number of Himalayan bird songs are available (e.g. *Bird Songs of Nepal* and *Bird Songs of the Himalayas* by Scott Connop). Wild Sounds is a very good supplier; http://www.wildsounds.co.uk PO Box 9, Holt, Norfolk NR25 7AW, UK. Tapes can be used to learn calls before starting fieldwork, thus saving time and energy during survey work. Unfamiliar calls heard while in the field can be tape recorded or transcribed into a notebook and identified later by reference to pre-recorded tapes (Bibby *et al.* 1998).

USE OF TAPE RECORDERS

Small portable tape recorders and speakers are available relatively cheaply and can be of great help in the field. Playing the call or song of a species will often produce a response if there is an individual of that species within earshot of the tape recorder, with the bird often either coming into the open or calling in reply. The chance of encountering shy, skulking or quiet species and nocturnal species can be greatly increased by tape playback. Walking through suitable areas occasionally playing calls of potential species is a possible method. In addition, the use of a microphone enables an unknown call to be recorded and played back immediately to bring the bird into the open. When using these techniques the welfare of the bird should always be carefully considered as the excessive use of tape playback can disturb breeding birds (Bibby *et al.* 1998). Playing tapes of target species with distinctive calls e.g. Satyr Tragopan, Cheer Pheasant to local people may be useful to find out if they are familiar with the species.

ATTRACTING SPECIES

Some species can be attracted to a particular spot, allowing observers to record their presence. Certain noises will also attract birds to the observer; making a ‘pishing’

sound is a well known technique among birders. Pishing is a squeaking sound made with pursed lips and often using the back of the hand and this can draw passerines in close. It is also possible, once learnt to draw in flocks by imitating owl species. Alternatively, recorded calls of these species can be played (Bibby *et al.* 1998). Imitating the call of the Collared Owlet, a fairly common species in Himalayan forests including the ACA, is particularly effective. Species particularly susceptible to 'pishing' and the Collared Owlet call include tits, fulvettas, sunbirds and nuthatches (pers. obs.).

SPECIES-RICHNESS

The authors have found the following method useful in habitats of Himalayan forest, shrubberies and grasslands similar to those found in the ACA. This method can be used to determine the species-richness of a habitat or area or to compare habitat types or areas and so identify those that are the most important for birds.

Mackinnon's Species-richness Counting Method

1. Each species encountered is recorded until a list of 20 is reached. This is list 1.
2. Then a new list (number 2) is started and a further 20 species is recorded. Each list must contain 20 different species, but subsequent lists can include species previously listed.
3. Then list number 3 is recorded.
4. Ideally lists are repeatedly recorded until no new species are added.
5. A running species total is obtained by extracting the number of species on list 2 that are not on list 1 and so on throughout all the lists recorded for each area or habitat. Species-richness is the species total reached when no new species are recorded. This should be approximately the number of species present in the habitat or area surveyed at the time of the survey.

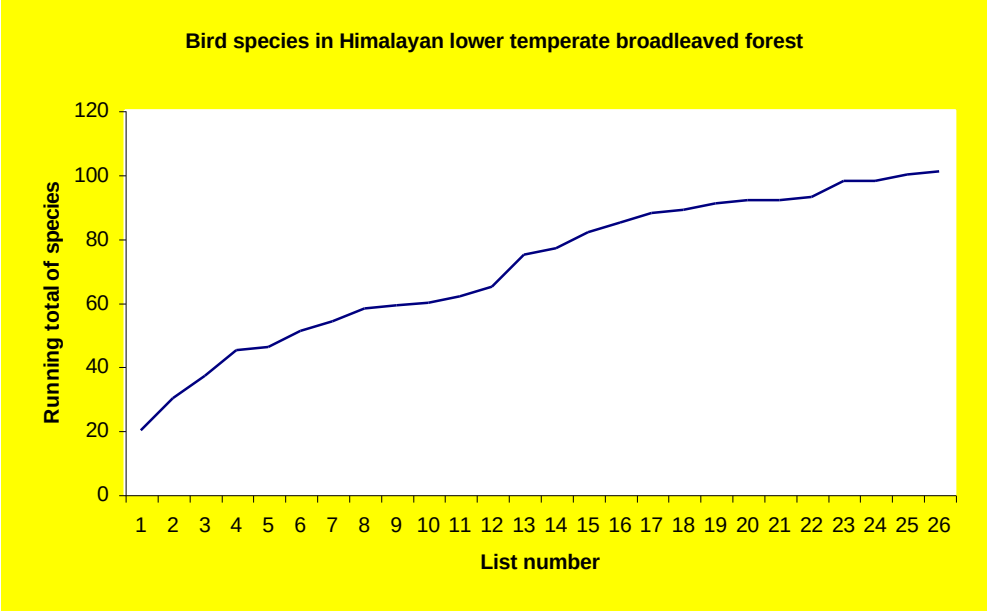
When recording birds, the observer is free to search for birds in as efficient a manner as possible, for example by following up calls to locate mixed species flocks or by attracting birds (see above). The observer should try to cover different ground at least from one list to the next to avoid recording the same individuals on repeated lists. Some species will probably be overlooked, for instance very skulking and/or quiet birds or possibly some nocturnal birds, especially if they are not calling. A reasonably good knowledge of identification skills is needed. However, if an inexperienced observer takes a long time to identify each species detected this does not greatly affect the results providing he/she does eventually identify all species detected. If the method is used to compare different habitats or areas it is preferable if the same observers carry out the surveys (Bibby *et al.* 1998, 2000).

Sample results

Lower temperate broadleaved forest

List number	*Running total of species*
1	20
2	30
3	37
4	45
5	46
6	51

7	54
8	58
9	59
10	60
11	62
12	65
13	75
14	77
15	82
16	85
17	88
18	89
19	91
20	92
21	92
22	93
23	98
24	98
25	100
26	101



SPECIES POPULATIONS AND SPECIES DENSITY

Estimating the population or density of a species is difficult for many birds of Himalayan forests and shrubberies as they frequently occur in mixed species flocks. These flocks often move very fast through the forest, and contain variable numbers of individuals and species, sometimes totalling 20 species or more. Forests can often appear almost devoid of birds until a bird flock is located, especially outside the breeding season. The classic methods of point counts or line transects are therefore of limited use in Himalayan forests and shrubberies as mixed species flocks are rarely encountered when using these survey methods (pers. obs.). For an estimate of abundance for one of a flock's constituent species we need to know (1) the number of flocks in a given area, and (2) the presence and number of target species within each

flock (Bibby *et al.* 1998). This information would be difficult and time-consuming to collect. Line transects in the Himalayas can also be made difficult by steep slopes and broken, rocky ground.

Call Counting Method

This is recognised by the World Pheasant Association and the WPA/BirdLife International/SSC Pheasant Specialist Group as the best method of surveying the Himalayan pheasant species Satyr Tragopan, Cheer Pheasant and Koklass Pheasant. During the breeding season most male pheasants give characteristic calls in the early morning, and sometimes at other times of the day. Counts of the number of birds calling in a particular area should yield an estimate of the total number of males present, and in species that pair for breeding this number can be doubled to provide an estimate of the total breeding population (Gaston 1980).

Time of day

Cheer Pheasant do not call regularly in a dawn chorus; instead their dawn crowing is irregular, sporadic and sometimes even absent (Lelliott 1982). Cheer call throughout most of the year, except the immediate post-breeding season (Gaston 1980). The breeding season months of May and June are the best months for surveying, however.

Calling by male Satyr Tragopans, although concentrated during the early mornings, may continue intermittently throughout the day during the breeding season. Individual males apparently call while wandering over their home range, therefore mapping of post-dawn calls probably gives no reliable indication of the numbers of birds present (Gaston 1980). When the time spent on call counts of Satyr Tragopans is more than 15-20 minutes double-counting of birds may occur, as during this time birds will move towards the direction of other calling tragopans giving the impression that more birds are present (Kaul and Shakya 2001).

Calling in Koklass is generally concentrated in a short period just before sunrise and builds up very quickly once the first bird has begun to call. Only calls given during the first 15 minutes should be used for population estimates as birds begin to move about after this (Gaston 1980).

Position of census points

Because the early morning calling is completed very quickly it is important for the census taker to be in the field before first light. This means that the spot from which counts are to be made must be chosen the previous day. Census points should be selected so that the birds can be heard over as wide an area as possible. Standing on the top of a ridge may allow one person to monitor the valleys on both sides, for instance. On a still morning it may be possible to hear all the pheasants within 400 m, but intervening ridges will reduce this range. In some cases calls can be heard much further away than this, but the critical distance for a census is the range within which all calls can be heard.

Where several observers are involved in the same census they should try to familiarise themselves with the area the previous day and pick out boundaries between their counting zones which can be recognised in the half-light when the birds are calling. An interval of about 500-600 m between observers is probably about right (Gaston 1980).

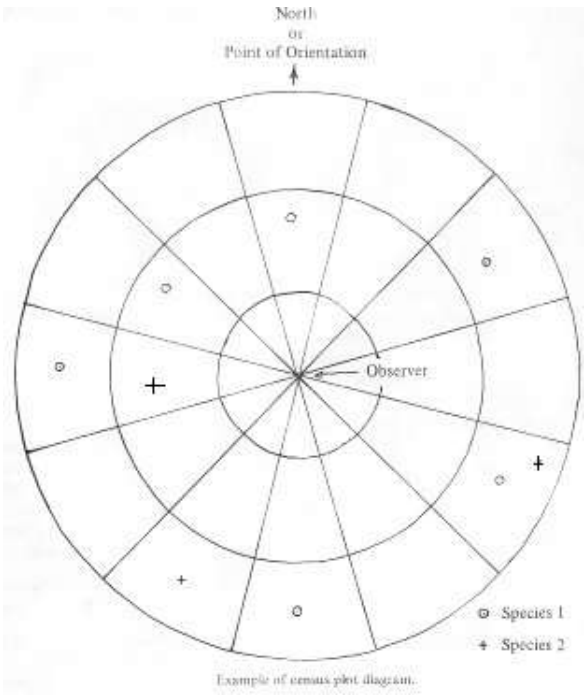
Procedure

The following information should be recorded whenever censuses are carried out:

a) Date and time of starting and ending observations
b) Weather conditions – wind speed, precipitation (if any), cloud cover, temperature (if possible)
c) Position of census points

Once the birds begin to call it is important to be able to pick out how many are involved. In an area where you anticipate that several birds will call it is important to note the direction and approximate range of each call as it is heard. Directions can be recorded using a compass, or estimated with reference to some prominent marker, such as a tall tree, using a clock-face notation (i.e. 3 o'clock = right angles to the right). A prepared diagram of the type shown below can be used to reduce the amount of time spent taking notes, and this is probably more useful than a map which may be difficult to read (Gaston 1980).

Example of Census Plot Diagram



Source: Gaston (1980)

Counts of calling males as population indices

Counts can be used to provide an index of the population that can be compared from year to year. Surveys of Satyr Tragopans at Pipar over a 20 year period have shown that the most reliable population index can be derived from the mean number of calling birds heard across all points and all mornings for a survey. Such an estimate will take into account the daily variations associated with calling (Kaul and Shakya 2001).

Line Transects

Transects are particularly suitable in open and uniform habitats such as alpine grasslands, areas where there is a low density of birds or for species which are easily flushed e.g. Himalayan Monal and Kalij Pheasant or more conspicuous or more mobile species. The problems with using line transects for many species in forests, especially for species in mixed species flocks and on steep slopes or difficult terrain are described on p.

Procedure

The census taker walks through the area to be covered following a route designed to pass through all the different vegetation types represented, and counts the number of species seen or heard. Counts may be taken either to infinity or to some pre-decided distance (50 m is usually the maximum effective distance for pheasants). Counting to infinity has the advantage of using all possible bird records. The disadvantages may be that some more distant birds were not in the same habitat as those recorded along the route. Counts with a fixed width give smaller numbers but they have the advantage (if this is needed) that the birds are all within the habitat described (Bibby *et al.* 2000). The route followed should be marked on a map of the area. Notes should also be kept of the age and sex of the species encountered if possible.

Analysis

This type of census, conducted at the same time of day and on the same date, should yield data comparable between years. It may also be possible to compare censuses conducted on different dates in the same year to detect seasonal changes in numbers, but the detectability of birds may also vary with time of year, due to changes in the density of vegetation or in the birds' behaviour (Gaston 1980).

RECOMMENDATIONS

SURVEYS OF IMPORTANT BIRD SPECIES

Basic surveys and long-term monitoring of globally threatened and near-threatened species with breeding populations in the ACA as well as rare or uncommon restricted-range species are recommended. Long-term monitoring of Himalayan vultures that have apparently declined since the 1970s is also advocated.

Cheer Pheasant Local name: Chir

A survey of Cheer Pheasant is highly recommended as the ACA may be particularly important for this globally threatened species and no surveys have been carried out in the ACA to date. Conducting the survey at Ghasa initially would be best as this is where a population is still known to remain. Cheer is an especially shy and skulking pheasant but the male calls at dawn, although irregularly, especially in the breeding season and so the call counting method is recommended (Gaston 1980, Lelliott 1982). Owing to the steepness of the habitat transects are not normally feasible for this species (Gaston 1980).

Enlisting the help of local guides from Ghasa is highly recommended for surveys in this area. Visiting birdwatchers have regularly and successfully been shown the species by Ghasa villagers since 1982. Nowadays these local guides are Abinash and Nobin Nepal who are based at the Eagle Nest Lodge. Tape recordings and pictures of the species could be shown to local people in nearby villages e.g. Kopechepani, Lete, Kalopani to find out if they know the species, if they think it is present and whether further surveys would be worthwhile.

Satyr Tragopan Local name: Monal

Satyr Tragopan is shy and elusive but males regularly give a distinctive call at dawn in the breeding season. The call counting method has been successfully used to monitor the species at Pipar and also to carry out a base-line survey at Santel where it is fairly common. Continuation of the monitoring of the species at Pipar as well as further surveys at Santel are recommended. Surveys are also recommended using the call counting method where Satyr Tragopan has been seen recently. These are forests on the east side of the Kali Gandaki River at Ghasa where a local guide believed birds to be present in December 2002 and also on the west-facing slopes of the Landrung catchment of the Modi Khola watershed.

Liaison with local people is recommended to help re-locate tragopans in forests where they have been reported in the past and to help determine if tragopans still occur there. These are forests at Ghorepani, Poon Hill, Ghorepani and Ghandrung and also north of Chomrong in the Modi Khola forests. Local people from Ghorepani, Deorali, Chitre, Banthante, Tadapani and Ghandrung and other villages nearby can be played a tape of the calling male, showed pictures of the species and asked if they know the tragopan. Reconnaissance can also be carried out by surveyors at dawn in April and May in these forests to try and locate calling males. If a population of tragopans is located they can then be surveyed using the call counting method.

Yellow-rumped Honeyguide

A survey of Yellow-rumped Honeyguide would be useful, especially as no survey has been carried out previously in the ACA and the species is likely to be under-recorded

here. Local people could play an important role by locating Giant Rock Bees' nests. They are likely to have a good knowledge of the sites of the bees' nests as some people collect honey from them. The nest sites can then be searched for sightings of the male honeyguide. The proportion of males to females in the honeyguide population is not known, but the total number of males would give an index of the species' population.

Nepal Wren Babbler
Surveys of Nepal Wren Babbler would add to the limited knowledge of this bird as the ACA is one of the few places known in the species' range that supports a good population. A repeat of the 1995 survey between Ghasa and Lete (Martens and Eck 1995), using the same methods, is recommended and at the same time of the year (May) to find out if the population has changed. A similar method to a line transect was carried out, playing a tape of the wren babbler's song every 100 to 150 m to elicit a response (see p. 28). It would also be useful to find new localities for the species in the ACA by listening for the species' distinctive song and playing the tape to find out if there is any response in suitable habitats within the altitudinal range of the species (1730-3100 m). A survey could be carried out of any new localities that may be found.

Wood Snipe
Searches for Wood Snipe in mid-May are recommended in suitable habitat known to remain at Pipar and perhaps also above forests at Santel. This is the birds' breeding season when males perform a characteristic display flight at dawn and dusk. He flies in a wide circle c. 10 m above the ground while giving a nasal, '*che-dep, che-dep, che-dep, ip-ip-ip, ock, ock*'. Birds also utter a long series of nasal notes from the ground during the breeding season, '*check-check-check*….' with approximately four notes per second in a sequence lasting 20 seconds or more (Buckton and Morris 1993). Care should be taken not to confuse this species with Solitary Snipe that also occurs in the ACA. Although Solitary Snipe has only been recorded in the ACA in winter to date, it breeds elsewhere in Nepal and could also do so in the ACA in high altitude marshes. The two snipes are rather similar in appearance (for differences see Grimmett *et al.* 1998), but the males have different display flights. The male Solitary Snipe has an aerial drumming display, making a mechanical bleating with the outer - tail feathers while uttering a deep, '*chok-achock*' call. Their escape flight when flushed also differs, that of Wood Snipe is slow and wavering, while Solitary flies faster and zigzags.

Vultures
It is recommended that observers keep details of all sightings of the threatened vulture species in the ACA: White-rumped, Slender-billed, Red-headed Vulture and Cinereous Vultures whenever possible.

Monitoring of Himalayan Griffon to assess future population changes if any as advocated by Baral *et al.* (2002) would be useful.

CONSERVATION AWARENESS
Conservation education is at the heart of the ACAP programme, both for local people and visitors. ACAP has produced a 'minimum impact' code that encourages tourists to conserve firewood, stop pollution and to be a true guest – one who does not abuse

the local environment or culture. The Conservation Education and Extension programme also includes conservation education classes in schools, conservation awareness camps, development of educational materials and mobile audio-visual extension programmes (King Mahendra Trust for Nature Conservation undated).

Raising awareness of local people of reasons for conserving birds is recommended. Birds are valuable for moral, ethical and economic reasons, for our enjoyment and as monitors of the environment. An illustrated poster could be produced and displayed in villages and their schools. Please see a suggested draft text on p. .

Bird or Nature Clubs could be established in schools in the ACA. Interested teachers could be invited to attend a two or three day workshop run by ACAP that provides training and offers ideas on student activities. These could include:

- regular local field outings and nature walks
- annual painting and essay competitions for schools in the whole ACA
- bird quiz competition both within schools and between schools in the whole of the ACA
- environmental games and activities; the Royal Society for the Protection of Birds in the UK has produced some useful booklets with ideas that could be easily transferred to Nepal schools
- raising awareness of the damage that can be inflicted on bird populations around villages, homes and schools by the use of catapults

At the end of a conservation awareness programme conducted at Royal Bardia National Park that was funded by the Oriental Bird Club, all the students taking part were persuaded to hand over their catapults. The student participants pointed out that catapults were all they had to play with and asked for a football instead, which the programme duly provided (Jnawali and Pokharel 2000a,b). Perhaps this could be repeated in some schools in the ACA.

Suggested poster text:

Why conserve birds?

1. Moral and religious reasons
All forms of life deserve respect.
INCLUDE PICTURE OF KALIJ PHEASANT (well known species by local people throughout the ACA, occurs over a wide altitudinal range and is frequently hunted)

Also the Annapurna Conservation Area is important for some bird species that are rare in other places in Nepal and in the world and so people living in the ACA have a special responsibility to look after them.
INCLUDE PICTURE OF CHEER PHEASANT (a globally threatened species that has a restricted-range).

2. Enjoyment
Most people like to have birds around them and their homes. They like to hear and see birds. INCLUDE PICTURE OF BLUE WHISTLING THRUSH (has a very sweet song and is a bird well known throughout the ACA and over a wide altitudinal range.

3. Economic reasons
Although birds may eat some crop seeds and grains overall they are valuable to farmers as they eat harmful insect pests. This is difficult to prove but there is an interesting true story from China. In the 1960s Chairman Mao Tse Tung, who was then all powerful in China, ordered that all birds were to be killed in agricultural areas throughout the country as they were pests to crops. For days local people beat pans and drums continuously to make a terrific noise to keep birds flying. Eventually all the birds died exhausted. Soon afterwards the farmers' fields throughout China were infested with a plague of insect pests, much worse than had ever been experienced before. In following years there were plagues of different pests. This was a great cost for the farmers to pay. Bird populations have not recovered since and even today when you travel by train throughout China you see almost no birds at all for hundreds of kilometres.
INSERT PICTURE OF CINNAMON SPARROW

Some birds, such as sunbirds and flowerpeckers are valuable as pollinators of flowers so enabling fruits and seeds to develop.
INSERT PICTURE OF GREEN-TAILED SUNBIRD

Others play an important role by eating corpses and carrion.
INSERT PICTURE OF LAMMERGEIER

4. Monitors of the environment
Birds are good indicators because they occur in most habitats and are sensitive to environmental change. The Peregrine Falcon 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 mothers' milk.
INSERT PICTURE OF PEREGRINE FALCON
In recent years in Nepal some vulture species that used to be common in the lowlands, especially White-rumped and Slender-billed Vultures, have greatly decreased. We do not know why but it seems likely that an environmental reason is the root cause.
INSERT PICTURE OF WHITE-RUMPED VULTURE

USE OF LOCAL KNOWLEDGE
Local people have a wide knowledge of bird ecology and have their own names for many species. This knowledge could be used as a basis for increasing conservation awareness of birds, especially amongst adults.

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 the crows as messengers of Yama "God of death" (Suwal 2000). It would be interesting to systematically collect this information on local peoples' beliefs throughout the ACA.

CORE AREAS
The establishment of core areas, even small ones, inside the ACA that are free from human impacts, such as trekking tourism and utilisation of forests is recommended. These areas could act as valuable breeding areas for many species of birds and other wildlife, that could recolonise disturbed areas. More remote but species-rich areas such as Santel and parts of the Modi Khola watershed are recommended.

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APPENDIX 1

ANNOTATED BIRD CHECKLIST OF ANNAPURNA CONSERVATION AREA

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Globally threatened & Restricted Range Species	Nationally threatened species	Status and abundance in ACA	Main habitat type	Reference
SNOW PARTRIDGE	*Lerwa lerwa*			R4	GR	1
TIBETAN SNOWCOCK	*Tetraogallus tibetanus*			R2	GR	I
HIMALAYAN SNOWCOCK	*Tetraogallus himalayensis*			R4	GR	1
CHUKAR	*Alectoris chukar*			R2	CGR	1
BLACK FRANCOLIN	*Francolinus francolinus*			S1	C	1
TIBETAN PARTRIDGE	*Perdix hodgsoniae*			R4	R	1
HILL PARTRIDGE	*Arborophila torqueola*			R2	F	1
RUFOUS-THROATED PARTRIDGE	*Arborophila rufogularis*		NaT	R5	F	1
BLOOD PHEASANT	*Ithaginis cruentus*			R4	F	I
SATYR TRAGOPAN	*Tragopan satyra*	NT	NaT	R4	F	1
KOKLASS PHEASANT	*Pucrasia macrolopha*			R2	F	1
HIMALAYAN MONAL	*Lophophorus impejanus*			R4	F	I
KALIJ PHEASANT	*Lophura leucomelanos*			R3	F	1
CHEER PHEASANT	*Catreus wallichii*	GT	NaT	R5	F	I
BAR-HEADED GOOSE	*Anser indicus*			M4	W	1
RUDDY SHELDUCK	*Tadorna ferruginea*			M3	W	1
GADWALL	*Anas strepera*			M4	W	1
BAIKAL TEAL	*Anas formosa*			V	W	1
EURASIAN WIGEON	*Anas penelope*			M5	W	1
MALLARD	*Anas platyrhynchos*			R?M3	W	1
NORTHERN SHOVELER	*Anas clypeata*			M4	W	1
NORTHERN PINTAIL	*Anas acuta*			M4	W	I
GARGANEY	*Anas querquedula*			M4	W	1
COMMON TEAL	*Anas crecca*			M3	W	1
COMMON POCHARD	*Aythya ferina*			M4	W	1
FERRUGINOUS POCHARD	*Aythya nyroca*	NT	NaT	M4	W	I
TUFTED DUCK	*Aythya fuligula*			M4	W	1
COMMON MERGANSER	*Mergus merganser*			W4	W	1
YELLOW-RUMPED HONEYGUIDE	*Indicator xanthonotus*	NT	NaT	R4	F	I
EURASIAN WRYNECK	*Jynx torquilla*			M3	CF	1
SPECKLED PICULET	*Picumnus innominatus*			R3	F	1
BROWN-FRONTED WOODPECKER	*Dendrocopos auriceps*			R2	F	1
FULVOUS-BREASTED WOODPECKER	*Dendrocopos macei*			R4	F	I
RUFOUS-BELLIED WOODPECKER	*Dendrocopos hyperythrus*			R2	F	I
CRIMSON-BREASTED WOODPECKER	*Dendrocopos cathpharius*			R3	F	I
DARJEELING WOODPECKER	*Dendrocopos darjellensis*			R3	F	I
RUFOUS WOODPECKER	*Celeus brachyurus*			R5	F	1
LESSER YELLOWNAPE	*Picus chlorolophus*			R3	F	1
GREATER YELLOWNAPE	*Picus flavinucha*			R3	F	1
SCALY-BELLIED WOODPECKER	*Picus squamatus*			R2	F	1
GREY-HEADED WOODPECKER	*Picus canus*			R2	F	I
GREATER FLAMEBACK	*Chrysocolaptes lucidus*			R5	F	1
BAY WOODPECKER	*Blythipicus pyrrhotis*			R5	F	I
GREAT BARBET	*Megalaima virens*			RI	F	1
GOLDEN-THROATED BARBET	*Megalaima franklinii*			R3	F	1
BLUE-THROATED BARBET	*Megalaima asiatica*			R2	F	1
COMMON HOOPOE	*Upupa epops*			RSMI	C	1
RED-HEADED TROGON	*Harpactes erythrocephalus*		NaT	R5	F	1
INDIAN ROLLER	*Coracias benghalensis*			R?5	CF	I
COMMON KINGFISHER	*Alcedo atthis*			R3	W	1

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WHITE-THROATED KINGFISHER	*Halcyon smyrnensis*			R?5	W	I
CRESTED KINGFISHER	*Megaceryle lugubris*			R3	W	1
GREEN BEE-EATER	*Merops orientalis*			M5	C	1
CHESTNUT-HEADED BEE-EATER	*Merops leschenaulti*			M5	F	6
LARGE HAWK CUCKOO	*Hierococcyx sparverioides*			S2	F	1
INDIAN CUCKOO	*Cuculus micropterus*			S1	F	1
EURASIAN CUCKOO	*Cuculus canorus*			S1	F	I
ORIENTAL CUCKOO	*Cuculus saturatus*			S1	F	I
LESSER CUCKOO	*Cuculus poliocephalus*			S4	F	1
GREY-BELLIED CUCKOO	*Cacomantis passerinus*			S5	F	2
ASIAN EMERALD CUCKOO	*Chrysococcyx maculatus*		NaT	S5	F	17
DRONGO CUCKOO	*Surniculus lugubris*			S3	F	2
ASIAN KOEL	*Eudynamys scolopacea*			S5	F	2
GREEN-BILLED MALKOHA	*Phaenicophaeus tristis*			R4	F	1
SLATY-HEADED PARAKEET	*Psittacula himalayana*			RI	F	I
HIMALAYAN SWIFTLET	*Collocalia brevirostris*			R2	A	1
WHITE-THROATED NEEDLETAIL	*Hirundapus caudacutus*			M?4	A	I
ALPINE SWIFT	*Tachymarptis melba*			M?2	A	I
COMMON SWIFT	*Apus apus*			S2	A	I
FORK-TAILED SWIFT	*Apus pacificus*			S2	A	1
HOUSE SWIFT	*Apus affinis*			RI	AC	1
MOUNTAIN SCOPS OWL	*Otus spilocephalus*			R4	F	I
ORIENTAL SCOPS OWL	*Otus sunia*			V	F	1
EURASIAN EAGLE OWL	*Bubo bubo*			R5	F	I
SPOT-BELLIED EAGLE OWL	*Bubo nipalensis*		NaT	R5	FR	2
BROWN WOOD OWL	*Strix leptogrammica*			R5	F	7
TAWNY OWL	*Strix aluco*			R4	F	1
COLLARED OWLET	*Glaucidium brodiei*			R2	F	I
ASIAN BARRED OWLET	*Glaucidium cuculoides*			R2	F	I
JUNGLE OWLET	*Glaucidium radiatum*			R?5	F	1
LITTLE OWL	*Athene noctua*			R5	R	1
SPOTTED OWLET	*Athene brama*			R3	C	1
LONG-EARED OWL	*Asio otus*			V	F	14
SHORT-EARED OWL	*Asio flammeus*			W?M?5	G	I
GREY NIGHTJAR	*Caprimulgus indicus*			R?2	F	1
ROCK PIGEON	*Columba livia*			RI	CR	1
HILL PIGEON	*Columba rupestris*			R2	R	I
SNOW PIGEON	*Columba leuconota*			R5	CR	2
COMMON WOOD PIGEON	*Columba palumbus*			W5	F	I
SPECKLED WOOD PIGEON	*Columba hodgsonii*			R3	F	I
ASHY WOOD PIGEON	*Columba pulchricollis*			R3	F	1
ORIENTAL TURTLE DOVE	*Streptopelia orientalis*			RI	CF	1
LAUGHING DOVE	*Streptopelia senegalensis*			M5	C	2
SPOTTED DOVE	*Streptopelia chinensis*			RI	C	1
EURASIAN COLLARED DOVE	*Streptopelia decaocto*			R5	C	17
BARRED CUCKOO DOVE	*Macropygia unchall*		NaT	R4	F	1
WEDGE-TAILED GREEN PIGEON	*Treron sphenura*			R4	F	I
DEMOISELLE CRANE	*Grus virgo*			M3	W	I
COMMON CRANE	*Grus grus*			M5	W	I
COMMON MOORHEN	*Gallinula chloropus*			M5	W	I
COMMON COOT	*Fulica atra*			V	W	1
TIBETAN SANDGROUSE	*Syrrhaptes tibetanus*			R?5	R	X
EURASIAN WOODCOCK	*Scolopax rusticola*			R3	F	I
SOLITARY SNIPE	*Gallinago solitaria*			W3	GW	1
WOOD SNIPE	*Gallinago nemoricola*	GT	NaT	R?5	FG	1

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COMMON REDSHANK	*Tringa totanus*			M5	W	8
COMMON GREENSHANK	*Tringa nebularia*			M5	W	I
GREEN SANDPIPER	*Tringa ochropus*			WM2	W	1
WOOD SANDPIPER	*Tringa glareola*			M3	W	I
COMMON SANDPIPER	*Actitis hypoleucos*			M2	W	I
RUDDY TURNSTONE	*Arenaria interpres*			V	W	I
TEMMINCK'S STINT	*Calidris temminckii*			M3	W	I
IBISBILL	*Ibidorhyncha struthersii*			M5	W	5
BLACK-WINGED STILT	*Himantopus himantopus*			V	W	1
PACIFIC GOLDEN PLOVER	*Pluvialis fulva*			M5	W	I
LITTLE RINGED PLOVER	*Charadrius dubius*			M5	W	I
NORTHERN LAPWING	*Vanellus vanellus*			M5	W	I
RIVER LAPWING	*Vanellus duvaucelii*			R?5	W	18
BROWN-HEADED GULL	*Larus brunnicephalus*			M5	W	I
OSPREY	*Pandion haliaetus*			M4	W	1
ORIENTAL HONEY-BUZZARD	*Pernis ptilorhyncus*			RM3	F	I
BLACK KITE	*Milvus migrans*			RM1	C	I
PALLAS'S FISH EAGLE	*Haliaeetus leucoryphus*	GT	NaT	M5	W	1
WHITE-TAILED EAGLE	*Haliaeetus albicilla*	NT	NaT	M5	W	
LAMMERGEIER	*Gypaetus barbatus*			R2	OR	1
EGYPTIAN VULTURE	*Neophron percnopterus*			S?5	C	I
WHITE-RUMPED VULTURE	*Gyps bengalensis*	GT		R?5	C	I
SLENDER-BILLED VULTURE	*Gyps tenuirostris*	GT		S5	C	1
HIMALAYAN GRIFFON	*Gyps himalayensis*			R2	R	I
EURASIAN GRIFFON	*Gyps fulvus*			R?5	R	2
CINEREOUS VULTURE	*Aegypius monachus*	NT	NaT	W5	O	I
RED-HEADED VULTURE	*Sarcogyps calvus*	NT	NaT	R5	FO	1
SHORT-TOED SNAKE EAGLE	*Circaetus gallicus*			M5	O	I
CRESTED SERPENT EAGLE	*Spilornis cheela*			S2	F	I
EURASIAN MARSH HARRIER	*Circus aeruginosus*			M4	W	I
PIED HARRIER	*Circus melanoleucos*			M5	O	1
HEN HARRIER	*Circus cyaneus*			WM2	O	I
PALLID HARRIER	*Circus macrourus*	NT		M5	O	1
MONTAGU'S HARRIER	*Circus pygargus*			M5	O	1
NORTHERN GOSHAWK	*Accipiter gentilis*			R3	F	1
CRESTED GOSHAWK	*Accipiter trivirgatus*		NaT	R4	F	I
SHIKRA	*Accipiter badius*			R4	F	2
BESRA	*Accipiter virgatus*			R4	F	1
EURASIAN SPARROWHAWK	*Accipiter nisus*			RWM2	F	I
COMMON BUZZARD	*Buteo buteo*			R?WM2 M2	O	I
LONG-LEGGED BUZZARD	*Buteo rufinus*			W?M2	O	1
UPLAND BUZZARD	*Buteo hemilasius*			R?WM4	O	I
BLACK EAGLE	*Ictinaetus malayensis*			R3	F	I
GREATER SPOTTED EAGLE	*Aquila clanga*	GT	NaT	M3	FW	1
STEPPE EAGLE	*Aquila nipalensis*			WM1	FO	I
IMPERIAL EAGLE	*Aquila heliaca*			M5	OW	I
GOLDEN EAGLE	*Aquila chrysaetos*			R4	OR	1
BONELLI'S EAGLE	*Hieraaetus fasciatus*			R4	F	1
BOOTED EAGLE	*Hieraaetus pennatus*			R?WM4	F	1
MOUNTAIN HAWK EAGLE	*Spizaetus nipalensis*			R3	F	I
LESSER KESTREL	*Falco naumanni*	GT		M4	CO	1
COMMON KESTREL	*Falco tinnunculus*			RMW? 1	CO	I
AMUR FALCON	*Falco amurensis*			M5	O	I
MERLIN	*Falco columbarius*			M5	OR	1
EURASIAN HOBBY	*Falco subbuteo*			R?W?M?4	FO	I

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ORIENTAL HOBBY	*Falco severus*		NaT	S?5	F	2
SAKER FALCON	*Falco cherrug*			W5	OR	I
PEREGRINE FALCON	*Falco peregrinus*			R2	OR	1
GREAT CRESTED GREBE	*Podiceps cristatus*			V	W	I
GREAT CORMORANT	*Phalacrocorax carbo*			M4	W	I
LITTLE EGRET	*Egretta garzetta*			R?5	W	95
CATTLE EGRET	*Bubulcus ibis*			M5	CW	1
INDIAN POND HERON	*Ardeola grayii*			R3	W	1
WHITE-NECKED STORK	*Ciconia episcopus*			V	W	19
ORANGE-BELLIED LEAFBIRD	*Chloropsis hardwickii*			R3	F	I
RUFOUS-TAILED SHRIKE	*Lanius isabellinus*			M5	CF	I
BROWN SHRIKE	*Lanius cristatus*			WM4	CF	I
BAY-BACKED SHRIKE	*Lanius vittatus*			V	CF	I
LONG-TAILED SHRIKE	*Lanius schach*			RI	CF	I
GREY-BACKED SHRIKE	*Lanius tephronotus*			R2	CF	I
EURASIAN JAY	*Garrulus glandarius*			R4	F	1
BLACK-HEADED JAY	*Garrulus lanceolatus*			R4	F	I
YELLOW-BILLED BLUE MAGPIE	*Urocissa flavirostris*			R2	F	I
RED-BILLED BLUE MAGPIE	*Urocissa erythrorhyncha*			R3	F	I
COMMON GREEN MAGPIE	*Cissa chinensis*			R2	F	I
RUFOUS TREEPIE	*Dendrocitta vagabunda*			R5	C	17
GREY TREEPIE	*Dendrocitta formosae*			R2	F	I
HUME'S GROUNDPECKER	*Pseudopodoces humilis*			R3	R	I
SPOTTED NUTCRACKER	*Nucifraga caryocatactes*			RI	F	I
RED-BILLED CHOUGH	*Pyrrhocorax pyrrhocorax*			RI	CGR	I
YELLOW-BILLED CHOUGH	*Pyrrhocorax graculus*			RI	CGR	I
HOUSE CROW	*Corvus splendens*			R5	C	17
LARGE-BILLED CROW	*Corvus macrorhynchos*			R1	CFO	I
COMMON RAVEN	*Corvus corax*			R3	R	I
ASHY WOODSWALLOW	*Artamus fuscus*			M5	F	1
EURASIAN GOLDEN ORIOLE	*Oriolus oriolus*			S3	F	1
MAROON ORIOLE	*Oriolus traillii*			R3	F	1
LARGE CUCKOOSHRIKE	*Coracina macei*			R2	CF	I
BLACK-WINGED CUCKOOSHRIKE	*Coracina melaschistos*			S3	F	2
GREY-CHINNED MINIVET	*Pericrocotus solaris*		NaT	R5	F	1
LONG-TAILED MINIVET	*Pericrocotus ethologus*			RI	F	1
SHORT-BILLED MINIVET	*Pericrocotus brevirostris*			R5	F	1
SCARLET MINIVET	*Pericrocotus flammeus*			RI	F	1
BAR-WINGED FLYCATCHER-SHRIKE	*Hemipus picatus*			R?3	F	1
YELLOW-BELLIED FANTAIL	*Rhipidura hypoxantha*			RI	F	1
WHITE-THROATED FANTAIL	*Rhipidura albicollis*			R3	F	1
BLACK DRONGO	*Dicrurus macrocercus*			RI	C	I
ASHY DRONGO	*Dicrurus leucophaeus*			RI	F	1
BRONZED DRONGO	*Dicrurus aeneus*			S3	F	I
LESSER RACKET-TAILED DRONGO	*Dicrurus remifer*			R3	F	1
SPANGLED DRONGO	*Dicrurus hottentottus*			R3	F	I
ASIAN PARADISE-FLYCATCHER	*Terpsiphone paradisi*			M5	CF	2
BOHEMIAN WAXWING	*Bombycilla garrulus*			V	F	20
WHITE-THROATED DIPPER	*Cinclus cinclus*			R3	W	I
BROWN DIPPER	*Cinclus pallasii*			R1	W	1
BLUE-CAPPED ROCK THRUSH	*Monticola cinclorhynchus*			S3	F	1
CHESTNUT-BELLIED ROCK THRUSH	*Monticola rufiventris*			R2	F	1
BLUE ROCK THRUSH	*Monticola solitarius*			R2	ORW	1
BLUE WHISTLING THRUSH	*Myophonus caeruleus*			RI	FW	I
PIED THRUSH	*Zoothera wardii*			S4	F	1

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ORANGE-HEADED THRUSH	*Zoothera citrina*			S4	F	I
PLAIN-BACKED THRUSH	*Zoothera mollissima*			R2	F	I
LONG-TAILED THRUSH	*Zoothera dixoni*			R3	F	1
SCALY THRUSH	*Zoothera dauma*			R?3	F	1
LONG-BILLED THRUSH	*Zoothera monticola*		NaT	R?4	F	I
TICKELL'S THRUSH	*Turdus unicolor*			S3	F	1
WHITE-COLLARED BLACKBIRD	*Turdus albocinctus*			R2	F	1
GREY-WINGED BLACKBIRD	*Turdus boulboul*			R2	F	1
EURASIAN BLACKBIRD	*Turdus merula*			M5	F	I
CHESTNUT THRUSH	*Turdus rubrocanus*			W4	F	I
DARK-THROATED THRUSH	*Turdus ruficollis*			W I	CF	I
DUSKY THRUSH	*Turdus naumanni*			W5	F	I
MISTLE THRUSH	*Turdus viscivorus*			R2	F	1
GOULD'S SHORTWING	*Brachypteryx stellata*		NaT	S?5	F	I
WHITE-BROWED SHORTWING	*Brachypteryx montana*			R?5	F	I
DARK-SIDED FLYCATCHER	*Muscicapa sibirica*			S2	F	I
ASIAN BROWN FLYCATCHER	*Muscicapa dauurica*			S4	F	I
RUSTY-TAILED FLYCATCHER	*Muscicapa ruficauda*			S4	F	I
FERRUGINOUS FLYCATCHER	*Muscicapa ferruginea*			S5	F	1
SLATY-BACKED FLYCATCHER	*Ficedula hodgsonii*			M5	F	I
RUFOUS-GORGETED FLYCATCHER	*Ficedula strophiata*			RI	F	1
RED-THROATED FLYCATCHER	*Ficedula parva*			WM2	F	I
WHITE-GORGETED FLYCATCHER	*Ficedula monileger*		NaT	R?5	F	I
SNOWY-BROWED FLYCATCHER	*Ficedula hyperythra*			S4	F	I
LITTLE PIED FLYCATCHER	*Ficedula westermanni*			S4	F	I
ULTRAMARINE FLYCATCHER	*Ficedula superciliaris*			S2	F	I
SLATY-BLUE FLYCATCHER	*Ficedula tricolor*			R2	F	I
VERDITER FLYCATCHER	*Eumyias thalassina*			S1	CF	I
LARGE NILTAVA	*Niltava grandis*			R5	F	1
SMALL NILTAVA	*Niltava macgrigoriae*			R2	F	1
RUFOUS-BELLIED NILTAVA	*Niltava sundara*			Rl	F	1
HILL BLUE FLYCATCHER	*Cyornis banyumas*		NaT	M5	F	I
PYGMY BLUE FLYCATCHER	*Muscicapella hodgsoni*		NaT	R5	F	I
GREY-HEADED CANARY FLYCATCHER	*Culicicapa ceylonensis*			R4S1	F	I
SIBERIAN RUBYTHROAT	*Luscinia calliope*			W5	CF	4
WHITE-TAILED RUBYTHROAT	*Luscinia pectoralis*			S3	FO	1
BLUETHROAT	*Luscinia svecica*			M5	C	I
SIBERIAN BLUE ROBIN	*Luscinia cyane*			V	F	11
INDIAN BLUE ROBIN	*Luscinia brunnea*			S2	F	I
ORANGE-FLANKED BUSH ROBIN	*Tarsiger cyanurus*			RI	F	I
GOLDEN BUSH ROBIN	*Tarsiger chrysaeus*			R3	F	1
WHITE-BROWED BUSH ROBIN	*Tarsiger indicus*			R3	F	I
RUFOUS-BREASTED BUSH ROBIN	*Tarsiger hyperythrus*			R?3	F	1
ORIENTAL MAGPIE ROBIN	*Copsychus saularis*			R3	CF	1
RUFOUS-BACKED REDSTART	*Phoenicurus erythronota*			W3	C	1
BLUE-CAPPED REDSTART	*Phoenicurus coeruleocephalus*			R2	FR	1
BLACK REDSTART	*Phoenicurus ochruros*			S2	COR	1
HODGSON'S REDSTART	*Phoenicurus hodgsoni*			W1	CFG	1
WHITE-THROATED REDSTART	*Phoenicurus schisticeps*			RW3	CFG R	I
WHITE-WINGED REDSTART	*Phoenicurus erythrogaster*			W2	GR	I
BLUE-FRONTED REDSTART	*Phoenicurus frontalis*			RI	F	1
WHITE-CAPPED WATER REDSTART	*Chaimarrornis leucocephalus*			RI	GRW	I
PLUMBEOUS WATER REDSTART	*Rhyacornis fuliginosus*			RI	W	1
WHITE-BELLIED REDSTART	*Hodgsonius phaenicuroides*			S3	F	1
WHITE-TAILED ROBIN	*Myiomela leucura*			R4	F	1

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GRANDALA	*Grandala coelicolor*			R?W2	GRW	1
LITTLE FORKTAIL	*Enicurus scouleri*			R2	FW	1
BLACK-BACKED FORKTAIL	*Enicurus immaculatus*			R4	FW	
SLATY-BACKED FORKTAIL	*Enicurus schistaceus*			R3	FW	I
SPOTTED FORKTAIL	*Enicurus maculatus*			R3	FW	1
COMMON STONECHAT	*Saxicola torquata*			RMW 1	COR	
PIED BUSHCHAT	*Saxicola caprata*			R2	CO	1
GREY BUSHCHAT	*Saxicola ferrea*			R2	F	I
RUFOUS-TAILED WHEATEAR	*Oenanthe xanthoprymna*			V	OR	13
DESERT WHEATEAR	*Oenanthe deserti*			SM5	OR	I
ISABELLINE WHEATEAR	*Oenanthe isabellina*			M5	C	1
CHESTNUT-TAILED STARLING	*Sturnus malabaricus*			M4	F	16
COMMON STARLING	*Sturnus vulgaris*			WM5	C	1
COMMON MYNA	*Acridotheres tristis*			RI	C	1
JUNGLE MYNA	*Acridotheres fuscus*			R?3	CF	2
CHESTNUT-BELLIED NUTHATCH	*Sitta castanea*			R1	F	1
WHITE-TAILED NUTHATCH	*Sitta himalayensis*			RI	F	1
VELVET-FRONTED NUTHATCH	*Sitta frontalis*			R2	F	1
WALLCREEPER	*Tichodroma muraria*			W2	RW	I
EURASIAN TREECREEPER	*Certhia familiaris*			R3	F	1
BAR-TAILED TREECREEPER	*Certhia himalayana*			R3	F	1
RUSTY-FLANKED TREECREEPER	*Certhia nipalensis*			R3	F	1
BROWN-THROATED TREECREEPER	*Certhia discolor*			R4	F	I
WINTER WREN	*Troglodytes troglodytes*			R2	FR	1
FIRE-CAPPED TIT	*Cephalopyrus flammiceps*			R?4	F	1
RUFOUS-NAPED TIT	*Parus rufonuchalis*			R?3	F	I
RUFOUS-VENTED TIT	*Parus rubidiventris*			RI	F	1
COAL TIT	*Parus ater*			R1	F	1
GREY-CRESTED TIT	*Parus dichrous*			R1	F	1
GREAT TIT	*Parus major*			R2	F	1
GREEN-BACKED TIT	*Parus monticolus*			RI	F	1
BLACK-LORED TIT	*Parus xanthogenys*			R1	F	1
YELLOW-BROWED TIT	*Sylviparus modestus*			R2	F	1
BLACK-THROATED TIT	*Aegithalos concinnus*			RI	F	I
WHITE-THROATED TIT	*Aegithalos niveogularis*	RR		R?W?5	F	1
RUFOUS-FRONTED TIT	*Aegithalos iouschistos*			R4	F	1
SAND MARTIN	*Riparia riparia*			M5	AW	1
PLAIN MARTIN	*Riparia paludicola*			R?S?1	AW	1
EURASIAN CRAG MARTIN	*Hirundo rupestris*			R3	AR	I
BARN SWALLOW	*Hirundo rustica*			RSI	AC	1
RED-RUMPED SWALLOW	*Hirundo daurica*			RS1	AC	I
NORTHERN HOUSE MARTIN	*Delichon urbica*			M5	A	2
ASIAN HOUSE MARTIN	*Delichon dasypus*			R4	A	1
NEPAL HOUSE MARTIN	*Delichon nipalensis*			R2	A	1
GOLDCREST	*Regulus regulus*			R2	F	1
STRIATED BULBUL	*Pycnonotus striatus*			R3	F	1
HIMALAYAN BULBUL	*Pycnonotus leucogenys*			RI	F	1
RED-VENTED BULBUL	*Pycnonotus cafer*			R5	C	I
ASHY BULBUL	*Hemixos flavala*			R5	F	1
MOUNTAIN BULBUL	*Hypsipetes mcclellandii*			R3	F	1
BLACK BULBUL	*Hypsipetes leucocephalus*			RI	F	1
STRIATED PRINIA	*Prinia criniger*			Rl	C	I
ORIENTAL WHITE-EYE	*Zosterops palpebrosus*			RI	F	1
CHESTNUT-HEADED TESIA	*Tesia castaneocoronata*			R2	F	1
GREY-BELLIED TESIA	*Tesia cyaniventer*			R4	F	I

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Globally threatened & Restricted Range Species	Nationally threatened species	Status and abundance in ACA	Main habitat type	Reference
CHESTNUT-CROWNED BUSH WARBLER	*Cettia major*			S5	F	I
ABERRANT BUSH WARBLER	*Cettia flavolivacea*			R2	F	1
YELLOWISH-BELLIED BUSH WARBLER	*Cettia acanthizoides*			R5	F	I
GREY-SIDED BUSH WARBLER	*Cettia brunnifrons*			R2	F	I
SPOTTED BUSH WARBLER	*Bradypterus thoracicus*			S5	F	1
BLYTH'S REED WARBLER	*Acrocephalus dumetorum*			W5	FC	I
BOOTED WARBLER	*Hippolais caligata*			M5	FC	I
COMMON TAILORBIRD	*Orthotomus sutorius*			RI	C	I
WHITE-BROWED TIT WARBLER	*Leptopoecile sophiae*			R2	F	1
COMMON CHIFFCHAFF	*Phylloscopus collybita*			WM2	F	1
SMOKY WARBLER	*Phylloscopus fuligiventer*			S5	F	I
TICKELL'S LEAF WARBLER	*Phylloscopus affinis*			R2	F	I
SULPHUR-BELLIED WARBLER	*Phylloscopus griseolus*			M5	R	7
BUFF-BARRED WARBLER	*Phylloscopus pulcher*			RI	F	I
ASHY-THROATED WARBLER	*Phylloscopus maculipennis*			Rl	F	I
LEMON-RUMPED WARBLER	*Phylloscopus chloronotus*			RI	F	1
HUME'S WARBLER	*Phylloscopus humei*			RI	F	1
YELLOW-BROWED WARBLER	*Phylloscopus inornatus*			M5	F	10
GREENISH WARBLER	*Phylloscopus trochiloides*			SWM2	F	1
LARGE-BILLED LEAF WARBLER	*Phylloscopus magnirostris*			S4	FW	I
WESTERN CROWNED WARBLER	*Phylloscopus occipitalis*			M5	F	I
BLYTH'S LEAF WARBLER	*Phylloscopus reguloides*			Rl	F	I
GOLDEN-SPECTACLED WARBLER	*Seicercus burkii*			Rl	F	1
WHISTLER'S WARBLER	*Seicercus whistleri*			RI	F	15
GREY-HOODED WARBLER	*Seicercus xanthoschistos*			RI	F	I
GREY-CHEEKED WARBLER	*Seicercus poliogenys*			R?5	F	1
CHESTNUT-CROWNED WARBLER	*Seicercus castaniceps*			R3	F	I
BLACK-FACED WARBLER	*Abroscopus schisticeps*			R2	F	I
WHITE-THROATED LAUGHINGTHRUSH	*Garrulax albogularis*			RI	F	1
WHITE-CRESTED LAUGHINGTHRUSH	*Garrulax leucolophus*			RI	F	1
STRIATED LAUGHINGTHRUSH	*Garrulax striatus*			RI	F	I
RUFOUS-CHINNED LAUGHINGTHRUSH	*Garrulax rufogularis*			R5	F	1
SPOTTED LAUGHINGTHRUSH	*Garrulax ocellatus*			R3	F	I
GREY-SIDED LAUGHINGTHRUSH	*Garrulax caerulatus*		NaT	R5	F	I
STREAKED LAUGHINGTHRUSH	*Garrulax lineatus*			Rl	F	1
BLUE-WINGED LAUGHINGTHRUSH	*Garrulax squamatus*		NaT	R5	F	1
SCALY LAUGHINGTHRUSH	*Garrulax subunicolor*			R4	F	1
VARIEGATED LAUGHINGTHRUSH	*Garrulax variegatus*			R3	F	I
BLACK-FACED LAUGHINGTHRUSH	*Garrulax affinis*			RI	F	1
CHESTNUT-CROWNED LAUGHINGTHRUSH	*Garrulax erythrocephalus*			R2	F	I
RUSTY-CHEEKED SCIMITAR BABBLER	*Pomatorhinus erythrogenys*			R2	F	I
WHITE-BROWED SCIMITAR BABBLER	*Pomatorhinus schisticeps*			R3	F	I
STREAK-BREASTED SCIMITAR BABBLER	*Pomatorhinus ruficollis*			R2	F	1
SLENDER-BILLED SCIMITAR BABBLER	*Xiphirhynchus superciliaris*		NaT	R5	F	I
SCALY-BREASTED WREN BABBLER	*Pnoepyga albiventer*			R2	F	1
NEPAL WREN BABBLER	*Pnoepyga immaculata*	RR		R?5	FW	9
PYGMY WREN BABBLER	*Pnoepyga pusilla*			R3	F	I
BLACK-CHINNED BABBLER	*Stachyris pyrrhops*			R2	F	I
GOLDEN BABBLER	*Stachyris chrysaea*		NaT	R5	F	I
GREY-THROATED BABBLER	*Stachyris nigriceps*			R5	F	1
SPINY BABBLER	*Turdoides nipalensis*	RR		R3	F	1
RED-BILLED LEIOTHRIX	*Leiothrix lutea*			R3	F	1
CUTIA	*Cutia nipalensis*		NaT	R5	F	1
BLACK-HEADED SHRIKE BABBLER	*Pteruthius rufiventer*		NaT	R5	F	1
WHITE-BROWED SHRIKE BABBLER	*Pteruthius flaviscapis*			R3	F	1

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Globally threatened & Restricted Range Species	Nationally threatened species	Status and abundance in ACA	Main habitat type	Reference
GREEN SHRIKE BABBLER	*Pteruthius xanthochlorus*			R3	F	I
BLACK-EARED SHRIKE BABBLER	*Pteruthius melanotis*			R3	F	1
HOARY-THROATED BARWING	*Actinodura nipalensis*	RR		R2	F	
BLUE-WINGED MINLA	*Minla cyanouroptera*			R3	F	1
CHESTNUT-TAILED MINLA	*Minla strigula*			R1	F	1
RED-TAILED MINLA	*Minla ignotincta*			R4	F	1
GOLDEN-BREASTED FULVETTA	*Alcippe chrysotis*		NaT	R3	F	I
RUFOUS-WINGED FULVETTA	*Alcippe castaneceps*			R3	F	1
WHITE-BROWED FULVETTA	*Alcippe vinipectus*			RI	F	
NEPAL FULVETTA	*Alcippe nipalensis*			R4	F	1
WHISKERED YUHINA	*Yuhina flavicollis*			RI	F	1
STRIPE-THROATED YUHINA	*Yuhina gularis*			RI	F	I
RUFOUS-VENTED YUHINA	*Yuhina occipitalis*			R1	F	I
WHITE-BELLIED YUHINA	*Yuhina zantholeuca*			R3	F	I
FIRE-TAILED MYZORNIS	*Myzornis pyrrhoura*			R5	F	I
RUFOUS-BACKED SIBIA	*Heterophasia annectans*		NaT	R?5	F	21
RUFOUS SIBIA	*Heterophasia capistrata*			R1	F	1
GREAT PARROTBILL	*Conostoma oemodium*		NaT	R5	F	1
BROWN PARROTBILL	*Paradoxornis unicolor*		NaT	R4	F	I
FULVOUS PARROTBILL	*Paradoxornis fulvifrons*		NaT	R4	F	1
BLACK-THROATED PARROTBILL	*Paradoxornis nipalensis*			R4	F	1
LESSER WHITETHROAT	*Sylvia curruca*			W?M5	F	1
GREATER SHORT-TOED LARK	*Calandrella brachydactyla*			MI	GR	1
HUME'S SHORT-TOED LARK	*Calandrella acutirostris*			SM3	GR	1
ORIENTAL SKYLARK	*Alauda gulgula*			RW2	CG	I
HORNED LARK	*Eremophila alpestris*			W5	GR	I
YELLOW-BELLIED FLOWERPECKER	*Dicaeum melanoxanthum*			R4	F	1
FIRE-BREASTED FLOWERPECKER	*Dicaeum ignipectus*			RI	F	1
PURPLE SUNBIRD	*Nectarinia asiatica*			S3	F	I
MRS GOULD'S SUNBIRD	*Aethopyga gouldiae*			R4	F	I
GREEN-TAILED SUNBIRD	*Aethopyga nipalensis*			RI	F	1
BLACK-THROATED SUNBIRD	*Aethopyga saturata*			R3	F	1
CRIMSON SUNBIRD	*Aethopyga siparaja*			R3	F	1
FIRE-TAILED SUNBIRD	*Aethopyga ignicauda*			R2	F	I
HOUSE SPARROW	*Passer domesticus*			RI	C	1
RUSSET SPARROW	*Passer rutilans*			R2	CF	I
EURASIAN TREE SPARROW	*Passer montanus*			R1	C	I
TIBETAN SNOWFINCH	*Montifringilla adamsi*			R?5	R	I
WHITE-RUMPED SNOWFINCH	*Pyrgilauda taczanowskii*			R?5	R	10
RUFOUS-NECKED SNOWFINCH	*Pyrgilauda ruficollis*			R?5	GR	I
PLAIN-BACKED SNOWFINCH	*Pyrgilauda blanfordi*			R?5	R	10
WHITE WAGTAIL	*Motacilla alba*			R?WM1	W	I
WHITE-BROWED WAGTAIL	*Motacilla maderaspatensis*			R5	W	1
CITRINE WAGTAIL	*Motacilla citreola*			M4	W	1
YELLOW WAGTAIL	*Motacilla flava*			M3	W	I
GREY WAGTAIL	*Motacilla cinerea*			R3	W	I
RICHARD'S PIPIT	*Anthus richardi*			WM3	CG	1
PADDYFIELD PIPIT	*Anthus rufulus*			R5	C	17
UPLAND PIPIT	*Anthus sylvanus*			R2	GR	1
TREE PIPIT	*Anthus trivialis*			M5	CT	I
OLIVE-BACKED PIPIT	*Anthus hodgsoni*			R1	F	I
RED-THROATED PIPIT	*Anthus cervinus*			M5	CGW	I
ROSY PIPIT	*Anthus roseatus*			RM2	CGW	1
WATER PIPIT	*Anthus spinoletta*			M5	CW	I
ALPINE ACCENTOR	*Prunella collaris*			W2	GR	

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Globally threatened & Restricted Range Species	Nationally threatened species	Status and abundance in ACA	Main habitat type	Reference
ALTAI ACCENTOR	*Prunella himalayana*			W2	GR	I
ROBIN ACCENTOR	*Prunella rubeculoides*			W2	FR	1
RUFOUS-BREASTED ACCENTOR	*Prunella strophiata*			R2	CFR	1
BROWN ACCENTOR	*Prunella fulvescens*			R?W2	FR	I
BLACK-THROATED ACCENTOR	*Prunella atrogularis*			W5	CF	1
MAROON-BACKED ACCENTOR	*Prunella immaculata*			W3	F	I
BAYA WEAVER	*Ploceus philippinus*			S5	C	1
WHITE-RUMPED MUNIA	*Lonchura striata*			R3	CF	I
SCALY-BREASTED MUNIA	*Lonchura punctulata*			R4	CF	1
BLACK-HEADED MUNIA	*Lonchura malacca*			M5	CG	I
CHAFFINCH	*Fringilla coelebs*			W3	CF	I
BRAMBLING	*Fringilla montifringilla*			W4	CF	I
FIRE-FRONTED SERIN	*Serinus pusillus*			R2	FR	1
TIBETAN SISKIN	*Carduelis thibetana*			W4	F	I
YELLOW-BREASTED GREENFINCH	*Carduelis spinoides*			RI	CF	I
EUROPEAN GOLDFINCH	*Carduelis carduelis*			R4	CF	I
TWITE	*Carduelis flavirostris*			R4	GR	1
PLAIN MOUNTAIN FINCH	*Leucosticte nemoricola*			RI	CFGR	1
BRANDT'S MOUNTAIN FINCH	*Leucosticte brandti*			R3	GR	I
SPECTACLED FINCH	*Callacanthis burtoni*	RR		R?W4	F	1
MONGOLIAN FINCH	*Bucanetes mongolicus*			M5	R	I
BLANFORD'S ROSEFINCH	*Carpodacus rubescens*			W5	F	1
DARK-BREASTED ROSEFINCH	*Carpodacus nipalensis*			R2	F	1
COMMON ROSEFINCH	*Carpodacus erythrinus*			R2	CF	I
BEAUTIFUL ROSEFINCH	*Carpodacus pulcherrimus*			R1	CF	1
PINK-BROWED ROSEFINCH	*Carpodacus rodochrous*			R2	F	I
VINACEOUS ROSEFINCH	*Carpodacus vinaceus*			R?5	F	I
DARK-RUMPED ROSEFINCH	*Carpodacus edwardsii*			R?5	F	2
SPOT-WINGED ROSEFINCH	*Carpodacus rodopeplus*			R3	F	1
WHITE-BROWED ROSEFINCH	*Carpodacus thura*			R3	F	1
STREAKED ROSEFINCH	*Carpodacus rubicilloides*			W2	FR	I
GREAT ROSEFINCH	*Carpodacus rubicilla*			R4	FR	I
RED-FRONTED ROSEFINCH	*Carpodacus puniceus*			R?W4	R	1
CRIMSON-BROWED FINCH	*Propyrrhula subhimachala*			R?W3	F	1
SCARLET FINCH	*Haematospiza sipahi*			R4	F	I
RED CROSSBILL	*Loxia curvirostra*			R?3	F	1
BROWN BULLFINCH	*Pyrrhula nipalensis*			R4	F	I
RED-HEADED BULLFINCH	*Pyrrhula erythrocephala*			R2	F	I
BLACK-AND-YELLOW GROSBEAK	*Mycerobas icterioides*			V	F	12
COLLARED GROSBEAK	*Mycerobas affinis*			R3	F	I
SPOT-WINGED GROSBEAK	*Mycerobas melanozanthos*			R?5	F	I
WHITE-WINGED GROSBEAK	*Mycerobas carnipes*			R3	F	I
GOLD-NAPED FINCH	*Pyrrhoplectes epauletta*			R5	F	I
CRESTED BUNTING	*Melophus lathami*			R2	CR	I
YELLOWHAMMER	*Emberiza citrinella*			W5	C	I
PINE BUNTING	*Emberiza leucocephalos*			W3	CG	I
ROCK BUNTING	*Emberiza cia*			RI	GR	1
CHESTNUT-EARED BUNTING	*Emberiza fucata*			V	R	I
LITTLE BUNTING	*Emberiza pusilla*			W2	CG	1
RUSTIC BUNTING	*Emberiza rustica*			V	G	I

Key to main habitat types

A Aerial
C Cultivation
F Forest and/or Scrub
G Grassland
O Open habitats
R Rocky ground
W Wetlands

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APPENDIX 2

BIRD CHECKLISTS OF IMPORTANT BIRD SITES IN ANNAPURNA CONSERVATION AREA

Species English Name	**Species Scientific Name**	Ghorepani	Ghorepani to Ghandrung	Ghasa	Pipar	Samtel Prop. Extension Area	Modi Khola Watershed
SNOW PARTRIDGE	*Lerwa lerwa*				X		X
TIBETAN SNOWCOCK	*Tetraogallus tibetanus*				X		
CHUKAR	*Alectoris chukar*				X		
BLACK FRANCOLIN	*Francolinus francolinus*					X	X
HILL PARTRIDGE	*Arborophila torqueola*	X	X	X	X	X	X
RUFOUS-THROATED PARTRIDGE	*Arborophila rufogularis*						X
BLOOD PHEASANT	*Ithaginis cruentus*			X	X	X	
SATYR TRAGOPAN	*Tragopan satyra*	X	X	X	X	X	X
KOKLASS PHEASANT	*Pucrasia macrolopha*	X	X	X	X	X	
HIMALAYAN MONAL	*Lophophorus impejanus*	X	X	X	X	X	X
KALIJ PHEASANT	*Lophura leucomelanos*	X	X	X	X	X	X
CHEER PHEASANT	*Catreus wallichii*			X			
YELLOW-RUMPED HONEYGUIDE	*Indicator xanthonotus*			X	X		X
SPECKLED PICULET	*Picumnus innominatus*			X			
BROWN-FRONTED WOODPECKER	*Dendrocopos auriceps*	X	X				
FULVOUS-BREASTED WOODPECKER	*Dendrocopos macei*	X					
RUFOUS-BELLIED WOODPECKER	*Dendrocopos hyperythrus*	X	X	X	X		X
CRIMSON-BREASTED WOODPECKER	*Dendrocopos cathpharius*	X	X	X		X	X
DARJEELING WOODPECKER	*Dendrocopos darjellensis*	X	X	X	X		X
LESSER YELLOWNAPE	*Picus chlorolophus*					X	
GREATER YELLOWNAPE	*Picus flavinucha*						X
SCALY-BELLIED WOODPECKER	*Picus squamatus*	X		X	X	X	X
GREY-HEADED WOODPECKER	*Picus canus*	X		X	X		X
BAY WOODPECKER	*Blythipicus pyrrhotis*		X				X
GREAT BARBET	*Megalaima virens*	X	X	X	X	X	X
GOLDEN-THROATED BARBET	*Megalaima franklinii*				X	X	X
BLUE-THROATED BARBET	*Megalaima asiatica*					X	X
COMMON HOOPOE	*Upupa epops*				X		X
INDIAN ROLLER	*Coracias benghalensis*			X			
COMMON KINGFISHER	*Alcedo atthis*						X
WHITE-THROATED KINGFISHER	*Halcyon smyrnensis*						X
LARGE HAWK CUCKOO	*Hierococcyx sparverioides*	X	X	X	X	X	X
INDIAN CUCKOO	*Cuculus micropterus*				X	X	X
EURASIAN CUCKOO	*Cuculus canorus*	X	X	X	X	X	X
ORIENTAL CUCKOO	*Cuculus saturatus*	X	X	X	X	X	X
LESSER CUCKOO	*Cuculus poliocephalus*				X	X	X
ASIAN EMERALD CUCKOO	*Chrysococcyx maculatus*		X				
DRONGO CUCKOO	*Surniculus lugubris*					X	X
SLATY-HEADED PARAKEET	*Psittacula himalayana*				X		X
HIMALAYAN SWIFTLET	*Collocalia brevirostris*	X	X	X	X	X	X
WHITE-THROATED NEEDLETAIL	*Hirundapus caudacutus*	X					X
ALPINE SWIFT	*Tachymarptis melba*	X					X
COMMON SWIFT	*Apus apus*	X					
FORK-TAILED SWIFT	*Apus pacificus*	X	X	X	X	X	X
HOUSE SWIFT	*Apus affinis*					X	X
MOUNTAIN SCOPS OWL	*Otus spilocephalus*	X	X	X	X	X	X
EURASIAN EAGLE OWL	*Bubo bubo*						X
BROWN WOOD OWL	*Strix leptogrammica*						X
TAWNY OWL	*Strix aluco*		X	X	X		X

Species English Name	**Species Scientific Name**	Ghorepani	Ghorepani to Ghandrung	Ghasa	Pipar	Samtel Prop. Extension Area	Modi Khola Watershed
COLLARED OWLET	*Glaucidium brodiei*	X	X	X	X	X	X
ASIAN BARRED OWLET	*Glaucidium cuculoides*						X
LONG-EARED OWL	*Asio otus*				X		
SHORT-EARED OWL	*Asio flammeus*		X		X		
GREY NIGHTJAR	*Caprimulgus indicus*	X	X	X	X	X	X
ROCK PIGEON	*Columba livia*	X		X		X	X
HILL PIGEON	*Columba rupestris*	X		X			
SNOW PIGEON	*Columba leuconota*	X		X	X		X
COMMON WOOD PIGEON	*Columba palumbus*	X					
SPECKLED WOOD PIGEON	*Columba hodgsonii*	X	X				X
ASHY WOOD PIGEON	*Columba pulchricollis*	X	X	X	X	X	X
ORIENTAL TURTLE DOVE	*Streptopelia orientalis*	X	X	X	X	X	X
SPOTTED DOVE	*Streptopelia chinensis*					X	X
COLLARED DOVE	*Streptopelia decaocto*	X					
BARRED CUCKOO DOVE	*Macropygia unchall*		X		X		X
WEDGE-TAILED GREEN PIGEON	*Treron sphenura*				X	X	X
EURASIAN WOODCOCK	*Scolopax rusticola*	X			X	X	X
SOLITARY SNIPE	*Gallinago solitaria*	X		X			
WOOD SNIPE	*Gallinago nemoricola*	X		X			
RIVER LAPWING	*Vanellus duvaucelii*	X					
ORIENTAL HONEY-BUZZARD	*Pernis ptilorhyncus*	X			X		X
BLACK KITE	*Milvus migrans*	X		X	X	X	X
WHITE-TAILED EAGLE	*Haliaeetus albicilla*					X	
LAMMERGEIER	*Gypaetus barbatus*	X	X	X	X		X
EGYPTIAN VULTURE	*Neophron percnopterus*	X	X		X	X	X
WHITE-RUMPED VULTURE	*Gyps bengalensis*					X	X
HIMALAYAN GRIFFON	*Gyps himalayensis*	X	X	X	X	X	X
EURASIAN GRIFFON	*Gyps fulvus*	X		X			X
CINEREOUS VULTURE	*Aegypius monachus*	X	X	X	X		X
RED-HEADED VULTURE	*Sarcogyps calvus*	X	X				X
CRESTED SERPENT EAGLE	*Spilornis cheela*				X	X	X
HEN HARRIER	*Circus cyaneus*	X	X	X	X	X	X
PALLID HARRIER	*Circus macrourus*	X					
NORTHERN GOSHAWK	*Accipiter gentilis*	X	X	X	X	X	X
CRESTED GOSHAWK	*Accipiter trivirgatus*						X
SHIKRA	*Accipiter badius*						X
BESRA	*Accipiter virgatus*		X				X
EURASIAN SPARROWHAWK	*Accipiter nisus*	X	X	X	X	X	X
COMMON BUZZARD	*Buteo buteo*	X	X	X	X		X
LONG-LEGGED BUZZARD	*Buteo rufinus*	X	X				
UPLAND BUZZARD	*Buteo hemilasius*	X	X	X			
BLACK EAGLE	*Ictinaetus malayensis*	X	X	X	X	X	X
GREATER SPOTTED EAGLE	*Aquila clanga*	X					
STEPPE EAGLE	*Aquila nipalensis*	X	X	X	X		X
IMPERIAL EAGLE	*Aquila heliaca*	X					
GOLDEN EAGLE	*Aquila chrysaetos*	X		X			X
BONELLI'S EAGLE	*Hieraaetus fasciatus*	X	X	X			X
BOOTED EAGLE	*Hieraaetus pennatus*			X			X
MOUNTAIN HAWK EAGLE	*Spizaetus nipalensis*	X	X		X	X	X
LESSER KESTREL	*Falco naumanni*					X	
COMMON KESTREL	*Falco tinnunculus*	X	X	X	X	X	X
MERLIN	*Falco columbarius*			X			
EURASIAN HOBBY	*Falco subbuteo*				X		
ORIENTAL HOBBY	*Falco severus*						X
SAKER FALCON	*Falco cherrug*			X			

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PEREGRINE FALCON	*Falco peregrinus*	X	X	X	X	X	X
CATTLE EGRET	*Bubulcus ibis*				X	X	
LITTLE EGRET	*Egretta garzetta*	X	X				
INDIAN POND HERON	*Ardeola grayii*					X	
ORANGE-BELLIED LEAFBIRD	*Chloropsis hardwickii*						X
LONG-TAILED SHRIKE	*Lanius schach*				X	X	X
GREY-BACKED SHRIKE	*Lanius tephronotus*			X		X	
EURASIAN JAY	*Garrulus glandarius*		X				X
BLACK-HEADED JAY	*Garrulus lanceolatus*		X				
YELLOW-BILLED BLUE MAGPIE	*Urocissa flavirostris*	X	X	X	X	X	X
RED-BILLED BLUE MAGPIE	*Urocissa erythrorhyncha*		X			X	X
COMMON GREEN MAGPIE	*Cissa chinensis*					X	X
RUFOUS TREEPIE	*Dendrocitta vagabunda*	X	X				
GREY TREEPIE	*Dendrocitta formosae*		X		X	X	X
SPOTTED NUTCRACKER	*Nucifraga caryocatactes*	X		X	X		X
RED-BILLED CHOUGH	*Pyrrhocorax pyrrhocorax*			X	X		X
YELLOW-BILLED CHOUGH	*Pyrrhocorax graculus*			X	X		X
HOUSE CROW	*Corvus splendens*		X				
LARGE-BILLED CROW	*Corvus macrorhynchos*	X	X	X	X	X	X
COMMON RAVEN	*Corvus corax*						X
EURASIAN GOLDEN ORIOLE	*Oriolus oriolus*				X	X	X
MAROON ORIOLE	*Oriolus traillii*	X	X		X	X	X
LARGE CUCKOOSHRIKE	*Coracina macei*					X	
BLACK-WINGED CUCKOOSHRIKE	*Coracina melaschistos*					X	X
LONG-TAILED MINIVET	*Pericrocotus ethologus*	X	X	X	X	X	X
SHORT-BILLED MINIVET	*Pericrocotus brevirostris*		X			X	
SCARLET MINIVET	*Pericrocotus flammeus*		X		X	X	X
BAR-WINGED FLYCATCHER-SHRIKE	*Hemipus picatus*			X	X		X
YELLOW-BELLIED FANTAIL	*Rhipidura hypoxantha*	X	X	X	X	X	X
WHITE-THROATED FANTAIL	*Rhipidura albicollis*			X		X	X
BLACK DRONGO	*Dicrurus macrocercus*					X	
ASHY DRONGO	*Dicrurus leucophaeus*	X			X	X	X
BRONZED DRONGO	*Dicrurus aeneus*		X		X	X	X
LESSER RACKET-TAILED DRONGO	*Dicrurus remifer*				X	X	X
SPANGLED DRONGO	*Dicrurus hottentottus*						X
BROWN DIPPER	*Cinclus pallasii*	X		X	X	X	X
BLUE-CAPPED ROCK THRUSH	*Monticola cinclorhynchus*						X
CHESTNUT-BELLIED ROCK THRUSH	*Monticola rufiventris*	X	X	X	X	X	X
BLUE ROCK THRUSH	*Monticola solitarius*		X				
BLUE WHISTLING THRUSH	*Myophonus caeruleus*	X	X	X	X	X	X
PIED THRUSH	*Zoothera wardii*			X			X
ORANGE-HEADED THRUSH	*Zoothera citrina*				X		
PLAIN-BACKED THRUSH	*Zoothera mollissima*	X	X	X	X		X
LONG-TAILED THRUSH	*Zoothera dixoni*	X	X	X	X		
SCALY THRUSH	*Zoothera dauma*	X		X	X		X
LONG-BILLED THRUSH	*Zoothera monticola*	X	X	X	X		X
TICKELL'S THRUSH	*Turdus unicolor*						X
WHITE-COLLARED BLACKBIRD	*Turdus albocinctus*	X	X	X	X	X	X
GREY-WINGED BLACKBIRD	*Turdus boulboul*	X	X	X		X	X
EURASIAN BLACKBIRD	*Turdus merula*	X					
CHESTNUT THRUSH	*Turdus rubrocanus*	X	X	X			
DARK-THROATED THRUSH	*Turdus ruficollis*	X	X	X	X		X
DUSKY THRUSH	*Turdus naumanni*	X					
MISTLE THRUSH	*Turdus viscivorus*	X	X	X	X		
GOULD'S SHORTWING	*Brachypteryx stellata*						X

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WHITE-BROWED SHORTWING	*Brachypteryx montana*				X		X
DARK-SIDED FLYCATCHER	*Muscicapa sibirica*	X	X		X	X	X
SLATY-BACKED FLYCATCHER	*Ficedula hodgsonii*						X
RUFOUS-GORGETED FLYCATCHER	*Ficedula strophiata*	X	X		X	X	X
WHITE-GORGETED FLYCATCHER	*Ficedula monileger*			X			
SNOWY-BROWED FLYCATCHER	*Ficedula hyperythra*		X	X			X
LITTLE PIED FLYCATCHER	*Ficedula westermanni*				X		
ULTRAMARINE FLYCATCHER	*Ficedula superciliaris*	X	X	X	X	X	X
SLATY-BLUE FLYCATCHER	*Ficedula tricolor*			X			X
VERDITER FLYCATCHER	*Eumyias thalassina*	X	X	X	X	X	X
LARGE NILTAVA	*Niltava grandis*	X				X	
SMALL NILTAVA	*Niltava macgrigoriae*		X	X		X	X
RUFOUS-BELLIED NILTAVA	*Niltava sundara*	X	X	X	X	X	X
PYGMY BLUE FLYCATCHER	*Muscicapella hodgsoni*	X	X				
GREY-HEADED CANARY FLYCATCHER	*Culicicapa ceylonensis*	X	X	X	X	X	X
WHITE-TAILED RUBYTHROAT	*Luscinia pectoralis*						X
INDIAN BLUE ROBIN	*Luscinia brunnea*		X	X	X	X	X
ORANGE-FLANKED BUSH ROBIN	*Tarsiger cyanurus*	X	X	X	X	X	X
GOLDEN BUSH ROBIN	*Tarsiger chrysaeus*	X		X	X	X	X
WHITE-BROWED BUSH ROBIN	*Tarsiger indicus*	X	X	X	X	X	X
RUFOUS-BREASTED BUSH ROBIN	*Tarsiger hyperythrus*	X	X		X		X
ORIENTAL MAGPIE ROBIN	*Copsychus saularis*					X	X
BLUE-CAPPED REDSTART	*Phoenicurus coeruleocephalus*	X	X	X	X		X
BLACK REDSTART	*Phoenicurus ochruros*	X			X		X
HODGSON'S REDSTART	*Phoenicurus hodgsoni*			X			
WHITE-THROATED REDSTART	*Phoenicurus schisticeps*	X	X				
BLUE-FRONTED REDSTART	*Phoenicurus frontalis*	X	X	X	X	X	X
WHITE-CAPPED WATER REDSTART	*Chaimarrornis leucocephalus*	X	X	X	X	X	X
PLUMBEOUS WATER REDSTART	*Rhyacornis fuliginosus*	X		X	X	X	X
WHITE-TAILED ROBIN	*Myiomela leucura*		X				X
GRANDALA	*Grandala coelicolor*		X	X	X		X
LITTLE FORKTAIL	*Enicurus scouleri*		X	X	X		X
SLATY-BACKED FORKTAIL	*Enicurus schistaceus*						X
SPOTTED FORKTAIL	*Enicurus maculatus*	X	X	X		X	X
COMMON STONECHAT	*Saxicola torquata*	X	X	X		X	X
PIED BUSHCHAT	*Saxicola caprata*					X	X
GREY BUSHCHAT	*Saxicola ferrea*	X	X	X	X	X	X
ISABELLINE WHEATEAR	*Oenanthe isabellina*						X
COMMON MYNA	*Acridotheres tristis*		X			X	X
JUNGLE MYNA	*Acridotheres fuscus*				X	X	X
CHESTNUT-BELLIED NUTHATCH	*Sitta castanea*						X
WHITE-TAILED NUTHATCH	*Sitta himalayensis*	X	X	X	X	X	X
VELVET-FRONTED NUTHATCH	*Sitta frontalis*						X
WALLCREEPER	*Tichodroma muraria*	X		X	X		X
EURASIAN TREECREEPER	*Certhia familiaris*	X	X	X			X
BAR-TAILED TREECREEPER	*Certhia himalayana*	X		X			
RUSTY-FLANKED TREECREEPER	*Certhia nipalensis*	X	X	X	X	X	X
BROWN-THROATED TREECREEPER	*Certhia discolor*			X			
WINTER WREN	*Troglodytes troglodytes*	X	X	X	X		X
FIRE-CAPPED TIT	*Cephalopyrus flammiceps*			X			X
RUFOUS-VENTED TIT	*Parus rubidiventris*	X	X	X	X	X	X
COAL TIT	*Parus ater*	X	X	X			
GREY-CRESTED TIT	*Parus dichrous*	X	X	X	X	X	X
GREAT TIT	*Parus major*						X
GREEN-BACKED TIT	*Parus monticolus*	X	X	X	X	X	X

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BLACK-LORED TIT	*Parus xanthogenys*	X	X			X	
YELLOW-BROWED TIT	*Sylviparus modestus*	X	X	X			X
BLACK-THROATED TIT	*Aegithalos concinnus*	X	X	X	X	X	X
WHITE-THROATED TIT	*Aegithalos niveogularis*	X	X				
RUFOUS-FRONTED TIT	*Aegithalos iouschistos*	X	X				X
PLAIN MARTIN	*Riparia paludicola*					X	
EURASIAN CRAG MARTIN	*Hirundo rupestris*	X		X	X		
BARN SWALLOW	*Hirundo rustica*				X	X	X
RED-RUMPED SWALLOW	*Hirundo daurica*				X	X	X
NORTHERN HOUSE MARTIN	*Delichon urbica*					X	
ASIAN HOUSE MARTIN	*Delichon dasypus*	X		X	X	X	
NEPAL HOUSE MARTIN	*Delichon nipalensis*	X	X	X		X	X
GOLDCREST	*Regulus regulus*	X	X	X	X		X
STRIATED BULBUL	*Pycnonotus striatus*				X	X	X
HIMALAYAN BULBUL	*Pycnonotus leucogenys*		X	X	X	X	X
RED-VENTED BULBUL	*Pycnonotus cafer*					X	X
MOUNTAIN BULBUL	*Hypsipetes mcclellandii*	X	X		X	X	X
BLACK BULBUL	*Hypsipetes leucocephalus*	X	X	X	X	X	X
STRIATED PRINIA	*Prinia criniger*			X		X	X
ORIENTAL WHITE-EYE	*Zosterops palpebrosus*			X		X	X
CHESTNUT-HEADED TESIA	*Tesia castaneocoronata*	X	X		X	X	X
CHESTNUT-CROWNED BUSH WARBLER	*Cettia major*				X	X	
ABERRANT BUSH WARBLER	*Cettia flavolivacea*	X	X	X		X	X
YELLOWISH-BELLIED BUSH WARBLER	*Cettia acanthizoides*	X	X				X
GREY-SIDED BUSH WARBLER	*Cettia brunnifrons*	X	X	X	X	X	X
SPOTTED BUSH WARBLER	*Bradypterus thoracicus*				X		
COMMON TAILORBIRD	*Orthotomus sutorius*					X	X
COMMON CHIFFCHAFF	*Phylloscopus collybita*			X			
TICKELL'S LEAF WARBLER	*Phylloscopus affinis*	X		X	X	X	X
BUFF-BARRED WARBLER	*Phylloscopus pulcher*	X		X	X	X	X
ASHY-THROATED WARBLER	*Phylloscopus maculipennis*	X	X	X	X	X	X
LEMON-RUMPED WARBLER	*Phylloscopus chloronotus*	X	X	X	X	X	X
HUME'S WARBLER	*Phylloscopus humei*	X	X	X	X	X	X
GREENISH WARBLER	*Phylloscopus trochiloides*	X			X	X	X
LARGE-BILLED LEAF WARBLER	*Phylloscopus magnirostris*	X	X	X	X		X
WESTERN CROWNED WARBLER	*Phylloscopus occipitalis*	X			X		X
BLYTH'S LEAF WARBLER	*Phylloscopus reguloides*	X	X	X		X	X
GOLDEN-SPECTACLED WARBLER	*Seicercus burkii*	X	X	X	X	X	X
WHISTLER'S WARBLER	*Seicercus whistleri*		X			X	X
GREY-HOODED WARBLER	*Seicercus xanthoschistos*		X	X	X	X	X
CHESTNUT-CROWNED WARBLER	*Seicercus castaniceps*	X	X		X	X	X
BLACK-FACED WARBLER	*Abroscopus schisticeps*	X	X	X	X		X
WHITE-THROATED LAUGHINGTHRUSH	*Garrulax albogularis*	X	X	X	X	X	X
WHITE-CRESTED LAUGHINGTHRUSH	*Garrulax leucolophus*					X	X
STRIATED LAUGHINGTHRUSH	*Garrulax striatus*	X	X		X	X	X
RUFOUS-CHINNED LAUGHINGTHRUSH	*Garrulax rufogularis*		X				
SPOTTED LAUGHINGTHRUSH	*Garrulax ocellatus*	X	X	X	X	X	X
GREY-SIDED LAUGHINGTHRUSH	*Garrulax caerulatus*				X		
STREAKED LAUGHINGTHRUSH	*Garrulax lineatus*	X	X	X	X	X	X
BLUE-WINGED LAUGHINGTHRUSH	*Garrulax squamatus*					X	
SCALY LAUGHINGTHRUSH	*Garrulax subunicolor*				X		X
VARIEGATED LAUGHINGTHRUSH	*Garrulax variegatus*	X	X	X	X		X
BLACK-FACED LAUGHINGTHRUSH	*Garrulax affinis*	X	X	X	X	X	X
CHESTNUT-CROWNED LAUGHINGTHRUSH	*Garrulax erythrocephalus*	X	X	X	X	X	X
WHITE-BROWED SCIMITAR BABBLER	*Pomatorhinus schisticeps*				X		X

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RUSTY-CHEEKED SCIMITAR BABBLER	*Pomatorhinus schisticeps*		X				
STREAK-BREASTED SCIMITAR BABBLER	*Pomatorhinus ruficollis*		X	X			X
SLENDER-BILLED SCIMITAR BABBLER	*Xiphirhynchus superciliaris*		X				X
SCALY-BREASTED WREN BABBLER	*Pnoepyga albiventer*	X	X	X	X	X	X
NEPAL WREN BABBLER	*Pnoepyga immaculata*			X		X	
PYGMY WREN BABBLER	*Pnoepyga pusilla*						X
BLACK-CHINNED BABBLER	*Stachyris pyrrhops*		X	X			X
GOLDEN BABBLER	*Stachyris chrysaea*				X		X
GREY-THROATED BABBLER	*Stachyris nigriceps*						X
SPINY BABBLER	*Turdoides nipalensis*						X
RED-BILLED LEIOTHRIX	*Leiothrix lutea*		X	X	X	X	X
CUTIA	*Cutia nipalensis*				X	X	X
BLACK-HEADED SHRIKE BABBLER	*Pteruthius rufiventer*		X		X		X
WHITE-BROWED SHRIKE BABBLER	*Pteruthius flaviscapis*		X	X	X	X	X
GREEN SHRIKE BABBLER	*Pteruthius xanthochlorus*	X	X	X	X	X	X
BLACK-EARED SHRIKE BABBLER	*Pteruthius melanotis*	X	X			X	X
HOARY-THROATED BARWING	*Actinodura nipalensis*	X	X		X	X	X
BLUE-WINGED MINLA	*Minla cyanouroptera*		X			X	X
CHESTNUT-TAILED MINLA	*Minla strigula*	X	X	X	X	X	X
RED-TAILED MINLA	*Minla ignotincta*	X					X
GOLDEN-BREASTED FULVETTA	*Alcippe chrysotis*		X		X	X	X
RUFOUS-WINGED FULVETTA	*Alcippe castaneceps*	X	X		X	X	X
WHITE-BROWED FULVETTA	*Alcippe vinipectus*	X	X	X	X	X	X
NEPAL FULVETTA	*Alcippe nipalensis*		X			X	X
WHISKERED YUHINA	*Yuhina flavicollis*	X	X	X	X	X	X
STRIPE-THROATED YUHINA	*Yuhina gularis*	X	X	X	X	X	X
RUFOUS-VENTED YUHINA	*Yuhina occipitalis*	X	X	X	X	X	X
WHITE-BELLIED YUHINA	*Yuhina zantholeuca*				X		X
FIRE-TAILED MYZORNIS	*Myzornis pyrrhoura*			X			
RUFOUS-BACKED SIBIA	*Heterophasia annectans*					X	
RUFOUS SIBIA	*Heterophasia capistrata*	X	X	X	X	X	X
GREAT PARROTBILL	*Conostoma oemodium*	X	X	X	X	X	X
BROWN PARROTBILL	*Paradoxornis unicolor*	X	X		X		
FULVOUS PARROTBILL	*Paradoxornis fulvifrons*		X		X		X
BLACK-THROATED PARROTBILL	*Paradoxornis nipalensis*	X		X	X	X	X
ORIENTAL SKYLARK	*Alauda gulgula*	X					
YELLOW-BELLIED FLOWERPECKER	*Dicaeum melanoxanthum*	X					X
FIRE-BREASTED FLOWERPECKER	*Dicaeum ignipectus*	X	X	X	X	X	X
PURPLE SUNBIRD	*Nectarinia asiatica*			X			
MRS GOULD'S SUNBIRD	*Aethopyga gouldiae*	X		X			X
GREEN-TAILED SUNBIRD	*Aethopyga nipalensis*	X	X	X	X	X	X
BLACK-THROATED SUNBIRD	*Aethopyga saturata*			X	X	X	X
CRIMSON SUNBIRD	*Aethopyga siparaja*					X	
FIRE-TAILED SUNBIRD	*Aethopyga ignicauda*	X	X	X	X	X	X
HOUSE SPARROW	*Passer domesticus*					X	X
RUSSET SPARROW	*Passer rutilans*	X	X	X			X
EURASIAN TREE SPARROW	*Passer montanus*	X	X	X		X	X
RUFOUS-NECKED SNOWFINCH	*Pyrgilauda ruficollis*				X		
WHITE WAGTAIL	*Motacilla alba*				X		
CITRINE WAGTAIL	*Motacilla citreola*				X		
GREY WAGTAIL	*Motacilla cinerea*	X	X	X	X	X	X
PADDYFIELD PIPIT	*Anthus rufulus*		X				
UPLAND PIPIT	*Anthus sylvanus*			X	X		X
TREE PIPIT	*Anthus trivialis*		X				
OLIVE-BACKED PIPIT	*Anthus hodgsoni*	X	X	X	X	X	X

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ROSY PIPIT	*Anthus roseatus*	X		X	X	X	X
ALPINE ACCENTOR	*Prunella collaris*	X	X	X	X		X
ALTAI ACCENTOR	*Prunella himalayana*	X	X	X	X		X
ROBIN ACCENTOR	*Prunella rubeculoides*				X		
RUFOUS-BREASTED ACCENTOR	*Prunella strophiata*	X	X	X	X	X	X
MAROON-BACKED ACCENTOR	*Prunella immaculata*	X		X	X		
BAYA WEAVER	*Ploceus philippinus*						X
WHITE-RUMPED MUNIA	*Lonchura striata*					X	X
CHAFFINCH	*Fringilla coelebs*	X		X			
FIRE-FRONTED SERIN	*Serinus pusillus*	X	X				
TIBETAN SISKIN	*Carduelis thibetana*	X	X				
YELLOW-BREASTED GREENFINCH	*Carduelis spinoides*	X	X	X		X	X
EUROPEAN GOLDFINCH	*Carduelis carduelis*	X					
PLAIN MOUNTAIN FINCH	*Leucosticte nemoricola*	X	X	X	X		X
BRANDT'S MOUNTAIN FINCH	*Leucosticte brandti*	X	X	X			
SPECTACLED FINCH	*Callacanthis burtoni*	X	X	X			
BLANFORD'S ROSEFINCH	*Carpodacus rubescens*	X	X				X
DARK-BREASTED ROSEFINCH	*Carpodacus nipalensis*	X	X	X	X	X	X
COMMON ROSEFINCH	*Carpodacus erythrinus*	X	X		X	X	X
BEAUTIFUL ROSEFINCH	*Carpodacus pulcherrimus*	X	X	X	X		X
PINK-BROWED ROSEFINCH	*Carpodacus rodochrous*	X	X	X	X	X	X
VINACEOUS ROSEFINCH	*Carpodacus vinaceus*	X	X	X			
DARK-RUMPED ROSEFINCH	*Carpodacus edwardsii*	X					
SPOT-WINGED ROSEFINCH	*Carpodacus rodopeplus*	X	X	X	X	X	X
WHITE-BROWED ROSEFINCH	*Carpodacus thura*	X	X	X	X	X	X
RED-FRONTED ROSEFINCH	*Carpodacus puniceus*			X	X		X
CRIMSON-BROWED FINCH	*Propyrrhula subhimachala*	X	X		X		
SCARLET FINCH	*Haematospiza sipahi*				X	X	X
RED CROSSBILL	*Loxia curvirostra*	X	X				
BROWN BULLFINCH	*Pyrrhula nipalensis*	X	X				
RED-HEADED BULLFINCH	*Pyrrhula erythrocephala*	X	X	X	X	X	X
BLACK-AND-YELLOW GROSBEAK	*Mycerobas icterioides*		X				
COLLARED GROSBEAK	*Mycerobas affinis*	X	X	X	X	X	
SPOT-WINGED GROSBEAK	*Mycerobas melanozanthos*					X	X
WHITE-WINGED GROSBEAK	*Mycerobas carnipes*				X	X	
GOLD-NAPED FINCH	*Pyrrhoplectes epauletta*	X	X		X	X	X
CRESTED BUNTING	*Melophus lathami*					X	X
ROCK BUNTING	*Emberiza cia*			X			
LITTLE BUNTING	*Emberiza pusilla*	X					X

APPENDIX 3

LIST OF MAIN FOREST TYPES AND THEIR BIRDS IN ANNAPURNA CONSERVATION AREA

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Subtropical	Subtropical broadleaves	Lower temperate	Lower temperate broadleaves	Upper temperate	Upper temperate broadleaves	Subalpine	Alpine
HILL PARTRIDGE	*Arborophila torqueola*			x	x	x	x		
RUFOUS-THROATED PARTRIDGE	*Arborophila rufogularis*	x	x						
BLOOD PHEASANT	*Ithaginis cruentus*							x	
SATYR TRAGOPAN	*Tragopan satyra*			x	x	x	x	x	
KOKLASS PHEASANT	*Pucrasia macrolopha*			x	x	x		x	
HIMALAYAN MONAL	*Lophophorus impejanus*					x	x	x	
KALIJ PHEASANT	*Lophura leucomelanos*	x	x	x	x	x	x		
CHEER PHEASANT	*Catreus wallichii*			x		x			
YELLOW-RUMPED HONEYGUIDE	*Indicator xanthonotus*			x	x	x	x		
SPECKLED PICULET	*Picumnus innominatus*	x	x	x					
BROWN-FRONTED WOODPECKER	*Dendrocopos auriceps*	x	x	x	x				
FULVOUS-BREASTED WOODPECKER	*Dendrocopos macei*	x	x						
RUFOUS-BELLIED WOODPECKER	*Dendrocopos hyperythrus*			x	x				
CRIMSON-BREASTED WOODPECKER	*Dendrocopos cathpharius*	x	x	x	x	x	x		
DARJEELING WOODPECKER	*Dendrocopos darjellensis*	x	x	x	x	x	x		
RUFOUS WOODPECKER	*Celeus brachyurus*	x	x						
LESSER YELLOWNAPE	*Picus chlorolophus*	x	x						
GREATER YELLOWNAPE	*Picus flavinucha*	x	x						
SCALY-BELLIED WOODPECKER	*Picus squamatus*			x	x	x	x	x	
GREY-HEADED WOODPECKER	*Picus canus*	x	x						
GREATER FLAMEBACK	*Chrysocolaptes lucidus*	x	x						
BAY WOODPECKER	*Blythipicus pyrrhotis*	x	x	x	x				
GREAT BARBET	*Megalaima virens*	x	x	x	x				
GOLDEN-THROATED BARBET	*Megalaima franklinii*	x	x	x	x				
BLUE-THROATED BARBET	*Megalaima asiatica*	x	x						
RED-HEADED TROGON	*Harpactes erythrocephalus*	x	x						
INDIAN ROLLER	*Coracias bengalensis*	x							
LARGE HAWK CUCKOO	*Hierococcyx sparverioides*	x	x	x	x	x	x		
INDIAN CUCKOO	*Cuculus micropterus*	x	x	x	x				
EURASIAN CUCKOO	*Cuculus canorus*	x	x	x	x	x	x	x	
ORIENTAL CUCKOO	*Cuculus saturatus*	x	x	x	x	x	x	x	
LESSER CUCKOO	*Cuculus poliocephalus*	x	x	x	x	x	x	x	
GREY-BELLIED CUCKOO	*Cacomantis passerinus*	x	x						
ASIAN EMERALD CUCKOO	*Chrysococcyx maculatus*	x	x						
DRONGO CUCKOO	*Surniculus lugubris*	x	x						
ASIAN KOEL	*Eudynamys scolopacea*	x	x						
GREEN-BILLED MALKOHA	*Phaenicophaeus tristis*	x	x						
SLATY-HEADED PARAKEET	*Psittacula himalayana*	x	x	x	x				
MOUNTAIN SCOPS OWL	*Otus spilocephalus*	x	x	x	x	x	x		
ORIENTAL SCOPS OWL	*Otus sunia*	x	x						
EURASIAN EAGLE OWL	*Bubo bubo*	x	x						
SPOT-BELLIED EAGLE OWL	*Bubo nipalensis*	x	x	x	x				
BROWN WOOD OWL	*Strix leptogrammica*	x	x	x	x	x	x		
TAWNY OWL	*Strix aluco*			x	x	x	x		
COLLARED OWLET	*Glaucidium brodiei*	x	x	x	x	x	x		
ASIAN BARRED OWLET	*Glaucidium cuculoides*	x	x	x	x				
JUNGLE OWLET	*Glaucidium radiatum*	x	x						
GREY NIGHTJAR	*Caprimulgus indicus*	x	x	x	x	x	x		

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Subtropical	Subtropical broadleaves	Lower temperate	Lower temperate broadleaves	Upper temperate	Upper temperate broadleaves	Subalpine	Alpine
COMMON WOOD PIGEON	*Columba palumbus*			x	x	x	x		
SPECKLED WOOD PIGEON	*Columba hodgsonii*	x	x	x	x	x	x		
ASHY WOOD PIGEON	*Columba pulchricollis*	x	x	x	x	x	x		
ORIENTAL TURTLE DOVE	*Streptopelia orientalis*	x	x	x	x	x	x	x	
BARRED CUCKOO DOVE	*Macropygia unchall*	x	x	x	x	x	x		
WEDGE-TAILED GREEN PIGEON	*Treron sphenura*	x	x	x	x				
EURASIAN WOODCOCK	*Scolopax rusticola*					x	x	x	
WOOD SNIPE	*Gallinago nemoricola*					x	x	x	
ORIENTAL HONEY-BUZZARD	*Pernis ptilorhyncus*	x	x						
RED-HEADED VULTURE	*Sarcogyps calvus*	x	x	x	x				
CRESTED SERPENT EAGLE	*Spilornis cheela*	x	x	x	x				
NORTHERN GOSHAWK	*Accipiter gentilis*			x	x	x	x	x	x
CRESTED GOSHAWK	*Accipiter trivirgatus*	x	x						
SHIKRA	*Accipiter badius*	x	x						
BESRA	*Accipiter virgatus*	x	x	x	x	x	x		
EURASIAN SPARROWHAWK	*Accipiter nisus*	x	x	x	x	x	x	x	x
BLACK EAGLE	*Ictinaetus malayensis*	x	x	x	x	x	x		
STEPPE EAGLE	*Aquila nipalensis*	x	x	x	x				
BONELLI'S EAGLE	*Hieraaetus fasciatus*	x	x	x	x	x	x		
BOOTED EAGLE	*Hieraaetus pennatus*					x	x	x	
MOUNTAIN HAWK EAGLE	*Spizaetus nipalensis*	x	x	x	x	x	x		
EURASIAN HOBBY	*Falco subbuteo*	x	x	x	x	x	x		
ORIENTAL HOBBY	*Falco severus*	x	x						
ORANGE-BELLIED LEAFBIRD	*Chloropsis hardwickii*	x	x	x	x				
BROWN SHRIKE	*Lanius cristatus*	x							
LONG-TAILED SHRIKE	*Lanius schach*	x							
GREY-BACKED SHRIKE	*Lanius tephronotus*			x		x		x	
EURASIAN JAY	*Garrulus glandarius*	x	x	x	x				
BLACK-HEADED JAY	*Garrulus lanceolatus*			x	x				
YELLOW-BILLED BLUE MAGPIE	*Urocissa flavirostris*					x	x	x	
RED-BILLED BLUE MAGPIE	*Urocissa erythrorhyncha*	x	x						
COMMON GREEN MAGPIE	*Cissa chinensis*	x	x						
GREY TREEPIE	*Dendrocitta formosae*	x	x	x	x				
SPOTTED NUTCRACKER	*Nucifraga caryocatactes*					x		x	
EURASIAN GOLDEN ORIOLE	*Oriolus oriolus*	x	x						
MAROON ORIOLE	*Oriolus traillii*	x	x	x	x				
LARGE CUCKOOSHRIKE	*Coracina macei*	x	x						
BLACK-WINGED CUCKOOSHRIKE	*Coracina melaschistos*	x	x						
GREY-CHINNED MINIVET	*Pericrocotus solaris*	x	x						
LONG-TAILED MINIVET	*Pericrocotus ethologus*	x	x	x	x	x	x	x	
SHORT-BILLED MINIVET	*Pericrocotus brevirostris*	x	x	x	x				
SCARLET MINIVET	*Pericrocotus flammeus*	x	x	x	x				
BAR-WINGED FLYCATCHER-SHRIKE	*Hemipus picatus*	x	x						
YELLOW-BELLIED FANTAIL	*Rhipidura hypoxantha*	x	x	x	x	x	x	x	
ASHY DRONGO	*Dicrurus leucophaeus*	x	x	x	x	x	x		
BRONZED DRONGO	*Dicrurus aeneus*	x	x						
LESSER RACKET-TAILED DRONGO	*Dicrurus remifer*	x	x						
SPANGLED DRONGO	*Dicrurus hottentottus*	x	x						
ASIAN PARADISE-FLYCATCHER	*Terpsiphone paradisi*	x	x						
BLUE-CAPPED ROCK THRUSH	*Monticola cinclorhynchus*	x	x	x	x				
CHESTNUT-BELLIED ROCK THRUSH	*Monticola rufiventris*			x	x	x	x	x	
BLUE WHISTLING THRUSH	*Myophonus caeruleus*	x	x	x	x	x	x	x	x
PIED THRUSH	*Zoothera wardii*	x	x	x	x	x			
ORANGE-HEADED THRUSH	*Zoothera citrina*	x	x						
PLAIN-BACKED THRUSH	*Zoothera mollissima*			x	x	x	x	x	

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Subtropical	Subtropical broadleaves	Lower temperate	Lower temperate broadleaves	Upper temperate	Upper temperate broadleaves	Subalpine	Alpine
LONG-TAILED THRUSH	*Zoothera dixoni*			x	x	x	x	x	
SCALY THRUSH	*Zoothera dauma*	x	x			x	x	x	
LONG-BILLED THRUSH	*Zoothera monticola*			x	x	x	x	x	
TICKELL'S THRUSH	*Turdus unicolor*	x	x	x	x				
WHITE-COLLARED BLACKBIRD	*Turdus albocinctus*	x	x	x	x	x	x	x	
GREY-WINGED BLACKBIRD	*Turdus boulboul*	x	x	x	x	x	x		
CHESTNUT THRUSH	*Turdus rubrocanus*			x	x	x	x		
DARK-THROATED THRUSH	*Turdus ruficollis*	x	x	x	x	x	x	x	
DUSKY THRUSH	*Turdus naumanni*					x			
MISTLE THRUSH	*Turdus viscivorus*			x		x		x	
GOULD'S SHORTWING	*Brachypteryx stellata*							x	
WHITE-BROWED SHORTWING	*Brachypteryx montana*			x	x	x	x	x	
DARK-SIDED FLYCATCHER	*Muscicapa sibirica*			x	x	x	x	x	
ASIAN BROWN FLYCATCHER	*Muscicapa dauurica*	x	x						
RUSTY-TAILED FLYCATCHER	*Muscicapa ruficauda*					x	x		
FERRUGINOUS FLYCATCHER	*Muscicapa ferruginea*			x	x	x	x		
RUFOUS-GORGETED FLYCATCHER	*Ficedula strophiata*	x	x	x	x	x	x	x	
RED-THROATED FLYCATCHER	*Ficedula parva*	x	x						
WHITE-GORGETED FLYCATCHER	*Ficedula monileger*			x	x				
SNOWY-BROWED FLYCATCHER	*Ficedula hyperythra*			x	x	x	x		
LITTLE PIED FLYCATCHER	*Ficedula westermanni*			x	x	x	x		
ULTRAMARINE FLYCATCHER	*Ficedula superciliaris*			x	x	x	x		
SLATY-BLUE FLYCATCHER	*Ficedula tricolor*			x	x			x	
VERDITER FLYCATCHER	*Eumyias thalassina*	x	x	x	x	x	x		
LARGE NILTAVA	*Niltava grandis*			x	x	x	x		
SMALL NILTAVA	*Niltava macgrigoriae*	x	x						
RUFOUS-BELLIED NILTAVA	*Niltava sundara*	x	x						
PYGMY BLUE FLYCATCHER	*Muscicapella hodgsoni*			x	x	x	x		
GREY-HEADED CANARY FLYCATCHER	*Culicicapa ceylonensis*	x	x	x	x	x	x		
SIBERIAN RUBYTHROAT	*Luscinia calliope*	x							
WHITE-TAILED RUBYTHROAT	*Luscinia pectoralis*							x	x
INDIAN BLUE ROBIN	*Luscinia brunnea*					x	x	x	
ORANGE-FLANKED BUSH ROBIN	*Tarsiger cyanurus*	x	x	x	x	x	x	x	x
GOLDEN BUSH ROBIN	*Tarsiger chrysaeus*	x	x	x	x	x	x	x	x
WHITE-BROWED BUSH ROBIN	*Tarsiger indicus*			x	x	x	x	x	x
RUFOUS-BREASTED BUSH ROBIN	*Tarsiger hyperythrus*			x	x	x	x	x	x
ORIENTAL MAGPIE ROBIN	*Copsychus saularis*	x	x	x	x				
BLUE-CAPPED REDSTART	*Phoenicurus coeruleocephalus*			x	x	x	x	x	
HODGSON'S REDSTART	*Phoenicurus hodgsoni*	x		x		x			
WHITE-THROATED REDSTART	*Phoenicurus schisticeps*					x		x	x
BLUE-FRONTED REDSTART	*Phoenicurus frontalis*	x	x	x	x	x	x	x	
WHITE-BELLIED REDSTART	*Hodgsonius phaenicuroides*							x	
WHITE-TAILED ROBIN	*Myiomela leucura*			x	x	x	x		
LITTLE FORKTAIL	*Enicurus scouleri*	x	x	x	x	x	x	x	
BLACK-BACKED FORKTAIL	*Enicurus immaculatus*	x	x						
SLATY-BACKED FORKTAIL	*Enicurus schistaceus*	x	x						
SPOTTED FORKTAIL	*Enicurus maculatus*	x	x	x	x	x	x		
GREY BUSHCHAT	*Saxicola ferrea*	x		x		x		x	
JUNGLE MYNA	*Acridotheres fuscus*	x	x						
CHESTNUT-BELLIED NUTHATCH	*Sitta castanea*	x	x						
WHITE-TAILED NUTHATCH	*Sitta himalayensis*	x	x	x	x	x	x		
VELVET-FRONTED NUTHATCH	*Sitta frontalis*	x	x						
EURASIAN TREECREEPER	*Certhia familiaris*			x		x			
BAR-TAILED TREECREEPER	*Certhia himalayana*			x		x		x	
RUSTY-FLANKED TREECREEPER	*Certhia nipalensis*			x	x	x	x	x	

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Subtropical	Subtropical broadleaves	Lower temperate	Lower temperate broadleaves	Upper temperate	Upper temperate broadleaves	Subalpine	Alpine
BROWN-THROATED TREECREEPER	*Certhia discolor*			x	x	x	x		
WINTER WREN	*Troglodytes troglodytes*					x	x	x	
FIRE-CAPPED TIT	*Cephalopyrus flammiceps*					x			
RUFOUS-NAPED TIT	*Parus rufonuchalis*					x		x	
RUFOUS-VENTED TIT	*Parus rubidiventris*					x		x	x
COAL TIT	*Parus ater*					x		x	
GREY-CRESTED TIT	*Parus dichrous*			x	x	x	x	x	
GREAT TIT	*Parus major*	x	x						
GREEN-BACKED TIT	*Parus monticolus*	x	x	x	x	x	x	x	
BLACK-LORED TIT	*Parus xanthogenys*	x	x						
YELLOW-BROWED TIT	*Sylviparus modestus*			x	x	x	x	x	
BLACK-THROATED TIT	*Aegithalos concinnus*	x	x	x	x	x	x		
WHITE-THROATED TIT	*Aegithalos niveogularis*					x	x		
RUFOUS-FRONTED TIT	*Aegithalos iouschistos*					x		x	
GOLDCREST	*Regulus regulus*								
STRIATED BULBUL	*Pycnonotus striatus*	x	x	x	x				
HIMALAYAN BULBUL	*Pycnonotus leucogenys*	x		x					
ASHY BULBUL	*Hemixos flavala*	x	x						
MOUNTAIN BULBUL	*Hypsipetes mcclellandii*	x	x	x	x				
BLACK BULBUL	*Hypsipetes leucocephalus*	x	x	x	x	x	x		
ORIENTAL WHITE-EYE	*Zosterops palpebrosus*	x	x						
CHESTNUT-HEADED TESIA	*Tesia castaneocoronata*	x	x			x	x		
GREY-BELLIED TESIA	*Tesia cyaniventer*	x	x	x	x				
CHESTNUT-CROWNED BUSH WARBLER	*Cettia major*							x	
ABERRANT BUSH WARBLER	*Cettia flavolivacea*	x	x			x	x	x	
YELLOWISH-BELLIED BUSH WARBLER	*Cettia acanthizoides*			x	x	x	x	x	
GREY-SIDED BUSH WARBLER	*Cettia brunnifrons*					x	x	x	x
SPOTTED BUSH WARBLER	*Bradypterus thoracicus*							x	
BLYTH'S REED WARBLER	*Acrocephalus dumetorum*	x							
WHITE-BROWED TIT WARBLER	*Leptopoecile sophiae*							x	x
COMMON CHIFFCHAFF	*Phylloscopus collybita*	x	x						
SMOKY WARBLER	*Phylloscopus fuligiventer*								x
TICKELL'S LEAF WARBLER	*Phylloscopus affinis*					x		x	x
BUFF-BARRED WARBLER	*Phylloscopus pulcher*	x	x	x	x	x	x	x	x
ASHY-THROATED WARBLER	*Phylloscopus maculipennis*	x	x	x	x	x	x	x	
LEMON-RUMPED WARBLER	*Phylloscopus chloronotus*	x	x	x	x	x	x	x	
HUME'S WARBLER	*Phylloscopus humei*	x	x	x	x	x	x	x	
YELLOW-BROWED WARBLER	*Phylloscopus inornatus*	x	x	x	x	x			
GREENISH WARBLER	*Phylloscopus trochiloides*	x	x					x	x
LARGE-BILLED LEAF WARBLER	*Phylloscopus magnirostris*					x	x	x	
BLYTH'S LEAF WARBLER	*Phylloscopus reguloides*	x	x	x	x	x	x	x	
GOLDEN-SPECTACLED WARBLER	*Seicercus burkii*	x	x	x	x				
WHISTLER'S WARBLER	*Seicercus whistleri*	x	x	x	x	x	x	x	
GREY-HOODED WARBLER	*Seicercus xanthoschistos*	x	x	x	x	x	x		
GREY-CHEEKED WARBLER	*Seicercus poliogenys*					x			
CHESTNUT-CROWNED WARBLER	*Seicercus castaniceps*	x	x	x	x	x	x		
BLACK-FACED WARBLER	*Abroscopus schisticeps*	x	x	x	x	x	x		
WHITE-THROATED LAUGHINGTHRUSH	*Garrulax albogularis*	x	x	x	x	x	x		
WHITE-CRESTED LAUGHINGTHRUSH	*Garrulax leucolophus*	x	x						
STRIATED LAUGHINGTHRUSH	*Garrulax striatus*	x	x	x	x	x	x		
RUFOUS-CHINNED LAUGHINGTHRUSH	*Garrulax rufogularis*	x	x						
SPOTTED LAUGHINGTHRUSH	*Garrulax ocellatus*					x	x	x	
GREY-SIDED LAUGHINGTHRUSH	*Garrulax caerulatus*	x	x	x	x	x	x		
STREAKED LAUGHINGTHRUSH	*Garrulax lineatus*	x		x		x		x	
BLUE-WINGED LAUGHINGTHRUSH	*Garrulax squamatus*	x	x	x	x				

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Subtropical	Subtropical broadleaves	Lower temperate	Lower temperate broadleaves	Upper temperate	Upper temperate broadleaves	Subalpine	Alpine
SCALY LAUGHINGTHRUSH	*Garrulax subunicolor*					x	x	x	
VARIEGATED LAUGHINGTHRUSH	*Garrulax variegatus*			x	x	x	x	x	
BLACK-FACED LAUGHINGTHRUSH	*Garrulax affinis*			x	x	x	x	x	
CHESTNUT-CROWNED LAUGHINGTHRUSH	*Garrulax erythrocephalus*			x	x	x	x		
RUSTY-CHEEKED SCIMITAR BABBLER	*Pomatorhinus erythrogenys*	x	x	x	x	x	x		
WHITE-BROWED SCIMITAR BABBLER	*Pomatorhinus schisticeps*	x	x						
STREAK-BREASTED SCIMITAR BABBLER	*Pomatorhinus ruficollis*			x	x	x	x		
SLENDER-BILLED SCIMITAR BABBLER	*Xiphirhynchus superciliaris*	x	x	x	x	x	x	x	
SCALY-BREASTED WREN BABBLER	*Pnoepyga albiventer*	x	x	x	x	x	x	x	
NEPAL WREN BABBLER	*Pnoepyga immaculata*					x	x		
PYGMY WREN BABBLER	*Pnoepyga pusilla*	x	x	x	x	x	x		
BLACK-CHINNED BABBLER	*Stachyris pyrrhops*	x	x	x	x				
GOLDEN BABBLER	*Stachyris chrysaea*			x	x				
GREY-THROATED BABBLER	*Stachyris nigriceps*	x	x	x	x				
SPINY BABBLER	*Turdoides nipalensis*	x		x					
RED-BILLED LEIOTHRIX	*Leiothrix lutea*	x	x	x	x				
CUTIA	*Cutia nipalensis*			x	x				
BLACK-HEADED SHRIKE BABBLER	*Pteruthius rufiventer*			x	x	x	x		
WHITE-BROWED SHRIKE BABBLER	*Pteruthius flaviscapis*	x	x	x	x				
GREEN SHRIKE BABBLER	*Pteruthius xanthochlorus*			x	x	x	x	x	
BLACK-EARED SHRIKE BABBLER	*Pteruthius melanotis*	x	x	x	x				
HOARY-THROATED BARWING	*Actinodura nipalensis*			x	x	x	x		
BLUE-WINGED MINLA	*Minla cyanouroptera*	x	x	x	x				
CHESTNUT-TAILED MINLA	*Minla strigula*			x	x	x	x	x	
RED-TAILED MINLA	*Minla ignotincta*			x	x	x	x		
GOLDEN-BREASTED FULVETTA	*Alcippe chrysotis*					x	x		
RUFOUS-WINGED FULVETTA	*Alcippe castaneceps*			x	x	x	x		
WHITE-BROWED FULVETTA	*Alcippe vinipectus*			x	x	x	x	x	
NEPAL FULVETTA	*Alcippe nipalensis*	x	x	x	x				
WHISKERED YUHINA	*Yuhina flavicollis*	x	x	x	x	x	x		
STRIPE-THROATED YUHINA	*Yuhina gularis*	x	x	x	x	x	x	x	
RUFOUS-VENTED YUHINA	*Yuhina occipitalis*			x	x	x	x	x	
WHITE-BELLIED YUHINA	*Yuhina zantholeuca*	x	x	x	x				
FIRE-TAILED MYZORNIS	*Myzornis pyrrhoura*							x	
RUFOUS SIBIA	*Heterophasia capistrata*	x	x	x	x	x	x		
GREAT PARROTBILL	*Conostoma oemodium*					x	x	x	
BROWN PARROTBILL	*Paradoxornis unicolor*					x	x	x	
FULVOUS PARROTBILL	*Paradoxornis fulvifrons*					x	x	x	
BLACK-THROATED PARROTBILL	*Paradoxornis nipalensis*	x	x	x	x	x	x		
LESSER WHITETHROAT	*Sylvia curruca*	x							
YELLOW-BELLIED FLOWERPECKER	*Dicaeum melanoxanthum*			x	x	x	x		
FIRE-BREASTED FLOWERPECKER	*Dicaeum ignipectus*			x	x	x	x		
PURPLE SUNBIRD	*Nectarinia asiatica*	x	x						
MRS GOULD'S SUNBIRD	*Aethopyga gouldiae*			x	x	x	x	x	
GREEN-TAILED SUNBIRD	*Aethopyga nipalensis*	x	x	x	x	x	x		
BLACK-THROATED SUNBIRD	*Aethopyga saturata*	x	x	x	x				
CRIMSON SUNBIRD	*Aethopyga siparaja*	x	x						
FIRE-TAILED SUNBIRD	*Aethopyga ignicauda*	x	x	x	x	x	x	x	x
RUSSET SPARROW	*Passer rutilans*	x		x		x			
OLIVE-BACKED PIPIT	*Anthus hodgsoni*	x		x	x	x	x	x	x
ROBIN ACCENTOR	*Prunella rubeculoides*					x		x	x
RUFOUS-BREASTED ACCENTOR	*Prunella strophiata*	x		x		x		x	x
BROWN ACCENTOR	*Prunella fulvescens*					x		x	x
BLACK-THROATED ACCENTOR	*Prunella atrogularis*					x		x	x
MAROON-BACKED ACCENTOR	*Prunella immaculata*					x	x		

SPECIES ENGLISH NAME	SPECIES SCIENTIFIC NAME	Subtropical	Subtropical broadleaves	Lower temperate	Lower temperate broadleaves	Upper temperate	Upper temperate broadleaves	Subalpine	Alpine
WHITE-RUMPED MUNIA	*Lonchura striata*	x	x	x	x				
SCALY-BREASTED MUNIA	*Lonchura punctulata*	x	x						
CHAFFINCH	*Fringilla coelebs*					x			
BRAMBLING	*Fringilla montifringilla*					x			
FIRE-FRONTED SERIN	*Serinus pusillus*			x		x		x	x
TIBETAN SISKIN	*Carduelis thibetana*			x	x	x	x		
YELLOW-BREASTED GREENFINCH	*Carduelis spinoides*	x		x		x		x	x
EUROPEAN GOLDFINCH	*Carduelis carduelis*					x		x	x
PLAIN MOUNTAIN FINCH	*Leucosticte nemoricola*						x	x	
SPECTACLED FINCH	*Callacanthis burtoni*			x		x		x	
BLANFORD'S ROSEFINCH	*Carpodacus rubescens*					x		x	
DARK-BREASTED ROSEFINCH	*Carpodacus nipalensis*			x	x	x	x	x	x
COMMON ROSEFINCH	*Carpodacus erythrinus*	x		x		x		x	x
BEAUTIFUL ROSEFINCH	*Carpodacus pulcherrimus*					x		x	x
PINK-BROWED ROSEFINCH	*Carpodacus rodochrous*					x	x	x	x
VINACEOUS ROSEFINCH	*Carpodacus vinaceus*			x		x	x	x	
DARK-RUMPED ROSEFINCH	*Carpodacus edwardsii*					x	x		
SPOT-WINGED ROSEFINCH	*Carpodacus rodopeplus*					x	x	x	x
WHITE-BROWED ROSEFINCH	*Carpodacus thura*					x		x	x
STREAKED ROSEFINCH	*Carpodacus rubicilloides*					x		x	x
GREAT ROSEFINCH	*Carpodacus rubicilla*							x	x
CRIMSON-BROWED FINCH	*Propyrrhula subhimachala*					x	x	x	
SCARLET FINCH	*Haematospiza sipahi*			x	x	x	x		
RED CROSSBILL	*Loxia curvirostra*					x		x	
BROWN BULLFINCH	*Pyrrhula nipalensis*			x	x	x	x		
RED-HEADED BULLFINCH	*Pyrrhula erythrocephala*			x	x	x	x	x	
COLLARED GROSBEAK	*Mycerobas affinis*					x		x	
SPOT-WINGED GROSBEAK	*Mycerobas melanozanthos*					x		x	
WHITE-WINGED GROSBEAK	*Mycerobas carnipes*					x		x	
GOLD-NAPED FINCH	*Pyrrhoplectes epauletta*					x	x	x	

NB The list comprises residents, and summer and winter visitors; passage migrants and vagrants are excluded.