

## IMPORTANT BIRD AREAS (IBA) PROGRAMME SUB THEMATIC REVIEW NOTE FOR THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN

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### ***1. Introduction***

#### ***Important Bird Areas and Biodiversity Conservation***

India ranks amongst the most biodiverse countries in the world. Currently 1220 species of breeding, staging and wintering birds, occupying a wide array of natural, semi natural and urban habitats are known from India (Manakadan & Pittie 2001).

Notwithstanding the deep rooted traditional conservation of natural resources that still exist in India, growth of human population result in agricultural intensification, expansion in industrial capacity, increased levels of wetland drainage, pollution, deforestation for fuel wood and timber, coastal land reclamation and desertification.

Changes in land use patterns have had a detrimental impact on habitats, which have been fragmented and reduced in extent and diversity. This has resulted in a marked reduction in abundance and range of several bird species. Seventy-nine Indian bird species are globally threatened with extinction of these 9 are listed as Critical, 10 species as Endangered, 57 are Vulnerable, 2 are conservation dependent and 1 is data deficient. A further 52 are classified as Near Threatened (BirdLife International 2000). Large proportions of the rest of the bird species in India is rapidly declining and are in urgent need of conservation action.

#### ***Approaches to biodiversity conservation***

The conservation of biodiversity and natural resources including birds can generally be approached in the following ways:

- Protection of species from direct threats like hunting is done through legislation and direct persecution. Globally threatened or highly economically valuable species are also conserved through active management of their populations.
- Protection of sites by designating areas for the conservation of natural resources, and regulating and managing them according to the needs of the biodiversity they contain.
- Protection of the wider environment and ensuring sustainable use of natural resources, by regulating economic activities that modify landscapes and (e.g. agriculture, water supply, industry), and by controlling pollution of air, soil & water (Evans 1994).
- Protection of sites and species by local communities, either as traditionally conserved areas like Sacred Groves which have religious, cultural or economic significance

Any attempts to maintain India's biodiversity, including that of its birds will only be successful if all of these approaches are followed.

## ***2. The Important Bird Areas Programme***

### ***Aim***

The IBA Programme aims to identify, document and advocate the protection and management of a network of sites that are important for the long-term viability of naturally occurring bird populations across the geographic range of those bird species for which a site-based approach is appropriate.

### ***Site based approach***

The Important Bird Areas (IBA) Programme of BirdLife International is a worldwide initiative aimed at identifying and protecting a network of critical sites for the conservation of birds. The IBA Programme is being run by the Bombay Natural History Society (BNHS), the BirdLife Partner designate in India and is coordinated through the Indian Bird Conservation Network (IBCN).

The IBA programme is a site-based approach, which identifies sites of international importance for the conservation of birds and other biodiversity and collates and disseminates key information. Information availability of the importance and location of such sites is fundamental to the success of a site based conservation strategy.

Birds are one of the best-researched taxa in India and a fairly reliable indicator of biodiversity loss. Given that birds are good indicators of overall biological diversity, most IBAs will also be important for other animals and plants. A significant proportion of bird (and other animal and plant species) can be effectively conserved by the protection of key sites, either as official protected areas (national parks and reserves) with necessary and appropriate management, and or through the promotion of sustainable land-use practices (Mallari *et al.* 1998).

### ***Scope of the IBA Programme***

The IBA Programme incorporates the conservation of species and the sites essential for their conservation it therefore has a very wide scope.

### ***Species***

The programme not only covers the 78 Globally threatened birds in India (Comprising of Critical, Endangered, Vulnerable and Data Deficient and Conservation Dependent species) but also covers species that are endemic or have restricted ranges, congregatory birds and assemblages of species that are typical to a habitat or biome.

### *Habitats*

As the programme covers a wide array of bird species, it also ranges across various habitats such as wetlands, islands, coastal areas, deserts, forests, grasslands and agricultural ecosystems.

### *Geographic range*

The BNHS organised 9 regional workshops to identify IBAs for every state and union territory of India. With the exception of Daman and Diu & Chandigarh, IBAs have been identified for all the states and union territories of India, including those like Meghalaya for which there was very little data.

### *Limitations of the IBA approach*

- The IBA approach only works for those species for which a site-based approach is appropriate. Bird species with highly dispersed or nomadic distributions may not be protected through this approach. Some bird species are not well protected by the IBA approach (such as large raptors, cranes and bustards, which are dispersed at low densities across wide areas and nomadic species).
- For others, the IBAs might be only appropriate across some of their ranges or for parts of their life cycles, (e.g. colonial nesting species that disperse extensively during the non-breeding season) (Barnes 1998).
- Any strategy for the long-term protection of biotic diversity should encompass evolutionary and biogeographic considerations. The IBA programme attempts to take this into account by selecting a network of sites that were spread through most habitats and in different areas of the species distributions. However sub-specific variation was not taken into account. Any future assessment should attempt to include sites where different morphs and subspecies (particularly endemic and restricted range subspecies) are located (Barnes 1998).
- The IBA programme is just one approach to bird conservation. It is not in the whole and the only answer. The IBA criteria are fairly stringent and many sites that are of undoubted local, provincial and national importance fail to qualify as IBAs. This does not mean that they are not important for conservation; on the contrary these sites often fulfill vital conservation roles at local scales. It must be emphasised that sites not designated as IBAs are not dispensable and their role in a wider land-use conservation strategy may be as vitally important as that of any IBA (Barnes 1998).

### ***3.Method***

#### ***Introduction***

IBAs, are being identified using four standard global criteria, which cover sites that regularly hold significant populations of threatened birds listed as red data book (RDB) species, endemic birds i.e. birds with restricted ranges, bird communities consisting of species of birds that are more or less typical to certain biomes, and sites where large congregations of birds gather. These criteria were applied through an exhaustive literature review and a process of consultation through workshops and meetings. Where gaps in information were found surveys were commissioned to gather data.

#### ***IBA Criteria***

IBA sites are identified using four standard global criteria that cover sites that are internationally important for the 79 globally threatened species in India (bird species that fall in the Critical, Endangered, Vulnerable, Conservation Dependent or Data Deficient categories of the Asian Red Data Book) (BirdLife International 2001). Near Threatened species have not been included in this analysis.

Sites were also selected for restricted range species or species unique to a small region. India has a total of 74 Restricted range species of which 38 are confined to the geographic boundaries of the country, and 23 are globally threatened (Stattersfield *et al.* 1998).

Sites that support a species assemblage that are highly representative of a distinct biome (Crosby 1997). and sites for migratory and terrestrial species which congregate in high numbers (Rose and Scott 1994).

The IBA criteria are simple and robust enough to be applied uniformly and cost effectively (Barnes 1998). The criteria ensure that the sites selected as IBAs have true significance for the international conservation of bird populations, and provide a common currency that all IBAs adhere to. This creates consistency and enables comparability between sites at national, continental and global levels.

It is crucial to understand why a site is important, and to do this it is necessary to examine its international significance in terms of the presence and abundance of species that occur there in different seasons. The status and nature of these species also need to be taken into account. Threat status, breeding/ non-breeding status, vulnerability through congregations and the proportion of the total population of each species that occurs at the site, are all important factors in determining a site's importance (Heath & Evans 2000).

***Important Bird Areas Global Categories and Criteria***

*(For a Summary of Important Bird Areas Global Categories and Criteria please see Appendix I.)*

***A1. Globally threatened species:***

**Criterion: The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.**

This category refers to species classified as globally threatened with extinction (critical, endangered or vulnerable), conservation dependent or data deficient according to the new IUCN criteria for threatened status. The site qualifies if it is known, estimated or thought to hold a population of a species categorised as Critical, Endangered, Vulnerable, Conservation Dependent, and Data Deficient.

*(For a list of threatened bird species in India that qualify this Criteria please see Appendix II.)*

***A2. Restricted-range species:***

**Category A2: RESTRICTED-RANGE SPECIES**

**Criterion: The site is known or thought to hold a significant component of a group of species whose breeding distributions define an Endemic Bird Area (EBA) or Secondary Area (SA).**

Restricted range species are those that have a total world range of less than 50,000 square kilometres. An area where the range of two or more restricted range species overlap is known as an endemic bird area. Analysis by BirdLife International has shown that a very high proportion of the worlds endemic birds occur in a small proportion of the land area. The EBAs defined by these species are important hot spots for the conservation of bird diversity (Strattersfield *et al* 1998).

An IBA may be chosen because it contains high proportion of the list of restricted range species for a particular EBA, or because it contains a restricted range species that has not been included elsewhere. The aim is to define IBAs so that restricted-range species are present in significant numbers in at least one site.

***Endemic Bird Areas relevant to India:***

1. Western Ghats
2. Andaman Islands
3. Nicobar Islands
4. Western Himalayas
5. Eastern Himalayas
6. Assam Plains
7. Southern Tibet ( Though the area primarily lies in Tibet, portions of it also extend into India)

***Secondary Areas in India:***

1. Eastern Andhra Pradesh
2. Southern Deccan plateau
3. Indus plains
4. Central Indian Forests
5. North Myanmar lowlands (mainly in Myanmar but also includes lowlands of India)

*(For a list of Restricted range bird species in India that qualify this Criteria please see Appendix III.)*

***A3. Biome-restricted assemblage:*****Category A3 BIOME-RESTRICTED ASSEMBLAGES**

**Criterion: The site is known or thought to hold a significant component of the group of species whose distributions are largely or wholly confined to one biome.**

A biome may be defined as *a major regional ecological community characterised by distinctive animal and plant species* (Crosby 1997). The site also has to form one of a set selected to ensure that, as far as possible, all species restricted to a biome are adequately represented.

This category applies to groups of species with largely shared distributions which occurs mostly or wholly within all a part of a particular biome and are therefore of global importance.

A site selected for this criteria has to form one of a set of sites selected to ensure that as far as possible all species and habitats characteristic of a biome are adequately represented.

*The major biomes in India as classified by BirdLife International are as follows:*

**BIOME 05: EURASIAN HIGH MONTANE (ALPINE AND TIBETAN)**

**BIOME 07: SINO-HIMALAYAN TEMPERATE FOREST**

**BIOME 08: SINO-HIMALAYAN SUBTROPICAL FOREST**

**BIOME 09: INDOCHINESE TROPICAL MOIST FORESTS**

**BIOME 10: INDIAN PENINSULA TROPICAL MOIST FOREST**

**BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE**

**BIOME 12: INDO-GANGETIC PLAINS**

**BIOME 13: SAHARO-SINDIAN DESERT**

*(For a list of biome wise distribution of bird species that qualify this Criteria for each biome please see Appendix IV.)*

#### ***A4. Congregations:***

#### **Category A4 CONGREGATIONS**

**Criteria: A site may qualify on any one of the four criteria listed below:**

**i). Site known or thought to hold, on a regular basis,  $\geq$  1% of a biogeographic population of a congregatory waterbird species.**

This applies to waterfowl species as defined by Rose and Scott (1994). Thresholds are generated in some instances by combining flyway populations within a biogeographic region, but for others lacking quantitative data, thresholds are set regionally or inter-regionally, as appropriate. In such cases, thresholds will be taken as estimates of 1% of the biogeographic population. *(For a list of bird species and the thresholds that qualify this Criteria please see Appendix VI)*

**ii). Site known or thought to hold, on a regular basis,  $\geq$ 1% of the global population of a congregatory seabird or terrestrial species.**

This includes those seabird species not covered by Rose and Scott (1994). Where quantitative data are lacking, numerical thresholds for each species are set regionally or inter-regionally, as appropriate. In such cases, thresholds will be taken as estimates of 1% of global population.

**iii). Site known or thought to hold, on a regular basis,  $\geq$  20,000 water birds or  $\geq$  10,000 pairs of seabirds of one or more species.**

This is the Ramsar criterion for waterbirds. The use of this criterion is discouraged wherever data is good enough to permit the use of (i) or (ii).

**iv). Site known or thought to exceed thresholds set for migratory species at bottleneck sites.**

Thresholds are set regionally or inter-regionally, as appropriate. This category also covers sites over which migrants congregate e.g. before gaining height in thermals. Although it is the airspace here that is important, conservation of the land beneath it may be necessary to protect it from threats such as hunting and construction.

Identification of the network of sites through the rigorous application of standard and quantitative ornithological criteria assures their international importance. The global standardisation of the criteria facilitates comparisons between sites at local, national, regional and global levels. These criteria are compatible with those used to designate wetlands of international importance under the Ramsar Convention and Special Protection areas under the EC Birds Directive (Heath and Evans 2000).

#### ***Process of IBA identification and Selection.***

##### ***Literature Survey***

The foundation of this project is laid in the data on bird numbers and distribution generated through the numerous field surveys and research programmes carried out in India during the last few decades. Exhaustive literature surveys were undertaken and information was gathered from various sources including national environmental organizations, individuals, scientists, protected areas staff, natural history museums, research institutions, universities and publications. Unpublished material held by research and conservation organizations were also analysed during this study. A draft list of 3000 sites was drawn up at the end of this process. This list included records of vagrancy and historical occurrence of bird species, this had to be filtered.

##### ***Workshops and consultation***

Researchers, ornithologists, local forest officials, bird enthusiasts were consulted through workshops, meetings and correspondence to identify a list of IBAs throughout the country. Emphasis has been given to the participation of governmental and non-governmental conservation bodies and academic institutions. Regional workshops were held in which contributions have been made by a vast network of ornithologists, birdwatchers, personnel working for the forest departments, and conservation experts across India and the world. State coordinators of the Indian Bird Conservation Network have been involved in collating and



assessing the data for each state. The participants reviewed the draft list and added and deleted sites based on current information and possibility of occurrence of species at sites. The workshop list identified about a 1,000 sites.

***Identification of gaps.***

There was a lacuna of information from several areas in India and for certain species. Sites could not be identified for some species and states like Meghalaya, Mizoram and Nagaland and several districts from other states. This was mainly due to lack of data from these areas.

***Surveys for sites and species***

Surveys were then commissioned and successfully executed for data deficient species and areas in several states like Meghalaya, Mizoram, Nagaland, Maharashtra, Kerala, Orissa, and Bihar.

**North-east India**

Surveys were commissioned for North East India to identify IBAs in areas where information was lacking and Data deficient species such as the Dark-rumped Swift *Apus acuticauda* for which new colonies were identified through IBA surveys.

***Capacity building training workshops***

Some areas remained unexplored largely due to the lack of skilled manpower to execute the surveys. The Indian Bird Conservation Network conducted several training workshops in bird census techniques. A manual for bird census was also developed and distributed.

***Site prioritisation***

Three hundred and forty-one sites that are confirmed IBAs have been chosen from the workshop lists. The number of sites in this list is increasing as new information keeps coming in. These sites are identified on the basis of bird numbers and species complements that they hold, and are selected such that taken together they form a network throughout the species biogeographic distributions. This network may be considered, as a minimum essential to ensure the survival of these species across their ranges, should there occur a net loss of remaining habitat elsewhere through human or other modification. Therefore the consequences of the loss of any one of these sites may be disproportionately large. The continued ecological integrity of these sites will be decisive in maintaining and conserving birds for which a site based approach is appropriate. Legal protection, management and monitoring of these crucial sites will be important targets for action and, many but not all bird species may be effectively conserved by these means. Patterns of bird distribution are such that, in most cases it is possible to select sites that support many species (Heath and Evans 2000).

***Circulation of Draft lists***

Draft lists are continuously circulated to experts for comments and updating information. Several additional sites are being identified as IBAs as new information comes.

***IBA Inventories***

The Asian IBA Inventory is scheduled for publication in the year 2002, followed by the Indian IBA inventory in 2003. State IBA inventories for each state in India are also on the anvil. These inventories are intended to provide comprehensive information on IBA sites and species and to be used as an advocacy tool for site and species conservation to enable informed decision making.

***Advocacy, awareness and involvement of local communities***

The IBA process does not stop at identification and documentation of sites. It encourages widespread ownership of the concept especially at the grass root level. The IBA project also involves local communities living in and around IBA sites in their conservation.

**Community participation and conservation education at Gangapur Dam and Grasslands, Nashik, Maharashtra**

Conservation education projects are underway for local communities living around Gangapur Dam and Grasslands, an IBA in Maharashtra. Slide shows were organized for local villagers. Painting and quiz contests with nature related themes were conducted in local schools. Posters and a book on grassland birds are being developed in the local language. This project was commissioned to Nature Conservation Society of Nashik (NCSN), a partner of the Indian Bird Conservation Network.

***4. Important Bird Areas and the National Biodiversity Strategy and Action Plan (NBSAP)***

Both the National Biodiversity Strategy and Action Plan and IBA are complementary methods with biodiversity conservation as their common goal.

The IBA relates to several aspects and components of the NBSAP.

***Wild animal biodiversity***

With conservation of wild birds as its central theme, the IBA contributes largely to the thematic working group of wild animal biodiversity. By identifying habitats essential to the conservation of wild bird species, conserving the network of IBAs would assure the conservation of the bird species for which they were identified. It is imperative that if species are to be saved than their natural habitats must be conserved, it would be essential to conserve IBAs, as they represent habitats that house a large proportion of India's bird species, which face various forms of threats, and are in urgent need of conservation.

### ***Natural Terrestrial Ecosystems and Natural Aquatic Ecosystem Thematic Working Groups***

At the National level thematic working groups for the thematic areas of Natural Terrestrial Ecosystems and Natural Aquatic Ecosystems are relevant to the IBA Process. Birds at the apex of the food web are fairly good representatives of ecosystem health. The IBAs identified for birds are complex, interlinked ecosystems. If the sites are conserved for birds then other biodiversity in the site also would benefit. Birds with their universal appeal and prominence make extremely good flagship species for site conservation.

### ***State level Strategy and Action Plans, Sub State Level Strategy and Action Plans.***

Sub state level and state level strategy and action plans play a very important role in community involvement for conservation, education, awareness and advocacy at IBAs. They provide an opportunity for involvement of communities that are direct stakeholders in the IBA in the conservation of the area.

IBAs that are not protected areas would specially benefit from proactive participation of local communities in their conservation. This would be best dealt with at the state and sub state levels.

### ***Eco-regional Working Groups Strategy and Action Plans***

The 10 eco-regions recognised by the NBSAP show a clear overlap with some Endemic Bird Areas and Biomes classification being used for the IBA analysis.

#### **Western Ghats**

This eco- region overlaps with Biome 10 Indian Peninsula tropical moist forest of the IBA programme, and the Western Ghats Endemic Bird Area (*For a list of Restricted range bird species and Biome species in this area please see Appendix III & IV.*)

#### **West Himalayas**

This Eco-region overlaps with Biome 7 i.e. Sino-himalayan Temperate forests, Biome Sino-Himalayan Subtropical Forests and the Western Himalayas Endemic bird area (*For a list of Restricted range bird species and Biome species in this area please see Appendix III & IV.*)

#### **Shivaliks**

This eco-region overlaps with Biome 7 Sino-himalayan Temperate forests & Biome 8 Sino-Himalayan Subtropical Forests (*For a list of Biome species in this area, please see Appendix IV.*)

#### **Gangetic Plains**

This Eco-region overlaps with Biome 12 or the Indo Gangetic Plains (*For a Biome species in this area please see Appendix IV.*)

### **North-East**

This Eco-region overlaps with Biome 9 or the Indo-Chinese Tropical Moist Forest the Eastern Himalayas, Assam Plains, Southern Tibet ( though the area primarily lies in Tibet, portions of it also extend into India) and North Myanmar lowlands (mainly in Myanmar but also includes lowlands of India) endemic Bird Areas and Secondary Areas. (*For a list of Restricted range bird species and Biome species in this area please see Appendix III & IV.*)

### **Central Forest Belt**

This Eco-region overlaps with the Central Indian Forests Secondary Area. This area is defined by the range of the Forest Owlet *Athene blewitti* classified as Critical, which occurs or occurred in north-west Maharashtra, eastern Madhya Pradesh and north-west Orissa). . (*For a list of Restricted range bird species in this area please see Appendix III.*)

### **Eastern Ghats**

This Eco-region overlaps with the Eastern Andhra Pradesh *Secondary Areas*. Eastern Andhra Pradesh is the range of Jerdons Courser *Rhinoptilus bitorquatus* classified as Critical in the Asian Red Data Book. A poorly known nocturnal bird it has been recorded from Pennar and Godavari Valleys and was assumed extinct until its rediscovery in 1986. Two IBAs that are protected areas; Sri Lankamalleshwara Wildlife Sanctuary and Sri Venkateshwar National Park have been identified for this species. Recent records are from an area of c. 2,000 sq. km around the Lankamalai range (Stattersfield *et al.* 1998).

The Southern Deccan Plateau Secondary Area also falls within this region and is defines by the range of the Yellow-throated Bulbul *Pycnonotus xantholaemus* recorded from the states of Karnataka, Andhra Pradesh, Tamil Nadu, Kerala and possibly Orissa. There is evidence that it has become locally extinct as a result of habitat degradation. (*For a list of Restricted range bird species in this area, please see Appendix III.*)

### **The West Coast and East coast Eco- regions**

These include several very important IBAs that are wetlands like Chilika Lake in Orissa and Kole wetlands in Kerala.

### ***5. Status of IBAs***

IBAs are the first comprehensive study in which sites have been identified for bird conservation. 316 IBAs have been identified so far. This list however is dynamic and not a fixed list of sites. It is anticipated that several new IBAs will be identified.

Around 90% of IBAs in India are important for one or more of the 79 globally threatened species in India and 47% for the 74 restricted range species found in India. Almost all IBAs fall under at least one biome and hold some of the 374 bird species that fall in the biome criterion.

IBAs are also important for species that congregate in large numbers such as congregatory terrestrial birds, wintering and passage waterbirds and breeding seabirds almost 17% of IBAs have been identified for these species. *(For a list of IBAs Appendix VIII.)*

### ***6. Identification of specific actions that might aid the positive connections and or are needed to fill gaps and rectify harmful effects on biodiversity: changes needed in policy***

A workshop of the Indian Bird Conservation Network was conducted by the BNHS from the 12th to 15<sup>th</sup> of September 2001. State coordinators of the IBCN participated to identify initiatives to bird conservation and gaps that exist. Specific actions like changes needed to policy that are needed to fill gaps and rectify harmful effects were also identified. The summary of the recommendations is as follows. *(For a complete chart of the results of the workshop please see Appendix 7 )*

#### ***Issues related to IBAs***

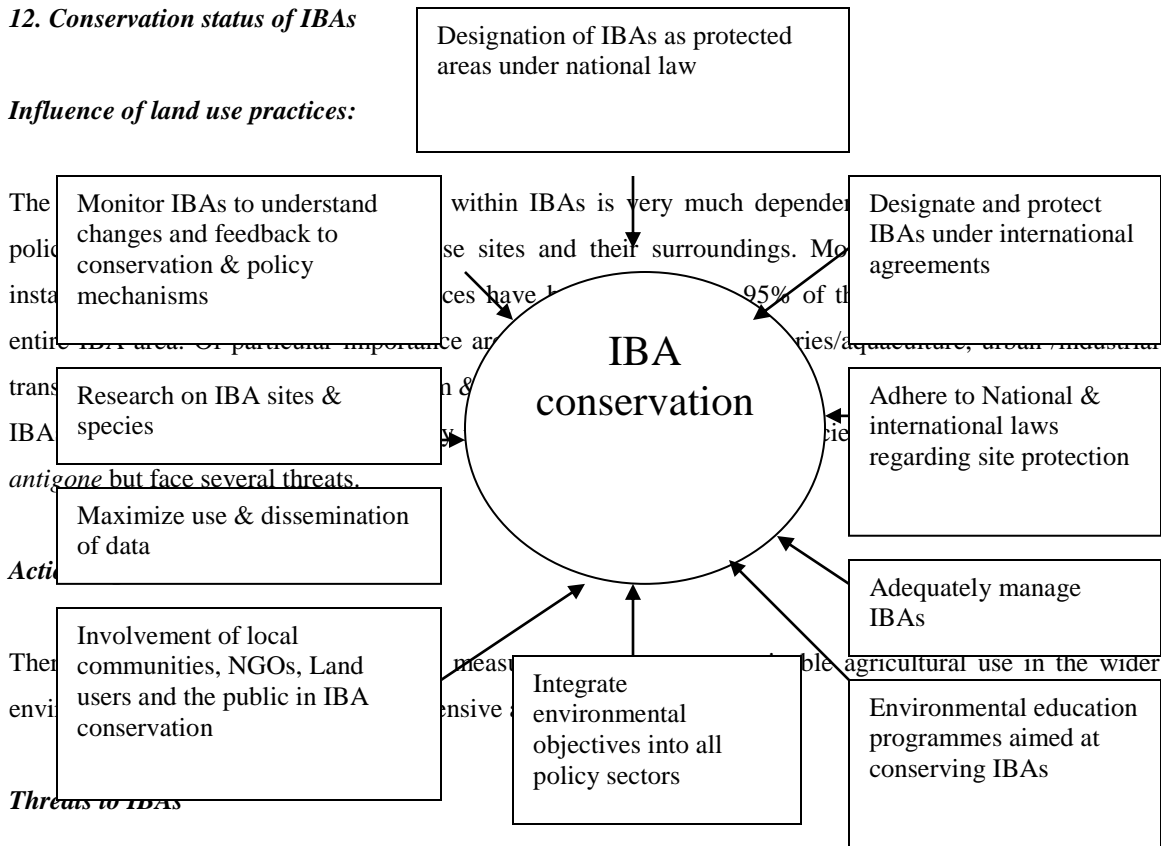
The IBAs of India are under immense pressure from developmental activities. To create a coherent network of site which meet the protection requirements of naturally occurring bird species the following need to be done.

#### ***Action required***

- Site oriented research and action encompassing habitat management, monitoring education advocacy and national and international legal protection.
- Designation of IBAs as special protected areas
- Ensuring trans-boundary issues are fully addressed by international cooperation to enable countries to coordinate conservation efforts.
- The integration of environmental issues and concerns into all sectors of society encouraging closer cooperation between the sectors and a more participatory form of policy making.
- National, regional and local authorities can favour and encourage the conservation of IBAs in the way that they formulate and use their laws, policies, plans, programmes, initiatives, subsidies, taxes, funds, and other broad measures.

**12. Conservation status of IBAs**

**Influence of land use practices:**



Nearly all IBAs are threatened to some degree by at least one factor. Agricultural intensification, unsustainable dams and dykes, the extraction industry, grazing by domestic livestock, recreation and tourism, threaten more than 95% of IBAs in India.

**Figure 1. Action identified for IBAs**

**Action required**

Local, state and national agencies should undertake research, environmental education and immediate conservation action in IBAs particularly those which are under the most threat. Gaps in knowledge of sites and species status should be filled through research

**IBAs not covered under the protected area network**

The 92 National Parks and 480 wildlife sanctuaries in India respectively cover 35,357.82 sq. km and 1,15,451 sq. km, which constitutes 4.58% of the country's 32,87,213 sq. km of geographic area (Kutty and Kothari 2001)

A high proportion of IBAs in India does not fall within the protected areas system. With 45% of the IBAs still unprotected, IBAs should be designated under national laws where appropriate. While legal measures may not always guarantee protection on the ground, they demonstrate to all sectors of society and branches of government, the official recognition and importance of a site.

### ***International conventions and the IBAs***

IBAs are recognised by intergovernmental bodies and international treaties such as the Biodiversity and Ramsar conventions. The Global Environment Facility recognises IBAs in their own strategies and action plans, while the European Union has used them as a basis for legal judgments (Heath and Evans 2000).

Some International conventions and programmes are particularly relevant to sites and species, these are: The Convention on Wetlands of International Importance, especially as Waterfowl habitat (Ramsar Convention), Convention on the Conservation of Migratory Species of wild animals (Bonn Convention), Convention on Biological Diversity and UNESCO's Man & Biosphere Programme (Evans 1994).

The IBA criteria are compatible with the Ramsar criteria set for wetlands of international importance, yet only 16 IBAs are Ramsar sites, IBAs that qualify the Ramsar criteria should be considered for designation as Ramsar sites for the internationally important numbers of waterbirds that they hold.

### ***Action required***

- Designation of qualifying IBAs under the Ramsar convention.
- Official recognition of IBAs required at local, national, regional and international levels.
- Designation of IBAs under relevant international conventions,
- Incorporation into national, state and local and developmental plans.
- National legal protection of IBAs,

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## Appendix I

**Important Bird Areas: summary of global categories and criteria**

Category	Criterion	Notes
<b>Globally threatened species</b>	The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.	The site qualifies if it is known or thought to hold a population of a species categorized as Critical, Endangered, Vulnerable, Conservation Dependent or Data Deficient.
<b>Restricted-range species</b>	The site is known or thought to hold a significant component of the restricted-range species whose breeding distributions define an Endemic Bird Area (EBA) or Secondary Area (SA).	The site also has to form one of a set selected to ensure that, as far as possible, all restricted-range species of an EBA or SA are present in significant numbers in at least one site and, preferably, more.
<b>Biome-restricted assemblage</b>	The site is known or thought to hold a significant component of the group of species whose distributions are largely or wholly confined to one biome.	The site also has to form one of a set selected to ensure that, as far as possible, all species and habitats characteristic of a biome are adequately represented.
<b>Congregations</b>	(i) The site is known or thought to hold, on a regular basis, $\geq$ 1% of a biogeographic population of a congregatory waterbird species.  <i>Or</i>	This applies to waterfowl species as defined by Rose and Scott (1997). Thresholds have been set by combining flyway populations within Asia. For species lacking quantitative data, thresholds were set by estimating 1% of the Asian biogeographic population.
	(ii) The site is known or thought to hold, on a regular basis, $\geq$ 1% of the global population of a congregatory seabird or terrestrial species.  <i>Or</i>	This includes those seabird species not covered by Rose and Scott (1997). Where quantitative data were lacking, numerical thresholds were set by estimating 1% of the global population.
	(iii) The site is known or thought to hold, on a regular basis, $\geq$ 20,000 waterbirds or $\geq$ 10,000 pairs of seabirds of one or more species.  <i>Or</i>	This is the Ramsar criterion for waterbirds, the use of which is discouraged wherever data are good enough to permit the use of (i) or (ii).
	(iv) The site is known or thought to exceed thresholds set for migratory species at bottleneck sites.	Thresholds are set regionally or inter-regionally, as appropriate.

## Appendix II

## Indian Red Data Book threatened bird species\* (BirdLife International 2000)

## Red Data Book threatened bird species reported from India\* (Source, BirdLife International 2000)

	SPECIES	ENGLISH			SPECIES	ENGLISH	
1	<i>Pelecanus crispus</i>	Dalmatian Pelican	CD	41	<i>Gallinago nemoricola</i>	Wood Snipe	VU
2	<i>Pelecanus philippensis</i>	Spot-billed Pelican	VU	42	<i>Tringa guttifer</i>	Spotted Greenshank	EN
3	<i>Fregata andrewsi</i>	Christmas Island Frigatebird	VU	43	<i>Eurynorhynchus pygmeus</i>	Spoon-billed Sandpiper	VU
4	<i>Ardea insignis</i>	White-bellied Heron	EN	44	<i>Rhinoptilus bitorquatus</i>	Jerdon's Courser	CR
5	<i>Ciconia boyciana</i>	Oriental Stork	EN	45	<i>Rynchops albicollis</i>	Indian Skimmer	VU
6	<i>Leptoptilos javanicus</i>	Lesser Adjutant	VU	46	<i>Columba eversmanni</i>	Eastern Stock Pigeon	VU
7	<i>Leptoptilos dubius</i>	Greater Adjutant	EN	47	<i>Columba elphinstonii</i>	Nilgiri Wood-pigeon	VU
8	<i>Oxyura leucocephala</i>	White-headed Duck	EN	48	<i>Columba punicea</i>	Purple Wood Pigeon	VU
9	<i>Anser erythropus</i>	Lesser White-fronted Goose	VU	49	<i>Otus alius</i>	Nicobar Scops-owl	DD
10	<i>Cairina scutulata</i>	White-winged Duck	EN	50	<i>Heteroglaux blewitti</i>	Forest Owlet	CR
11	<i>Anas formosa</i>	Baikal Teal	VU	51	<i>Apus acuticauda</i>	Khasi Hills Swift	VU
12	<i>Marmaronetta angustirostris</i>	Marbled Teal	VU	52	<i>Aceros nipalensis</i>	Rufous-necked Hornbill	VU
13	<i>Rhodonessa caryophyllacea</i>	Pink-headed Duck	CR	53	<i>Aceros narcondami</i>	Narcondam Hornbill	VU
14	<i>Aythya baeri</i>	Baer's Pochard	VU	54	<i>Pycnonotus xantholaemus</i>	Yellow-throated Bulbul	VU
15	<i>Haliaeetus leucoryphus</i>	Pallas's Fish-eagle	VU	55	<i>Hypsipetes nicobariensis</i>	Nicobar Bulbul	VU
16	<i>Accipiter butleri</i>	Nicobar Sparrowhawk	VU	56	<i>Turdus feae</i>	Grey-sided Thrush	VU
17	<i>Aquila clanga</i>	Greater Spotted Eagle	VU	57	<i>Brachypteryx hyperythra</i>	Rusty-bellied Shortwing	VU
18	<i>Aquila heliaca</i>	Eastern Imperial Eagle	VU	58	<i>Brachypteryx major</i>	White-bellied Shortwing	VU
19	<i>Falco naumanni</i>	Lesser Kestrel	VU	59	<i>Saxicola macrorhyncha</i>	Stoliczka's Bushchat	VU
20	<i>Megapodius nicobariensis</i>	Nicobar Megapode	VU	60	<i>Saxicola insignis</i>	Hodgson's Bushchat	VU
21	<i>Francolinus gularis</i>	Swamp Francolin	VU	61	<i>Garrulax cachimans</i>	Rufous-breasted Laughingthrush	EN
22	<i>Perdica manipurensis</i>	Manipur Bush-quail	VU	62	<i>Pellorneum palustre</i>	Marsh Babbler	VU
23	<i>Arborophila mandellii</i>	Chestnut-breasted Partridge	VU	63	<i>Spelaeornis badeigularis</i>	Mishmi Wren-Babbler	VU
24	<i>Ophrysia superciliosa</i>	Himalayan Quail	CR	64	<i>Spelaeornis longicaudatus</i>	Tawny-breasted Wren-babbler	VU
25	<i>Tragopan melanocephalus</i>	Western Tragopan	VU	65	<i>Stachyris oglei</i>	Snowy-throated Babbler	VU
26	<i>Tragopan blythii</i>	Blyth's Tragopan	VU	66	<i>Chrysomma altirostre</i>	Jerdon's Babbler	VU
27	<i>Lophophorus sclateri</i>	Sclater's Monal	VU	67	<i>Turdoides longirostris</i>	Slender-billed Babbler	VU
28	<i>Catreus wallichi</i>	Cheer Pheasant	VU	68	<i>Paradoxornis flavirostris</i>	Black-breasted Parrotbill	VU
29	<i>Syrmaticus humiae</i>	Mrs. Mrs. Hume's Pheasant	VU	69	<i>Prinia cinereocapilla</i>	Grey-crowned Prinia	VU
30	<i>Pavo muticus</i>	Green Peafowl	VU	70	<i>Chaetornis striatus</i>	Bristled Grass-Warbler	VU
31	<i>Grus leucogeranus</i>	Siberian Crane	CR	71	<i>Schoenicola platyura</i>	Broad-tailed Grass-Warbler	VU
32	<i>Grus monacha</i>	Hooded Crane	VU	72	<i>Ficedula subrubra</i>	Kashmir Flycatcher	VU
33	<i>Grus nigricollis</i>	Black-necked Crane	VU	73	<i>Parus nuchalis</i>	Pied Tit	VU
34	<i>Grus antigone</i>	Sarus Crane	VU	74	<i>Sitta formosa</i>	Beautiful Nuthatch	VU
35	<i>Rallina canningi</i>	Andaman Crane	DD	75	<i>Amandava formosa</i>	Green Munia	VU
36	<i>Heliopais personata</i>	Masked Finfoot	VU	76	<i>Ploceus megarhynchus</i>	Finn's Weaver	VU
37	<i>Ardeotis nigriceps</i>	Great Indian Bustard	EN	77	<i>Gyps bengalensis</i>	White-backed Vulture	CR
38	<i>Houbaropsis bengalensis</i>	Bengal Florican	EN	78	<i>Gyps indicus</i>	Long-billed Vulture(*)	CR
39	<i>Sypheotides indica</i>	Lesser Florican	EN	79	<i>Gyps tenuirostris</i>	Slender-billed Vulture(*)	CR
40	<i>Vanellus gregarius</i>	Sociable Lapwing	VU				

**NOTE**

1. Species listed as Critical (CR), Endangered (EN), Vulnerable (VU), Data Deficient (DD) or Conservation Dependent (CD) in the Asian Red Data Book.
2. Near Threatened (NT) species have not been included.
- 3.. The taxons of Indian Vulture (*Gyps indicus*) and Slender-billed Vulture(*Gyps tenurostris*) were initially described as separate species but have been treated as subspecies and known as Long-billed Vulture (*Gyps indicus*) since the early twentieth century. Recent studies have shown that the two forms are distinct species that are not even each other's closest relatives (BirdLife International 2001).\*Species listed as Critical (CR), Endangered (EN), Vulnerable (VU), Data Deficient (DD) or Conservation Dependent (CD) in the Asian Red Data Book. Near Threatened (NT) species have not been included.

\* \*The taxons of Indian Vulture (*Gyps indicus*) and Slender-billed Vulture(*Gyps tenurostris*) were initially described as separate species but have been treated as subspecies and known as Long-billed Vulture (*Gyps indicus*) since the early twentieth century. Recent studies have shown that the two forms are distinct species that are not even each other's closest relatives (BirdLife International 2001).

## Appendix III Endemic bird areas in India with the list of restricted range bird species found in them:

**8. Western Ghats**

1.	Nilgiri Wood Pigeon	<i>Columba elphinstoni</i>
9.	Blue-winged Parakeet	<i>Psittacula columboides</i>
10.	Malabar Grey-Hornbill	<i>Ocyeros griseus</i>
11.	Nilgiri Pipit	<i>Anthus nilghiriensis</i>
12.	Grey-headed Bulbul	<i>Pycnonotus priocephalus</i>
13.	Black-and-Orange Flycatcher	<i>Ficedula nigrorufa</i>
14.	Broad-tailed Grassbird	<i>Schoenicola platyura</i>
15.	Small Sunbird	<i>Nectarinia minima</i>
16.	Grey-breasted Laughingthrush	<i>Garrulax jerdoni</i>
17.	Nilgiri Flycatcher	<i>Eumyias albicaudata</i>
18.	Indian Rufous Babbler	<i>Turdoides subrufus</i>
19.	Nilgiri Laughingthrush	<i>Garrulax cachimans</i>
20.	White-bellied Blue Flycatcher	<i>Cyornis pallipes</i>
21.	White-bellied Shortwing	<i>Brachypteryx major</i>
22.	White-bellied Treepie	<i>Dendrocitta leucogastra</i>
23.	Wynaad Laughingthrush	<i>Garrulax delesserti</i>

**2. Andaman Islands**

1.	Andaman Serpent-Eagle	<i>Spilornis elgini</i>
2.	Nicobar Megapode	<i>Megapodius nicobariensis</i>
3.	Andaman Crake	<i>Rallina canningi</i>
4.	Andaman Wood-Pigeon	<i>Columba palumboides</i>
5.	Andaman Cuckoo-dove	<i>Macropygia rufipennis</i>
6.	Andaman Hawk-owl	<i>Ninox affinis</i>
7.	Narcondam Hornbill	<i>Aceros narcondami</i>
8.	Andaman Black Woodpecker	<i>Dryocopus hodgei</i>
9.	Andaman Drongo	<i>Dicrurus andamanensis</i>
10.	Andaman Treepie	<i>Dendrocitta bayleyi</i>
11.	White-headed Starling	<i>Sturnus erythropygius</i>

**3. Nicobar Islands**

1.	Nicobar Serpent-eagle	<i>Spilornis minimus</i>
2.	Nicobar Sparrowhawk	<i>Accipiter butleri</i>
3.	Nicobar Megapode	<i>Megapodius nicobariensis</i>
4.	Andaman Wood Pigeon	<i>Columba palumboides</i>
5.	Andaman Cuckoo-dove	<i>Macropygia rufipennis</i>
7.	Nicobar Parakeet	<i>Psittacula caniceps</i>
8.	Andaman Hawk-owl	<i>Ninox affinis</i>
9.	Nicobar Bulbul	<i>Hypsipetes nicobariensis</i>
10.	White-headed Starling	<i>Sturnus erythropygus</i>

#### 4. Western Himalayas

1.	Himalayan Quail	<i>Ophrysia superciliosa</i>
2.	Western Tragopan	<i>Tragopan melanocephalus</i>
3.	Cheer Pheasant	<i>Catreus wallichii</i>
4.	Brooke's Leaf Warbler	<i>Phylloscopus subviridis</i>
5.	Kashmir Flycatcher	<i>Ficedula subrubra</i>
6.	Kashmir Nuthatch	<i>Sitta cashmirensis</i>
7.	Orange Bullfinch	<i>Pyrrhula aurantiaca</i>
8.	Spectacled Finch	<i>Callacanthus burtoni</i>
9.	White-cheeked Tit	<i>Aegithalos leucogenys</i>
10.	Tytler's Leaf Warbler	<i>Phylloscopus tyleri</i>
11.	White-throated Tit	<i>Aegithalos niveogularis</i>

#### 5. Eastern Himalayas

1.	Khasi Hills Swift	<i>Apus acuticauda</i>
2.	Ward's Trogon	<i>Harpactes wardi</i>
3.	Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
4.	Blyth's Tragopan	<i>Tragopan blythii</i>
5.	Sclater's Monal	<i>Lophophorus sclateri</i>
6.	Beautiful Sibia	<i>Heterophasia pulchella</i>
7.	Broad-billed Flycatcher Warbler	<i>Tickellia hodgsoni</i>
8.	Brown-capped Laughingthrush	<i>Garrulax austeni</i>
9.	Grey Sibia	<i>Heterophasia gracilis</i>
10.	Hoary-throated Barwing	<i>Actinodura nipalensis</i>

11.	Brown-throated Tit-Babbler	<i>Alcippe ludlowi</i>
12.	Rufous-throated Wren-babbler	<i>Spaeleornis caudatus</i>
13.	Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
14.	Mishmi Wren Babbler	<i>Spelaeornis badeigualris</i>
15.	Austen's Babbler	<i>Stachyris oglei</i>
16.	Austen's Barwing	<i>Actinodura waldeni</i>
17.	Striped Laughingthrush	<i>Garrulax virgatus</i>
18.	Tawny-breasted Wren-babbler	<i>Speleornis longicaudatus</i>
19.	Wedge-billed Wren-babbler	<i>Sphenocichla humei</i>
20.	White-naped Yuhina	<i>Yuhina bakeri</i>
21.	Black-browed Leaf Warbler	<i>Phylloscopus canator</i>

#### 6. Assam Plains

1.	Manipur Bush-Quail	<i>Perdica manipurensis</i>
2.	Blackbreasted Parrotbill	<i>Paradoxornis flavirostris</i>
3.	Marsh Babbler	<i>Pellorneum palustre</i>

#### 7. Southern Tibet

1.	Giant Babax	<i>Babax waddelli</i>
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#### Secondary Areas in India with a list of restricted range species found in them:

##### 1. Eastern Andhra Pradesh

1.	Jerdon's Courser	<i>Rhinoptilus bitorquatus</i>
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##### 2. Southern Deccan plateau

1.	Yellow-throated Bulbul	<i>Pycnonotus xantholaemus</i>
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##### 3. Indus plains

1.	Sind Sparrow	<i>Passer pyrrhonotus</i>
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##### 4. Central Indian Forests

1.	Forest Owlet	<i>Heteroglaux blewitti</i>
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##### 5. North Myanmar lowlands

1.	Chestnut-backed Laughingthrush	<i>Garrulax nuchalis</i>
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**Appendix 4 Biome wise distribution of bird species****BIOME 05: EURASIAN HIGH MONTANE (ALPINE AND TIBETAN)****BIOME 07: SINO-HIMALAYAN TEMPERATE FOREST****BIOME 08: SINO-HIMALAYAN SUBTROPICAL FOREST****BIOME 09: INDOCHINESE TROPICAL MOIST FOREST****BIOME 10: INDIAN PENINSULA TROPICAL MOIST FOREST****BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE****BIOME 12: INDO-GANGETIC PLAINS****BIOME 13: SAHARO-SINDIAN DESERT****BIOME 05: EURASIAN HIGH MONTANE (ALPINE AND TIBETAN)**

LOCATION: The Altay-Sayan mountains in south-eastern Russia, western Mongolia and north-western China, the Tien Shan and Qinghai-Tibetan Plateau in China, and northern (Trans-Himalayan) Pakistan, India, Nepal, Bhutan, and Myanmar (extends westward into the central Asian republics, the Middle East and Europe). Open habitats at and above the tree-line, mainly above c.3,600 m.

KEY HABITATS: Scrub and open habitats at and above the tree-line, including alpine and subalpine scrub and grassland; inland cliffs and rocky slopes; scree and boulders; montane wetlands; gravel and sand plains.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: Southern Tibet (EBA 133; 2 species); Eastern Tibet (EBA 134; 2 species); Southern Xinjiang mountains (SA 076; 1 species); Mongolian mountains (SA 077; 1 species); Northern Qinghai-Tibetan plateau (SA 078; 1 species).

	SPECIES	ENGLISH
1.	<i>Gyps himalayensis</i>	Himalayan Griffon
2.	<i>Lerwa lerwa</i>	Snow Partridge
3.	<i>Tetraogallus tibetanus</i>	Tibetan Snowcock
4.	<i>Tetraogallus himalayensis</i>	Himalayan Snowcock
5.	<i>Perdix hodgsoniae</i>	Tibetan Partridge
6.	<i>Grus nigricollis</i>	Black-necked Crane
7.	<i>Gallinago solitaria</i>	Solitary Snipe
8.	<i>Gallinago nemoricola</i>	Wood Snipe
9.	<i>Ibidorhyncha struthersii</i>	Ibisbill
10.	<i>Larus brunnicephalus</i>	Brown-headed Gull
11.	<i>Syrrhaptes tibetanus</i>	Tibetan Sandgrouse
12.	<i>Columba leuconota</i>	Snow Pigeon
13.	<i>Melanocorypha maxima</i>	Long-billed Calandra Lark
14.	<i>Calandrella acutirostris</i>	Hume's Short-toed Lark
15.	<i>Anthus roseatus</i>	Rosy Pipit
16.	<i>Anthus spinoletta</i>	Water Pipit
17.	<i>Lanius tephronotus</i>	Grey-backed Shrike
18.	<i>Prunella collaris</i>	Alpine Accentor

19.	<i>Prunella himalayana</i>	Altai Accentor
20.	<i>Prunella rubeculoides</i>	Robin Accentor
21.	<i>Prunella fulvescens</i>	Brown Accentor
22.	<i>Zoothera mollissima</i>	Plain-backed Thrush
23.	<i>Turdus kessleri</i>	Kessler's Thrush
24.	<i>Phoenicurus hodgsoni</i>	Hodgson's Redstart
25.	<i>Phoenicurus erythrogaster</i>	Guldenstadt's Redstart
26.	<i>Grandala coelicolor</i>	Grandala
27.	<i>Saxicola insignis</i>	Hodgson's Bushchat
28.	<i>Garrulax henrici</i>	Prince Henri's Laughingthrush
29.	<i>Leptopoeile sophiae</i>	Stoliczka's Tit-Warbler
30.	<i>Phylloscopus fuligiventer</i>	Smoky Warbler
31.	<i>Phylloscopus affinis</i>	Tickell's Warbler
32.	<i>Phylloscopus griseolus</i>	Olivaceous Leaf Warbler
33.	<i>Tichodroma muraria</i>	Wallcreeper
34.	<i>Leucosticte nemoricola</i>	Hodgson's Mountain-finch
35.	<i>Leucosticte brandti</i>	Black-headed Mountain-finch
36.	<i>Rhodopechys sanguinea</i>	Crimson-winged Finch
37.	<i>Carpodacus pulcherrimus</i>	Beautiful Rosefinch
38.	<i>Carpodacus rhodochlamys</i>	Red-mantled Rosefinch
39.	<i>Carpodacus rubicilloides</i>	Streaked Great Rosefinch
40.	<i>Carpodacus rubicilla</i>	Common Great Rosefinch
41.	<i>Carpodacus puniceus</i>	Red-fronted Rosefinch
42.	<i>Montifringilla nivalis</i>	Pallas's Snowfinch
43.	<i>Montifringilla adamsi</i>	Tibetan Snowfinch
44.	<i>Montifringilla taczanowskii</i>	Mandelli's Snowfinch
45.	<i>Montifringilla ruficollis</i>	Rufous-necked Snowfinch
46.	<i>Montifringilla blanfordi</i>	Plain-backed Snowfinch
47.	<i>Pseudopodoces humilis</i>	Hume's Groundpecker
48.	<i>Pyrrhocorax graculus</i>	Yellow-billed Chough

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**BIOME 07: SINO-HIMALAYAN TEMPERATE FOREST**

**LOCATION:** The mountains bordering the Qinghai-Tibetan Plateau in southern and western China, northern Pakistan and India, Nepal and Bhutan, the mountains of Bangladesh, Myanmar, Taiwan, northern Laos, Thailand and Vietnam, and the Altay-Sayan and Tien Shan ranges in south-eastern Russia, western Mongolia and north-western China (extends westward into Afghanistan and the central Asian republics). Mainly between c.1,800 and 3,600 m.

**KEY HABITATS:** Broadleaf evergreen forest; Broadleaf deciduous, mixed broadleaf-coniferous and coniferous forest; Montane grassland.

**ENDEMIC BIRD AREAS AND SECONDARY AREAS:** Western Himalayas (EBA 128; 11 species); Central Himalayas (EBA 129; 3 species); Eastern Himalayas (EBA 130; 22 species); Qinghai mountains (EBA 135; 2 species); Shanxi mountains (EBA 136; 2 species); Central Sichuan mountains (EBA 137; 11 species); West Sichuan mountains (EBA 138; 3 species); Yunnan mountains (EBA 139; 3 species); Fan-Si-Pan and northern Laos (SA 082; 4 species).

	SPECIES	ENGLISH
49.	<i>Tetraophasis szechenyii</i>	Buff-throated Partridge
50.	<i>Arborophila torqueola</i>	Common Hill Partridge
51.	<i>Ithaginis cruentus</i>	Blood Pheasant



52.	<i>Tragopan satyra</i>	Satyr Tragopan
53.	<i>Tragopan temminckii</i>	Temminck's Tragopan
54.	<i>Pucrasia macrolopha</i>	Koklass Pheasant
55.	<i>Lophophorus impejanus</i>	Impeyan Monal
56.	<i>Columba hodgsonii</i>	Speckled Wood-pigeon
57.	<i>Psittacula derbiana</i>	Lord Derby's Parakeet
58.	<i>Indicator xanthonotus</i>	Yellow-rumped Honeyguide
59.	<i>Dendrocopos darjellensis</i>	Darjeeling Pied Woodpecker
60.	<i>Dendrocopos himalayensis</i>	Himalayan Pied Woodpecker
61.	<i>Delichon nipalensis</i>	Nepal House-martin
62.	<i>Prunella strophitata</i>	Rufous-breasted Accentor
63.	<i>Prunella atrogularis</i>	Black-throated Accentor
64.	<i>Prunella immaculata</i>	Maroon-backed Accentor
65.	<i>Zoothera dixoni</i>	Long-tailed Thrush
66.	<i>Zoothera monticola</i>	Greater Long-billed Thrush
67.	<i>Turdus albocinctus</i>	White-collared Blackbird
68.	<i>Turdus rubrocanus</i>	Chestnut Thrush
69.	<i>Brachypteryx stellata</i>	Gould's Shortwing
70.	<i>Luscinia pectoralis</i>	Himalayan Rubythroat
71.	<i>Luscinia pectardens</i>	Firethroat
72.	<i>Luscinia brunnea</i>	Indian Blue Robin
73.	<i>Tarsiger chrysaeus</i>	Golden Bush-robin
74.	<i>Tarsiger indicus</i>	White-browed Bush-robin
75.	<i>Tarsiger hyperythrus</i>	Rufous-breasted Bush-robin
76.	<i>Phoenicurus erythronotus</i>	Eversmann's Redstart
77.	<i>Phoenicurus caeruleocephalus</i>	Blue-capped Redstart
78.	<i>Phoenicurus schisticeps</i>	White-throated Redstart
79.	<i>Hodgsonius phaenicuroides</i>	White-bellied Redstart
80.	<i>Garrulax albogularis</i>	White-throated Laughingthrush
81.	<i>Garrulax striatus</i>	Striated Laughingthrush
82.	<i>Garrulax ocellatus</i>	Spotted Laughingthrush
83.	<i>Garrulax lineatus</i>	Streaked Laughingthrush
84.	<i>Garrulax subunicolor</i>	Scaly Laughingthrush
85.	<i>Garrulax elliotii</i>	Elliot's Laughingthrush
86.	<i>Garrulax variegatus</i>	Variegated Laughingthrush
87.	<i>Garrulax affinis</i>	Black-faced Laughingthrush
88.	<i>Xiphirhynchus superciliaris</i>	Slender-billed Scimitar-babbler
89.	<i>Pnoepyga albiventer</i>	Greater Scaly-breasted Wren-babbler
90.	<i>Spelaeornis troglodytoides</i>	Bar-winged Wren-babbler
91.	<i>Spelaeornis formosus</i>	Spotted Wren-babbler
92.	<i>Spelaeornis chocolatinus</i>	Long-tailed Wren-babbler
93.	<i>Pteruthius xanthochlorus</i>	Green Shrike-babbler
94.	<i>Minla strigula</i>	Bar -throated Minla
95.	<i>Minla ignotincta</i>	Red-tailed Minla
96.	<i>Alcippe chrysotis</i>	Golden-breasted Tit-babbler
97.	<i>Alcippe vinipectus</i>	White-browed Tit-babbler
98.	<i>Heterophasia capistrata</i>	Rufous Sibia
99.	<i>Yuhina gularis</i>	Stripe-throated Yuhina
100.	<i>Yuhina occipitalis</i>	Rufous-vented Yuhina
101.	<i>Myzornis pyrrhoura</i>	Myzornis
102.	<i>Conostoma oemodium</i>	Great Parrotbill
103.	<i>Paradoxornis unicolor</i>	Brown Parrotbill

104.	<i>Paradoxornis fulvifrons</i>	Fulvous-fronted Parrotbill
105.	<i>Tesia castaneocoronata</i>	Chestnut-headed Tesia
106.	<i>Tesia cyaniventer</i>	Grey-bellied Tesia
107.	<i>Cettia major</i>	Chestnut-crowned Bush-Warbler
108.	<i>Cettia flavolivacea</i>	Aberrant Bush-Warbler
109.	<i>Cettia acanthizoides</i>	Yellow-bellied Bush-Warbler
110.	<i>Cettia brunnifrons</i>	Grey-sided Bush-Warbler
111.	<i>Bradypterus major</i>	Long-billed Bush-Warbler
112.	<i>Phylloscopus subaffinis</i>	Buff-throated Warbler
113.	<i>Phylloscopus pulcher</i>	Orange-barred Leaf Warbler
114.	<i>Phylloscopus maculipennis</i>	Grey-faced Leaf Warbler
115.	<i>Phylloscopus magnirostris</i>	Large-billed Leaf-Warbler
116.	<i>Phylloscopus occipitalis</i>	Western Crowned-Warbler
117.	<i>Seicercus poliogenys</i>	Grey-cheeked Flycatcher Warbler
118.	<i>Muscicapa ruficauda</i>	Rusty-tailed Flycatcher
119.	<i>Muscicapa ferruginea</i>	Ferruginous Flycatcher
120.	<i>Ficedula hodgsonii</i>	Rufous-breasted Blue Flycatcher
121.	<i>Ficedula strophciata</i>	Orange-gorgeted Flycatcher
122.	<i>Ficedula superciliaris</i>	Ultramarine Flycatcher
123.	<i>Ficedula tricolor</i>	Slaty-blue Flycatcher
124.	<i>Ficedula sapphira</i>	Sapphire Flycatcher
125.	<i>Niltava sundara</i>	Rufous-bellied Niltava
126.	<i>Aegithalos iouschistos</i>	Rufous-fronted Tit
127.	<i>Cephalopyrus flammiceps</i>	Fire-capped Tit
128.	<i>Parus rufonuchalis</i>	Simla-naped Crested Tit
129.	<i>Parus rubidiventris</i>	Rufous-bellied Crested Tit
130.	<i>Parus melanolophus</i>	Spot-winged Crested Tit
131.	<i>Parus dichrous</i>	Brown Crested Tit
132.	<i>Parus monticolus</i>	Green-backed Tit
133.	<i>Sylviparus modestus</i>	Yellow-browed Tit
134.	<i>Sitta himalayensis</i>	White-tailed Nuthatch
135.	<i>Sitta leucopsis</i>	White-cheeked Nuthatch
136.	<i>Certhia himalayana</i>	Bar-tailed Tree-creeper
137.	<i>Certhia nipalensis</i>	Rusty-flanked Tree-creeper
138.	<i>Dicaeum melanoxanthum</i>	Yellow-bellied Flowerpecker
139.	<i>Aethopyga ignicauda</i>	Fire-tailed Sunbird
140.	<i>Serinus thibetanus</i>	Tibetan Siskin
141.	<i>Carduelis spinoides</i>	Yellow-breasted Greenfinch
142.	<i>Carduelis ambigua</i>	Black-headed Greenfinch
143.	<i>Carpodacus rubescens</i>	Blanford's Rosefinch
144.	<i>Carpodacus nipalensis</i>	Dark-breasted Rosefinch
145.	<i>Carpodacus rodochrous</i>	Pink-browed Rosefinch
146.	<i>Carpodacus vinaceus</i>	Vinaceous Rosefinch
147.	<i>Carpodacus edwardsii</i>	Dark-rumped Rosefinch
148.	<i>Carpodacus rodopeplus</i>	Spot-winged Rosefinch
149.	<i>Carpodacus thura</i>	White-browed Rosefinch
150.	<i>Propyrrhula subhimachala</i>	Crimson-browed Finch
151.	<i>Haematospiza sipahi</i>	Scarlet Finch
152.	<i>Pyrrhula nipalensis</i>	Brown Bullfinch
153.	<i>Pyrrhula erythrocephala</i>	Red-headed Bullfinch
154.	<i>Pyrrhula erythaca</i>	Beavan's Bullfinch
155.	<i>Mycerobas icterioides</i>	Black-and-yellow Grosbeak

156.	<i>Mycerobas affinis</i>	Collared Grosbeak
157.	<i>Mycerobas melanozanthos</i>	Spotted-winged Grosbeak
158.	<i>Mycerobas carnipes</i>	White-winged Grosbeak
159.	<i>Pyrrhoptectes epauletta</i>	Gold-naped Black Finch
160.	<i>Urocissa flavirostris</i>	Yellow-billed Blue Magpie

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**BIOME 08: SINO-HIMALAYAN SUBTROPICAL FOREST**

LOCATION: South-eastern China, Taiwan, the Himalayan foothills of Pakistan, India, Nepal and Bhutan, and the mountains of Bangladesh, Myanmar, Thailand, Laos, Cambodia, Vietnam and peninsular Malaysia. Mainly between c.1,000 and 2,000 m.

KEY HABITATS: Lower montane rain forest; Hill evergreen forest; Pine forest.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: Chinese subtropical forests (EBA 140; 5 species); South-East Chinese mountains (EBA 141; 5 species); Hainan (EBA 142; 4 species); Da Lat plateau (EBA 145; 8 species); Taiwan (EBA 149; 15 species); Myanmar-Thailand mountains (SA 080; 1 species); Doi Chiang Dao (SA 081; 1 species); Southern Laos (SA 083; 2 species); Kontum Plateau (SA 084; 3 species); Thailand-Cambodia mountains (SA 085; 1 species).

NOTES: A few of the species of this biome range into the mountains of peninsular Malaysia, and there is therefore some overlap with the Sundaic montane forest (Biome 15). Note that the division of this biome from the Indochinese tropical moist forest (Biome 09) is particularly difficult, with some species listed for the two biomes overlapping in altitudinal range.

	SPECIES	ENGLISH
161.	<i>Microhierax melanoleucos</i>	Pied Falconet
162.	<i>Arborophila rufogularis</i>	Rufous-throated Hill-Partridge
163.	<i>Bambusicola fytchii</i>	Mountain Bamboo-partridge
164.	<i>Syrnaticus humiae</i>	Mrs. Hume's Pheasant
165.	<i>Porzana bicolor</i>	Elwes's Crake
166.	<i>Psittacula himalayana</i>	Slaty-headed Parakeet
167.	<i>Psittacula finschii</i>	Grey-headed Parakeet
168.	<i>Chrysococcyx maculatus</i>	Asian Emerald Cuckoo
169.	<i>Batrachostomus hodgsoni</i>	Hodgson's Frogmouth
170.	<i>Alcedo hercules</i>	Blyth's Kingfisher
171.	<i>Anorrhinus tickelli</i>	Brown Hornbill
172.	<i>Aceros nipalensis</i>	Rufous-necked Hornbill
173.	<i>Megalaima franklinii</i>	Golden-throated Barbet
174.	<i>Megalaima asiatica</i>	Blue-throated Barbet
175.	<i>Dendrocopos atratus</i>	Stripe-breasted Woodpecker
176.	<i>Blythipicus pyrrhotis</i>	Bay Woodpecker
177.	<i>Pitta nipalensis</i>	Blue-naped Pitta
178.	<i>Coracina melaschistos</i>	Black-winged Cuckoo-shrike
179.	<i>Pericrocotus roseus</i>	Rosy Minivet
180.	<i>Pericrocotus brevirostris</i>	Short-billed Minivet
181.	<i>Spizixos canifrons</i>	Crested Finchbill
182.	<i>Pycnonotus striatus</i>	Striated Bulbul
183.	<i>Pycnonotus leucogenys</i>	Himalayan Bulbul
184.	<i>Pycnonotus flavescens</i>	Blyth's Bulbul
185.	<i>Alophoixus flaveolus</i>	White-throated Bulbul
186.	<i>Hypsipetes mcclllandii</i>	Rufous-bellied Bulbul
187.	<i>Hypsipetes leucocephalus</i>	Black Bulbul

188.	<i>Chloropsis hardwickii</i>	Orange-bellied Chloropsis
189.	<i>Lanius colluriooides</i>	Burmese Shrike
190.	<i>Monticola cinclorhynchus</i>	Blue-headed Rock-thrush
191.	<i>Zoothera wardii</i>	Pied Thrush
192.	<i>Zoothera marginata</i>	Lesser Long-billed Thrush
193.	<i>Turdus unicolor</i>	Tickell's Thrush
194.	<i>Turdus dissimilis</i>	Black-breasted Thrush
195.	<i>Turdus bouboul</i>	Grey-winged Blackbird
196.	<i>Myiomela leucurum</i>	White-tailed Robin
197.	<i>Cinclidium frontale</i>	Blue-fronted Robin
198.	<i>Enicurus schistaceus</i>	Slaty-backed Forktail
199.	<i>Cochoa purpurea</i>	Purple Cochoa
200.	<i>Cochoa viridis</i>	Green Cochoa
201.	<i>Garrulax galbanus</i>	Yellow-throated Laughingthrush
202.	<i>Garrulax gularis</i>	Rufous-vented Laughingthrush
203.	<i>Garrulax cineraceus</i>	Ashy Laughingthrush
204.	<i>Garrulax rufogularis</i>	Rufous-chinned Laughingthrush
205.	<i>Garrulax caerulatus</i>	Grey-sided Laughingthrush
206.	<i>Garrulax merulinus</i>	Spot-breasted Laughingthrush
207.	<i>Garrulax sannio</i>	White-browed Laughingthrush
208.	<i>Garrulax squamatus</i>	Blue-winged Laughingthrush
209.	<i>Liocichla phoenicea</i>	Red-faced Liocichla
210.	<i>Pellorneum albiventre</i>	Spot-throated Babbler
211.	<i>Pomatorhinus erythrocnemis</i>	Spot-breasted Scimitar-babbler
212.	<i>Pomatorhinus erythrognys</i>	Rusty-cheeked Scimitar-babbler
213.	<i>Pomatorhinus ochraceiceps</i>	Lloyd's Scimitar Babbler
214.	<i>Napothera brevicaudata</i>	Streaked Wren-babbler
215.	<i>Stachyris ruficeps</i>	Rufous-capped Babbler
216.	<i>Stachyris pyrrhops</i>	Black-chinned Babbler
217.	<i>Babax lanceolatus</i>	Chinese Babax
218.	<i>Leiothrix lutea</i>	Red-billed Leiothrix
219.	<i>Cutia nipalensis</i>	Cutia
220.	<i>Pteruthius rufiventer</i>	Rufous-bellied Shrike Babbler
221.	<i>Gampsorhynchus rufulus</i>	White-hooded Babbler
222.	<i>Actinodura egertoni</i>	Rusty-fronted Barwing
223.	<i>Minla cyanouroptera</i>	Blue-winged Minla
224.	<i>Alcippe cinerea</i>	Yellow-throated Tit-Babbler
225.	<i>Alcippe cinereiceps</i>	Streak-throated Tit Babbler
226.	<i>Alcippe brunnea</i>	Dusky Tit-Babbler
227.	<i>Alcippe nipalensis</i>	Nepal Tit-Babbler
228.	<i>Heterophasia annectens</i>	Rufous-backed Sibia
229.	<i>Yuhina castaniceps</i>	Striated Yuhina
230.	<i>Yuhina nigrimenta</i>	Black-chinned Yuhina
231.	<i>Paradoxornis gularis</i>	Grey-headed Parrotbill
232.	<i>Paradoxornis guttaticollis</i>	Spot-breasted Parrotbill
233.	<i>Paradoxornis atrosuperciliaris</i>	Lesser Rufous-headed Parrotbill
234.	<i>Paradoxornis ruficeps</i>	Greater Rufous-headed Parrotbill
235.	<i>Prinia criniger</i>	Brown Prinia
236.	<i>Tesia olivea</i>	Slaty-bellied Tesia
237.	<i>Cettia pallidipes</i>	Blanford's Bush-Warbler
238.	<i>Seicercus xanthoschistos</i>	Grey-headed Flycatcher Warbler
239.	<i>Seicercus affinis</i>	White-spectacled Flycatcher

		Warbler
240.	<i>Abroscopus albogularis</i>	Rufous-faced Flycatcher Warbler
241.	<i>Abroscopus schisticeps</i>	Black-faced Flycatcher Warbler
242.	<i>Muscicapa muttui</i>	Brown-breasted Flycatcher
243.	<i>Ficedula monileger</i>	White-gorgeted Flycatcher
244.	<i>Niltava macgrigoriae</i>	Small Niltava
245.	<i>Aegithalos concinnus</i>	Red-headed Tit
246.	<i>Parus spilonotus</i>	Black-spotted Yellow Tit
247.	<i>Sitta formosa</i>	Beautiful Nuthatch
248.	<i>Aethopyga saturata</i>	Black-throated Sunbird
249.	<i>Arachnothera magna</i>	Streaked Spiderhunter
250.	<i>Saroglossa spiloptera</i>	Spot-winged Starling
251.	<i>Sturnus sinensis</i>	White-shouldered Starling
252.	<i>Oriolus tenuirostris</i>	Slender-billed Oriole
253.	<i>Oriolus traillii</i>	Maroon Oriole
254.	<i>Garrulus lanceolatus</i>	Black-headed Jay
255.	<i>Dendrocitta formosae</i>	Grey Treepie
256.	<i>Dendrocitta frontalis</i>	Black-browed Treepie

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**BIOME 09: INDOCHINESE TROPICAL MOIST FORESTS**

LOCATION: Southern Nepal and Bhutan, Bangladesh, extreme southern China, Myanmar, Thailand, Laos, Cambodia and Vietnam. Mainly below c.1,000 m.

KEY HABITATS: Lowland evergreen rain forest; Semi-evergreen rain forest; Moist deciduous forest.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: Annamese lowlands (EBA 143; 8 species); South Vietnamese lowlands (EBA 144; 3 species); North Myanmar lowlands (SA 079; 1 species).

	SPECIES	ENGLISH
257.	<i>Ardea insignis</i>	White-bellied Heron
258.	<i>Arborophila atrogularis</i>	White-cheeked Hill- Partridge
259.	<i>Polyplectron bicalcaratum</i>	Grey Peacock-pheasant
260.	<i>Heliopais personata</i>	Masked Finfoot
261.	<i>Columba punicea</i>	Purple Wood Pigeon
262.	<i>Dinopium shorii</i>	Himalayan Golden-backed Woodpecker
263.	<i>Gecinulus grantia</i>	Pale-headed Woodpecker
264.	<i>Pitta cyanea</i>	Blue Pitta
265.	<i>Iole virescens</i>	Olive Bulbul
266.	<i>Enicurus immaculatus</i>	Black-backed Forktail
267.	<i>Garrulax monileger</i>	Lesser Necklaced Laughingthrush
268.	<i>Garrulax pectoralis</i>	Greater Necklaced Laughingthrush
269.	<i>Garrulax ruficollis</i>	Rufous-necked Laughingthrush
270.	<i>Alcippe rufogularis</i>	Rufous-throated Tit-Babbler
271.	<i>Prinia cinereocapilla</i>	Hodgson's Prinia
272.	<i>Cyornis poliogenys</i>	Brooks Flycatcher
273.	<i>Melanochlora sultanea</i>	Sultan Tit
274.	<i>Ampeliceps coronatus</i>	Gold-crested Myna
275.	<i>Dicrurus annectans</i>	Crow-billed Drongo

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**BIOME 10: INDIAN PENINSULA TROPICAL MOIST FOREST**

LOCATION: The Western Ghats and isolated areas of moist forest in the Eastern Ghats and elsewhere in peninsular India, and the wet zone of Sri Lanka. Mainly below c.1,000 m.

KEY HABITATS: Lowland evergreen rain forest; Semi-evergreen rain forest; Moist deciduous forest; Hill evergreen forest.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: Western Ghats (EBA 123; 16 species); Sri Lanka (EBA 124; 23 species); Central Indian forests (SA 075; 1 species).

	SPECIES	ENGLISH
276.	<i>Phaenicophaeus viridirostris</i>	Small Green-billed Malkoha
277.	<i>Batrachostomus moniliger</i>	Ceylon Frogmouth
278.	<i>Caprimulgus atripennis</i>	Jerdon's Nightjar
279.	<i>Collocalia unicolor</i>	Indian Edible-nest Swiftlet
280.	<i>Harpactes fasciatus</i>	Malabar Trogon
281.	<i>Anthracoceros coronatus</i>	Malabar Pied-hornbill
282.	<i>Megalaima viridis</i>	White-cheeked Barbet
283.	<i>Megalaima rubricapilla</i>	Crimson-throated Barbet
284.	<i>Hirundo domicola</i>	Hill Swallow
285.	<i>Iole indica</i>	Yellow-browed Bulbul
286.	<i>Myiophonus horsfieldii</i>	Malabar Whistling-thrush
287.	<i>Pomatorhinus horsfieldii</i>	Indian Scimitar-babbler
288.	<i>Rhopocichla atriceps</i>	Black-headed Babbler
289.	<i>Nectarinia lotenia</i>	Loten's Sunbird
290.	<i>Lonchura kelaarti</i>	Black-throated Munia

**BIOME 11: INDO-MALAYAN TROPICAL DRY ZONE**

LOCATION: Pakistan, India, Sri Lanka (dry zone), southern Nepal and Bhutan, Bangladesh, southern China, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia, Indonesia (Java only).

KEY HABITATS: Dry deciduous forest; Dry evergreen forest; Thorn forest; Semi-desert scrub; Wooded grassland; Secondary grassland; Arable land; Abandoned farmland.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: Irrawaddy plains (EBA 132; 2 species); Eastern Andhra Pradesh (SA 071; 1 species); Southern Deccan Plateau (SA 072; 1 species).

NOTES: This biome includes a wide range of habitats, including both forests and open country.

	SPECIES	ENGLISH
291.	<i>Pseudibis papillosa</i>	Black Ibis
292.	<i>Gyps bengalensis</i>	Indian White-backed Vulture
293.	<i>Gyps indicus</i>	Long-billed Vulture
294.	<i>Sarcogyps calvus</i>	Red-headed Vulture
295.	<i>Butastur teesa</i>	White-eyed Buzzard
296.	<i>Falco chicquera</i>	Red-headed Falcon
297.	<i>Francolinus pictus</i>	Painted Francolin
298.	<i>Coturnix coromandelica</i>	Rain Quail
299.	<i>Perdicula asiatica</i>	Jungle Bush-quail

300.	<i>Perdicula argoondah</i>	Rock Bush-quail
301.	<i>Perdicula erythrorhyncha</i>	Painted Bush-quail
302.	<i>Galloperdix lunulata</i>	Painted Spurfowl
303.	<i>Pavo cristatus</i>	Indian Peafowl
304.	<i>Pavo muticus</i>	Green Peafowl
305.	<i>Sypheotides indica</i>	Lesser Florican
306.	<i>Vanellus malabaricus</i>	Yellow-wattled Lapwing
307.	<i>Cursorius coromandelicus</i>	Indian Courser
308.	<i>Treron phoenicoptera</i>	Yellow-legged Green-pigeon
309.	<i>Psittacula cyanocephala</i>	Plum-headed Parakeet
310.	<i>Psittacula roseata</i>	Blossom-headed Parakeet
311.	<i>Phaenicophaeus leschenaultii</i>	Sirkeer Malkoha
312.	<i>Bubo coromandus</i>	Dusky Eagle-owl
313.	<i>Strix ocellata</i>	Mottled Wood-owl
314.	<i>Caprimulgus asiaticus</i>	Common Indian Nightjar
315.	<i>Ocyrceros birostris</i>	Indian Grey-hornbill
316.	<i>Megalaima zeylanica</i>	Brown-headed Barbet
317.	<i>Megalaima lineata</i>	Lineated Barbet
318.	<i>Dendrocopos mahrattensis</i>	Yellow-fronted Pied Woodpecker
319.	<i>Dinopium benghalense</i>	Lesser Goldenbacked Woodpecker
320.	<i>Chrysocolaptes festivus</i>	Black-shouldered Woodpecker
321.	<i>Mirafra erythroptera</i>	Red-winged Bush Lark
322.	<i>Mirafra assamica</i>	Bengal Bush Lark
323.	<i>Eremopterix grisea</i>	Ashy-crowned Sparrow-lark
324.	<i>Calandrella raytal</i>	Indian Short-toed Lark
325.	<i>Galerida malabarica</i>	Malabar Crested Lark
326.	<i>Galerida deva</i>	Sykes's Crested Lark
327.	<i>Coracina melanoptera</i>	Black-headed Cuckoo-shrike
328.	<i>Pericrocotus cinnamomeus</i>	Small Minivet
329.	<i>Pericrocotus erythropygius</i>	White-bellied Minivet
330.	<i>Tephrodornis pondicerianus</i>	Common Woodshrike
331.	<i>Pycnonotus luteolus</i>	White-browed Bulbul
332.	<i>Aegithina nigrolutea</i>	Marshall's Iora
333.	<i>Saxicoloides fulicata</i>	Indian Robin
334.	<i>Cercomela fusca</i>	Indian Chat
335.	<i>Dumetia hyperythra</i>	Rufous-bellied Babbler
336.	<i>Turdoides malcolmi</i>	Large Grey Babbler
337.	<i>Turdoides striatus</i>	Jungle Babbler
338.	<i>Turdoides affinis</i>	White-headed Babbler
339.	<i>Prinia buchanani</i>	Rufous-fronted Prinia
340.	<i>Prinia sylvatica</i>	Jungle Prinia
341.	<i>Prinia socialis</i>	Ashy Prinia
342.	<i>Rhipidura aureola</i>	White-browed Fantail- Flycatcher
343.	<i>Parus nuchalis</i>	Pied Tit
344.	<i>Amandava formosa</i>	Green Munia
345.	<i>Padda oryzivora</i>	Java Sparrow
346.	<i>Sturnus malabaricus</i>	Grey-headed Starling
347.	<i>Sturnus pagodarum</i>	Brahminy Starling
348.	<i>Acridotheres ginginianus</i>	Bank Myna
349.	<i>Dicrurus caerulescens</i>	White-bellied Drongo
350.	<i>Artamus fuscus</i>	Ashy Woodswallow

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**BIOME 12: INDO-GANGETIC PLAINS**

LOCATION: Plains of Pakistan, northern India, southern Nepal and Bhutan, Bangladesh, extreme southern China, Myanmar, Thailand, Laos, Cambodia, Vietnam.

KEY HABITATS: Wetlands; Moist/marshy grassland; Scrub on marshy ground.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: Assam plains (EBA 131; 3 species); Indus plains (SA 074; 1 species).

NOTES:

	SPECIES	ENGLISH
351.	<i>Francolinus gularis</i>	Swamp Francolin
352.	<i>Houbaropsis bengalensis</i>	Bengal Florican
353.	<i>Saxicola leucura</i>	White-tailed Stonechat
354.	<i>Saxicola jerdoni</i>	Jerdon's Bushchat
355.	<i>Chrysomma altirostre</i>	Jerdon's Babbler
356.	<i>Turdoides earlei</i>	Striated Babbler
357.	<i>Turdoides longirostris</i>	Slender-billed Babbler
358.	<i>Prinia burnesii</i>	Long-tailed Prinia
359.	<i>Chaetornis striatus</i>	Bristled Grass-Warbler
360.	<i>Graminicola bengalensis</i>	Rufous-rumped Grass-Warbler
361.	<i>Ploceus benghalensis</i>	Black-breasted Weaver
362.	<i>Ploceus megarhynchus</i>	Finn's Weaver
363.	<i>Acridotheres albocinctus</i>	Collared Myna

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**BIOME 13: SAHARO-SINDIAN DESERT**

LOCATION: Pakistan and north-eastern India (extends through southern Iran to the Arabian Peninsula and North Africa).

KEY HABITATS: Desert dunes; Gravel and sand plains; Stone desert; Oases.

ENDEMIC BIRD AREAS AND SECONDARY AREAS: None.

	SPECIES	ENGLISH
364.	<i>Ardeotis nigriceps</i>	Great Indian Bustard
365.	<i>Pterocles senegallus</i>	Spotted Sandgrouse
366.	<i>Caprimulgus mahrattensis</i>	Sykes's Nightjar
367.	<i>Dendrocopos assimilis</i>	Sind Pied Woodpecker
368.	<i>Ammomanes deserti</i>	Desert Finch Lark
369.	<i>Alaemon alaudipes</i>	Greater Hoopoe-lark
370.	<i>Hirundo fuligula</i>	Pale Crag-martin
371.	<i>Pycnonotus leucotis</i>	White-eared Bulbul
372.	<i>Hypocolius ampelinus</i>	Hypocolius
373.	<i>Saxicola macrorhyncha</i>	Stoliczka's Bushchat
374.	<i>Rhodopechys githaginea</i>	Trumpeter Finch



**APPENDX VI List of Thresholds for waterfowl population i.e. 1% of the Biogeographic population of waterfowl.**

**CRITERIA A4i**

<b>Species</b>	<b>Threshold</b>	<b>Species</b>	<b>Threshold</b>
	<b>number of individual birds (1% bio-geographic population)</b>		<b>number of individual birds (1% bio-geographic population)</b>
Little Grebe	5500	Comb Duck	60
Great-crested Grebe	400	Cotton Teal	1500
Great White Pelican	225	Gadwall	2000
Dalmatian Pelican	115	Falcated Duck	5000
Spot-billed Pelican	115	Eurasian Wigeon	7500
Little Cormorant	1500	Mallard	11000
Indian Shag	300	Spot-billed Duck	6000
Great Cormorant	800	Northern Shoveller	6000
Darter	100	Andaman Teal	130
Little Egret	7000	Northern Pintail	15000
Grey Heron	1200	Garganey	7500
Goliath Heron	1	Baikal Teal	1000
White-bellied Heron	1	Common Teal	9000
Purple Heron	500	Marbled Teal	50
Large Egret	500	Pink-headed Duck	1
Median Egret	1000	Red-crested Pochard	750
Cattle Egret	15000	Common Pochard	10000
Indian Pond Heron	5000	Ferruginous Pochard	100
Chinese Pond Heron	1000	Baer's Pochard	100
Striated Pond Heron	1000	Tufted Pochard	10000
Black-crowned Night-Heron	1000	Greater Scaup	5000
Malayan Night-heron	100	Common Goldeneye	250
Little Bittern	150	Smew	250
Yellow Bittern	5000	Red-breasted Merganser	500
Chestnut Bittern	6000	Common Merganser	550
Black Bittern	750	Siberian Crane	30
Painted Stork	200	Sarus Crane	100
Asian Open-billed Stork	1250	Demoiselle Crane	850
Black Stork	55	Common Crane	60
White-necked Stork	150	Black-necked Crane	55
European White Stork	30	White-breasted Waterhen	10000
Oriental White Stork	30	Watercock	500
Black-necked Stork	4	Purple Moorhen	1000
Lesser Adjutant-Stork	50	Common Moorhen	10000
Greater Adjutant-Stork	7	Common Coot	25000

Glossy Ibis	500	Masked Finfoot	50
Oriental White Ibis	300	Pheasant-tailed Jacana	1000
Black Ibis	100	Bronze-winged Jacana	1000
Eurasian Spoonbill	150	Greater Painted Snipe	1000
Greater Flamingo	2500	Eurasian Oystercatcher	100
Lesser Flamingo	1500	European Golden Plover	18000
Large Whistling-Duck	200	Grey Plover	700
Lesser Whistling-Duck	10000	Common Ringed Plover	1000
Greylag Goose	650	Long-billed Ringed Plover	150
Bar-headed Goose	200	Little Ringed Plover	1000
Brahminy Shelduck	1000	Kentish Plover	1500
White-winged Duck	4	Lesser Sand Plover	2000
Greater Sand Plover	750	Ruff	500
Northern Lapwing	650	Ibisbill	250
Spur-winged Lapwing	100	Black-winged Stilt	5250
Yellow-wattled Lapwing	500	Pied Avocet	400
Grey-headed Lapwing	250	Red-necked Phalarope	3000
Red-wattled Lapwing	1500	Crab Plover	40
Sociable Lapwing	10	Collared Pratincole	250
White-tailed Lapwing	250	Oriental Pratincole	1700
Wood Snipe	50	Small Pratincole	250
Pin-tailed Snipe	2000	Sooty Gull	400
Common Snipe	15000	Heuglin's Gull	2000
Jack Snipe	660	Great Black-headed Gull	500
Black-tailed Godwit	2600	Brown-headed Gull	1000
Bar-tailed Godwit	3300	Andaman Crake	none set
Whimbrel	900	Slaty-legged Crake	none set
Eastern Curlew	500	Water Rail	none set
Spotted Redshank	300	Corn Crake	none set
Common Redshank	2000	Brown Crake	none set
Marsh Sandpiper	1900	Little Crake	none set
Common Greenshank	650	Baillon's Crake	none set
Spotted Greenshank	10	Spotted Crake	none set
Green Sandpiper	2000	Ruddy-breasted Crake	none set
Wood Sandpiper	10000	Eurasian Woodcock	none set
Terek Sandpiper	1250	Stone Plover	none set
Common Sandpiper	2000	Great Thicknee	none set
Ruddy Turnstone	750	Jerdon's Courser	none set
Asian Dowitcher	175	Cream-coloured Courser	none set
Red Knot	3000	Indian Courser	none set

Sanderling	750	Broad-billed Sandpiper	500
Little Stint	2000		
Temminck's Stint	750		
Dunlin	1500		
Curlew Sandpiper	3500		
Spoon-billed Sandpiper	50		

## Appendix VII – NBSAP: Current Initiatives, Gaps, Future Actions

INITIATIVES			
RESEARCH	ACTION	DOCUMENTATION	EDUCATION
<ul style="list-style-type: none"> <li>- Monitoring of Bengal Florican population sites.</li> <li>- Forest Owllet studies.</li> <li>- Ecology of western Tragopan in HP.</li> <li>- WPA. Ecology of Tragopan in NE India.</li> <li>- Asian wetland &amp; waterfowl census.</li> <li>- Status &amp; Ecological studies on Indian Galliformes.</li> <li>- Heronary protection by communities in Karnataka, M.P., A.P, etc.</li> <li>- BSAP- Quarterly survey of bustard in Rollapadu.</li> <li>- WII. Ecological studies on Hornbills.</li> <li>- Ecological studies on colonial nesting birds Bhitarkanika</li> <li>- Distribution of birds in central India.</li> <li>- Bird surveys in Sundarbans Tiger reserve.</li> <li>- Ecology of Jerdon's Courser.</li> <li>- Monitoring census of Lesser Florican.</li> <li>- Traffic, WWF India - Live Bird Trade Study</li> <li>- A &amp; N islands-Avifauna &amp; studies on A.Teal Narcondam Hornbills and Nicobar Megapod.</li> <li>- Conservation planning in Kerala Western ghats – biodiversity, hotspot prioritisation.</li> <li>- A &amp; N islands: Edible-not swiftlet conservation (SACON &amp; FD).</li> <li>- Human impact on plants and birds communities in NBR (4 habitats) and breeding of birds.</li> <li>- Impact of changing land use pattern on Sarus Crane.</li> <li>- Survey of Black-necked Cranes in Ladakh.</li> <li>- RDB identifies threatened species, distribution, ecology, conservation measures taken proposed.</li> </ul>	<ul style="list-style-type: none"> <li>- PIL to prevent filing in wetland for construction outside Ahmedabad-work halted. Favourable judgement-Lesser flamingos.</li> <li>- Conservation of grassland birds at Nashik.</li> <li>- Protection of nests and nesting colonies of Greater Adjutant in Assam.</li> <li>- Pelican conservation at Kokkra Bellur (Ka)</li> <li>- Desiltation program in wetland in few places.</li> <li>- Plantation of a sacred grove of 5000 <i>Ficus</i> trees, Flamingos-17acres.</li> </ul>	<ul style="list-style-type: none"> <li>- Bibliographic index for Indian region.</li> <li>- National heronry inventory.</li> <li>- Inland wetland national inventory prioritised state wise.</li> <li>- Mapping Lesser Florican Grasslands.</li> <li>- Birds of Gujarat four books in Gujarati fully illustrated.(CEE)</li> <li>- Bird Banding for data collection.</li> <li>- National Galliform site location database.</li> <li>- BSAP birding notes for India- monthly publications.</li> </ul>	<ul style="list-style-type: none"> <li>- Village level breeding</li> <li>- Individual protection lands.</li> <li>- For school identification and cam</li> <li>- Bird count over India</li> <li>- Asian vulture</li> <li>- Ali Bird</li> <li>- Environmental the Thar</li> <li>- protection</li> <li>- Birdwatch</li> <li>- World Bird festival.</li> </ul>

GAPS		
RESEARCH	ACTION	EDUCATION & AWARENESS
<ul style="list-style-type: none"> <li>- Ecology of many species monitoring population.</li> <li>- Need thorough surveys on critically endangered birds.</li> <li>- Very few sites are being monitored.</li> <li>- Inadequate use of local community knowledge on birds.</li> <li>- Surveys of riverine birds.</li> <li>- More research needed on White Napped Tit, Green Munia, White Bellied Minivet, Skimmer in Rajasthan.</li> <li>- Monitoring of 'common birds' as indicators of health of countryside, urban environment.</li> <li>- Long term population monitoring.</li> <li>- More action on wild bird trade.</li> <li>- Study of common birds.</li> <li>- Grassland habitats under-represented in PA system.</li> <li>- Impact of agricultural change in drylands.</li> <li>- Inventories of IBAs in Andamans.</li> <li>- Contamination in Birds.</li> <li>- Taxonomy of Indian birds.</li> <li>- Impact studies of exotics &amp; alien invasive sp.</li> <li>- Major flyway not identified.</li> </ul>	<ul style="list-style-type: none"> <li>- Non support of Govt. officials.</li> <li>- Inadequate legal coverage outside protected areas.</li> <li>- Site specific conservation action.</li> <li>- No site specific threat assessment.</li> <li>- Clear strategy for conservation of threatened birds in preparation.</li> <li>- Prevention of wildbird killing during winter.</li> <li>- Support schemes in agricultural landscapes important for GIB,JC, LF.</li> <li>- Neglect of non-forest ecosystem grasslands, deserts, wetlands, coasts.</li> <li>- Not much study of invasive species on bird diversity of India.</li> <li>- National initiative for 'Farmland Birds'</li> <li>- Lack of skilled persons.</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of resource materials/equipment</li> <li>- Sensitising wetlands with help from officials.</li> <li>- Not included in curriculum.</li> <li>- Indian breeding bird atlas not available</li> </ul>

<ul style="list-style-type: none"> <li>- Population status e.g. Lesser Florican.</li> <li>- Many DD sites.</li> <li>- Survey in Nora Valley National Park.</li> </ul>		
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IDENTIFICATION OF ACTION & IMPLEMENTORS		
RESEARCH	ACTION	EDUCATION & A
<ul style="list-style-type: none"> <li>- Status surveys of RDB species (IBCN)</li> <li>- Monitoring trans-boundary bird migration specially of RDB &amp; RRS species (army, BCI, AWC)</li> <li>- Surveys in NE India, esp. Arunachal Pradesh. (Dr. Chowdhry, WPA, D Ghosh)</li> <li>- Role of agro ecosystems in bird conservation</li> <li>- Comparative studies of bird diversity in chemical agriculture v/s organic farming (WII&amp; other wildlife research institutes)</li> <li>- Impact of pesticides on birds</li> <li>- Estimation of changes in bird population over the years</li> <li>- Study of bird diversity in community protected areas (wildlife research institutes, NGOs)</li> </ul>	<ul style="list-style-type: none"> <li>- IBAs should get official recognition by MoEF</li> <li>- RDB species RRS species &amp; near threatened species be included in Schedule 1 of the Wildlife Protection Act.</li> <li>- National IBA Monitoring Scheme &amp; early warning response system to threats</li> <li>- Protection of desert ecosystems from effect of IG Canal to save Desert Birds</li> <li>- Involvement of law enforcement agencies in implementation of acts.</li> <li>- Framing of legislation to ensure legal backing to community conservation area &amp; practices (MoEF, state governments)</li> <li>- Pilot schemes to support agricultural systems that are beneficial to RDB Species like Sarus Cranes, Great Indian Bustard &amp; lesser Florican</li> <li>- National Wetland Policy oriented to conservation. (MoEF, Mo Water Resources, State Governments)</li> <li>- Programmes to take into consideration avifaunal requirements (All state Forest Departments)</li> <li>- Afforestation (with Native trees)</li> <li>- Plantation of nesting trees</li> <li>- Establishment of Site Support Groups around IBAs (IBCN, Local NGO)</li> <li>- Site Support Groups for non PA IBAs</li> <li>- Long term protection of large heronries (BNHS, Hydro Electric Department, Communities, Local NGOs, Irrigation Department, FD)</li> </ul>	<ul style="list-style-type: none"> <li>- Equipped environment centres in each state</li> <li>- Students, Village</li> <li>- Awards for villages for protection.</li> <li>- Birds be recognised as indicators of environment vis biodiversity</li> <li>- National network of</li> </ul>

**Appendix VIII Statewise List of Important Bird Areas identified.** *(Draft list subject to change)*

<b>Sr.No</b>	<b>SITE NAME ( STATE)</b>	<b>CRITERIA</b>
<b>ANDAMAN ISLANDS</b>		
1	LITTLE ANDAMAN	A1,A2
2	SOUTH SENTINEL	A1,A2
3	NORTH SENTINEL	A1,A2
4	KADAKACHANG	A1,A2
5	KHATAKHARI, NAYA DERA	A1,A2
6	BARANGTANG-RAFTERS CREEK	A1,A2
7	MOUNT DIAVALO/CUTHBERT BAY	A1,A2
8	CHAINPUR & HANSPURI	A1,A2
9	JARAWA RESERVE ( MIDDLE ANDAMAN)	A1,A2
10	JARAWA RESERVE ( SOUTH ANDAMAN)	A1,A2
11	PATTI LEVEL CLIFF BAY	A1,A2
12	AUSTIN STRAIT	A1,A2
13	INTERVIEW ISLAND WS	A1,A2
14	LANDFALL ISLAND WS	A1,A2
15	MOUNT HARRIETT NP	A1,A2
16	NARCONDAM ISLAND WS	A1,A2
17	NORTH REEF ISLAND WS	A1,A2
18	SADDLE PEAK NP	A1,A2
19	MAHATMA GANDHI MARINE NP	A1,A2
<b>ANDHRA PRADESH</b>		
20	HORSELY HILLS	A1,A2
21	GUDUR TANK	A1
22	GODAVARI ESTUARY	A1
23	KRISHNA ESTUARY	A1, A4iii
24	TELINEELAPURAM	A1,A2
25	UPALAPADU	A1
26	KOLLERU WS	A1
27	SRI LANKAMALLESWARA WS	A1,A2
28	NELLAPATTU WS	A1
29	PULICAT LAKE WS	A1
30	ROLLAPADU WS	A1,A2
31	SRI VENKATESWARA NP	A1,A2
32	VELLIKONDA WS	A1,A2
33	KAUNDINYA WS	A1,A2
<b>ARUNACHAL PRADESH</b>		
34	NAMDAPHA NP & KAMLANG WS	A1, A2, A3
35	D'ERING WS/DIBANG WS	A1, A2, A3
36	TALLEY VALLEY WS	A1, A2
37	PAKHUI WS	A1, A2
38	SANGTI VALLEY	A1, A3

39	EAGLENEST WS & SEESA WS	A1, A2, A3
40	MEHAO WS	A1,A2
41	MOULING NP	A1, A2
42	DIBANG WS	A1, A2, A3
43	NAMTOK, NAMHEIK, NAMPONG, MANMAO	A1, A2
44	MANDLA PHUDUNG AREA	A1, A2
45	MAGO-THINGBU & LUGUTHANG AREA	A1, A2, A3
46	ZAMITHANG-NELYA-SAGESHWAR LAKE AREA	A1, A2, A3
47	THUNGRI CHANGLANG POSHINGLA, MAJI, BASTI	A1, A2
48	CHAYANG TAJO-KHENEWA LADA AREA	A1, A2
49	KOLORIANG-SARLI-DAMIN AREAS	A1, A2
50	NACHO-LIMEKING-TAKSING, MAJHA & NEIGHBOURING AREAS	A1, A2
51	TATO-MACHUKA-MONI GONG-GASHENG	A1, A2
52	SIRKUM PAHAR & NEIGHBOURING AREAS	A1, A2
53	MANDLA PHUDUNG AREA	A1, A2
54	DITCHU RESERVE FOREST	A1, A2
55	PARA-CHANLAGAUM	A1, A2
56	NAMSANG MUKH-VODORIA	A1
<b>ASSAM</b>		
57	JOYDIHING WS (PROPOSED) ( UPPERDIHING WEST BLOCK-JOYPUR-DIRAK)	A1,A2,A3 A4iv
58	UPPER DIHING (EAST BLOCK)-KAKOJAN RESERVE FOREST-DIGBOI OIL FIELD AREA	A1,A2,A3
59	BURACHAPORI WS + LAOKHOWA WS	A1,A2
60	BUHRIDIHING	A1,A3
61	CHAKRASILA WS-DIPLAI-DIKRA BEEL COMPLEX-DHIR BEEL	A1,A2,A3
62	DOOM DOOMA-DANGORI RESERVE FOREST	A1,A2,A3
63	DEEPAR BEEL WS	A1,A3,A4iii
64	DIBRU-SAIKHOWA NP + KOBO CHAPORI + AMARPUR CHAPORI-MAGURI-MOTAPUNG BEELS	A1,A2
65	HAKHATI RESERVE FOREST + KUMSONG RESERVE FOREST	A1,A3
66	JAMJING- SENGHJAN RESERVE FORESTS	A1,A3
67	JENG DIA BEEL	A1,A4i
68	KAZIRANGA NP	A1,A2
69	KOABARI DOLONI	A1,A3,A4i
70	TIRAP-PATKAI (SALIKI PRF-ADJACENT PRFS)	A1,A2,A3
71	MAJULI BEEL	A1,A2,A4i
72	MANAS NP	A1,A2,A3
73	MISAMARI BEEL-KOKLIAMUKH-LAOJAN-DALANI-KAWIMARI COMPLEX	A1

74	NAGAON	A1
75	NAMERI NP	A1,A2
76	BARAIL RANGE-NORTH CACHAR RESERVE FOREST	A1,A2
77	ORANG NP	A1,A2
78	PANIDIHING BIRD SANCTUARY-PHOKOLAI BEEL	A1,A2,A3 A4iii
79	POBITARA WS	A1,A2,A3 A4iii
80	SONAI-RUPA WS	A1
81	SIBSAGAR-JOYSAGAR-GOURI TANKS	A1
82	JATINGA	A1,A2
83	SON BEEL	A1
<b>BIHAR</b>		
84	DANAPUR TANK	A1
85	KABAR LAKE WS	A1
86	KURSELA	A1
87	TAL WETLANDS	A4iii
88	VALMIKI NP + WS	A1
<b>CHHATTISGARH</b>		
89	UDANTI & SITANADI WS	A1
90	GOMARDA WS	A1
91	INDRAVATI NP	A1
92	BARNAWAPARA WS	A1
<b>DELHI</b>		
93	OKHLA BARRAGE	A1
<b>GOA</b>		
94	ILHAS WETLANDS	A1
95	BHAGWAN MAHAVIR NP	A1,A2
96	COTIGAO WS	A1,A2
<b>GUJARAT</b>		
97	BANNI GRASSLANDS + HANJ TAL + CHHARI DHAND	A1
98	FLAMONGO CITY	A1
99	WETLANDS OF KHEDA DISTRICT	A1
100	MAHI RIVER ESTUARY	A1
101	SALT PANS OF BHAVNAGAR	A1
102	PARIEHJ & KANEVAL RESERVOIRS	A1
103	LALA GREAT INDIAN BUSTARD WS	A1
104	RUDRAMATA DAM	A1
105	LUNA JHEEL	A1
106	GIR NP + WS	A1
107	KHIJADIA WS	A1
108	MARINE (GULF OF KACHCHH) NP + WS	A1
109	NALSAROVAR WS	A1
110	THOL LAKE WS	A1



111	VELAVADAR NP	A1
112	WILD ASS WS	A1
<b>HIMACHAL PRADESH</b>		
113	DALLI (SOUTH)	A1,A2
114	CHAIL WS	A1,A2
115	DARANGHATI WS	A1,A2
116	GAMGUL SIAHBEHI WS	A1,A2
117	GREAT HIMALAYAN NP	A1,A2
118	KAIS WS	A1,A2
119	KANAWAR WS	A1,A2
120	KUGTI WS	A1,A2
121	RUPI BHABA WS	A1,A2
122	TIRTHAN WS	A1,A2
<b>HARYANA</b>		
123	SULTANPUR NP	A1,A2
124	KALESAR WS	A3
125	BASAI WETLANDS	A4iii
126	WETLANDS OF YAMUNA	A4iii
127	BHINDAWAS WS	
<b>JAMMU &amp; KASHMIR</b>		
128	TSO MORARI LAKE & ADJACENT MARSHES	A1
129	CHUSHUL MARSHES	A1
130	MIRGUND JHEEL & RESERVE	A1
131	WULAR LAKE	A1
132	LOLAB VALLEY	A1,A2
133	DACHIGAM NP	A1
134	HEMIS NP	A1
135	KISHTWAR NP	A1
136	OVERA WS	A1,A2
137	HANLE SHADO-BUG	
138	LIMBR WS	A1,A2
<b>JHARKHAND</b>		
139	PALAMU WS	A1
140	UDHWA LAKE WS	A1
<b>KARNATAKA</b>		
141	BANNERGHATTA NP	A1,A2,A3
142	BHADRA WS	A1,A2,A3
143	BHIMGAD	A1, A2
144	BILIGIRIRANGA TEMPLE WLS+BILGIRI RANGASWAMI HILLS	A1,A2,A3
145	CAUVERY WS	A1,A2,A3
146	DANDELI WS	A1,A2,A3
147	HAMPI RUINS	A1,A2

148	KOKKRE BELLUR	A1,A4I
149	NANDI HILLS	A1,A2,A3
150	RAMANAGARA STATE FOREST	A1,A2,A3
151	RANEBENNUR BLACKBUCK SANCTUARY	A1
152	RANGANATHITOO WS	A1,A3
<b>KERALA</b>		
153	AMARAMBALAM RESERVE FOREST-NILAMBUR	A1,A2,A3
154	ARALAM WS	A1,A2
155	CARDAMOM HILLS	A1,A2
156	CHINNAR WS	A1,A2,A3
157	ERAVIKULAM NP	A1,A2,A3
158	IDUKKI WS	A1,A2
159	KOLE	A1
160	NELLYAMPATHY RESERVE FOREST	A1,A2,A3
161	PARAMBIKULAM WS	A1,A2,A3
162	PEECHI-VAZHANI	A1,A2,A3
163	PERIYAR TIGER RESERVE	A1,A2,A3
164	SILENT VALLEY NP	A1,A2,A3
165	THATTAKKAD BIRD SANCTUARY	A1,A2,A3
166	THIRUNELLI (PART OF WYNAAD SANCTUARY)	A1,A2,A3
167	VAZHACHAL-SHOLAYAR	A1,A2,A3
168	WYNAAD WS	A1,A2,A3
<b>LAKSHADWEEP</b>		
169	PITTI WS	A4iii
<b>MAHARASHTRA</b>		
170	NAGZIRA WS	A3
171	NANNAJ PLOTS	A1
172	THANE CREEK	A4iii
173	TORANMAL RESERVE FOREST	A1
174	SINHGAD (NORTH WESTERN GHATS)	A1,A2
175	TALODA RESERVE FOREST	A1
176	OZAR & ADJOINING GRASSLANDS	A1
177	GANGAPUR DAM & GRASSLANDS	A1
178	MALSEJ	A1
179	BHIMASHANKAR WS	A1
180	JAIKWADI WS	A1
181	MELGHAT WS	A1
182	NANDUR WS	A1
183	NAWEGAON NP	A1
184	SANJAY GANDHI NP	A1,A2
185	TADOBA NP	A1
<b>MADHYA PRADESH</b>		
186	BANDHAVGARH NP	

187	DIHAILA JHEEL	A1, A4iii
188	KANHA NP	A1
189	MADHAV NP	A
190	PANNA NP	A1
191	PENCH NP	A1
192	NATIONAL CHAMBAL WS	A1
193	SARDARPUR WS	A1
194	BORI WS & SATPURA NP	A1
195	SON GHARIAL SANCTUARY	A1
196	KHAKNAAR FOREST RANGE	A1
<b>MANIPUR</b>		
197	ANGO HILLS	A1
198	DZUKO NP	A1,A2
199	DZUKO WS	A1,A2
200	KAILAM WS	A1
201	LOKTAK LAKE & KEIBUL-LAMJAO NP	A1
202	SIROI NP	A1,A2
203	SIROI WS	A1,A2
204	YANGOUPOKPI-LOKCHAO WS	A1
205	BUNNING WS	A1
<b>MEGHALAYA</b>		
206	BALPAKRAM NATIONAL PARK + SIJU WS	A1,A2,A3
209	NOKREK RIDGE NP	DD
210	NONGKHYLLERN WS	DD
<b>MIZORAM</b>		
211	NUMBER	
212	MURLEN NP	A1,A2
213	NGENGPUI WS	A1,A2
214	PHAWNGPUI WS	A1,A2
215	DAMPA NP	A1,A2
216	DAMPA WS	A1,A2
217	LENGTENG WS	
218	TAWI WS	
<b>NAGALAND</b>		
219	SATOI RANGE	
220	KHONOMA NATURE CONSERVATION & TRAGOPAN SANCTUARY	
221	DZUKO-JAPFU-PULIEBADZE WS	
222	FAKIM WS	
223	INTANKI NP	
224	SHARAMATI WS	
<b>NICOBAR ISLANDS</b>		
225	CAR NICOBAR	A1,A2
226	TILANGCHONG, CAMORTA, KATCHAL, NANCOWRY,TRINKAT	A1,A2

227	GREAT NICOBAR, LITTLE NICOBAR	A1,A2
<b>ORISSA</b>		
228	BHITARKANIKA WS	A1,A3
229	CHANDKA WS	A1,A3
230	CHILKA LAKE	A1,A3
231	SUNABEDA WLS	A1
232	SATKOSIA GORGE WS	A1,A3
233	SIMLIPAL NP	A1,A3
<b>PUNJAB</b>		
234	SHIWALIK HILLS	
235	HARIKE WS	
236	ROPAR LAKE	
<b>RAJASTHAN</b>		
237	AJAN BANDH [PART OF KEOLADEO NP]	A1,A3
238	BAJRANGADH	A1,A3
239	BANBARETHA WS	A1,A3
240	DESERT NP + KHURI AND TEJSI	A1,A3
241	DILWARA TO ACHALGARH	A1,A3
242	DIYATRA	A1,A3
243	GAGWANA, ARAIN, MANGALIYAWAS, RAMSAR, GOYAL, RATAKOT AND BANDAR	A1,A3,A4ii
244	KEOLADEO NP	A1,A3,A4i,A4iii
245	RANTHAMBORE TIGER RESERVE	A1,A3
246	SAMBHAR LAKE	A1,A3
247	SARISKA NP	A1,A3
248	SONKHILYA	A1,A3
<b>SIKKIM</b>		
249	CHHO LHAMO PLATEAU	A1
250	LHONAK VALLEY	A1
251	LACHUNG, LEMA & DOMBANG VALLEY	A1
252	LOWLAND FOREST (MELLI, KERABARI, BAGUWA, JORETHANG	A1,A2
253	RONGLI	
254	KYONGNOSLA ALPINE WS	A1
255	MAENAM WS	A1,A2
256	SHINGBA (RHODODENDRON) WS	
257	BARSEY RHODODENDRON WS	A1
258	FAMBONG LHO WS	A1
259	KHANGCHENZONGA BIOSPHERE RESERVE	DD
260	PANGOLAKHA	DD
261	RABDENTSE	DD
<b>TAMIL NADU</b>		
262	AVALANCHE (NILGIRI)	A1,A2
263	BERIJAM (KODAIKANAL)	A1,A2
264	BIG TANK	A1

265	BISON SWAMP (NILGIRI)	A1,A2
266	CAIRNHILL RESERVE FOREST (NILGIRI)	A1,A2
267	COONOOR (NILGIRI)	A1,A2
268	GOVERNOR'S SHOLA	A1,A2
269	GRASS HILLS	A1,A2
270	GULF OF MANNAR (MANDAPAM & GROUP OF ISLANDS)	A1
271	KALAKKAD WS	A1,A2
272	KODAIKANAL, PALNI HILLS+KUKAL (KODAIKANAL)	A1,A2
273	KODANAD (NILGIRI)	A1,A2
274	KOLLI HILLS (EASTERN GHATS)	A1,A2
275	KOTHAGIRI, LONGWOOD SHOLA (NILGIRI)	A1,A2
276	MOIR POINT	A1,A2
277	MUDUMALAI WS	A1
278	MUTHUKUZZHI	A1,A2
279	NADUVATTAM	A1,A2
280	POINT CALIMERE WS	A1,A4i,A4iii
281	POOMPARAI(POOMBARAI) [KODAIKANAL]	A1,A2
282	SIRUVANI FOOTHILLS	A1,A2
283	SUCHINDRAM THERUR	A1
284	THALAKUNDAH	A1,A2
285	VEDANTHANGAL BIRD SANCTUARY	A1
286	PULICAT LAKE	A1,A4i,A4iii
<b>TRIPURA</b>		
287	GUMTI WS	DD
288	SEPAHIJALA WS	DD
289	TRISHNA WS	DD
<b>UTTAR PRADESH</b>		
290	DUDWA NP	A1
291	HASTINAPUR WS	A1,A3
292	KATERNIA-GHAT WS	A1
293	KISHANPUR WS	A1
294	LAGGA-BAGGA RESERVE FOREST	A1
295	LAKHBAHOSI BIRD SANCTUARY	A1
296	NATIONAL CHAMBAL WS	A1
297	NAWABGANJ BIRD SANCTUARY	A1,A4iii
298	PATNA BIRD SANCTUARY	A1,A4iii
299	SAMASTIPUR BIRD SANCTUARY	A1,A4iii
300	SHEIKHA JHEEL	A1,A4iii
301	SITABANI-KALADHUNGI	A2
302	SUR SAROVAR BIRD SANTUARY	A1,A4iii
303	OKHLA WILDLIFE SANCTUARY	A1,A4iii
304	SANDI WS	DD
305	TIKRA JHEELS	A1,A4iii

306	SURHA TAL WS	DD
307	SOHELWA WS	DD
308	SOHANGIBARWA WS	A1
309	SITADWAR AND PYAGPUR JHEEL	A1,A4iii
310	SAMAN WS	A1,A4iii
311	PARVATI ARANGA WS	A1,A4iii
312	MAHAVIR SWAMI WS	DD
313	KURRA JHEEL	A1, A4iii
314	KAIMUR WS	DD
315	BAKHIRA WS	DD
316	TUMERIA BARRAGE (DAM)	A1,A2
<b>UTTARANCHAL</b>		
317	ASAN BARAGE	A1,A3
318	BADRAJ, BINOG AND JHARIPANI WS	A1,A2
319	CORBET TIGER RESERVE	A1
320	GOVIND WS KULNI & BALCHA FOREST	A1,A2
321	KEDARNATH WS	A1,A2
322	KHATI RESERVE AND WACCHUM (NANDA DEVI BIOSPHERE RESERVE)	A1,A2
323	ASKOT (SOBLA) WS	A1,A2
324	BINSAR WLS	DD
325	RAJAJI NP	DD
326	SONANADI WLS	DD
327	VALLEY OF FLOWERS NP	
<b>WEST BENGAL</b>		
328	BUXA TIGER RESERVE	A1
329	CHAPRAMARI WS	A1
330	GOPALDHARA	A1
331	GORUMARA NP	A1
332	JALPAIGURI TOWN	A1
333	LAVA/NEORA VALLEY NP	A1
334	SINGHALILA NP	A1
335	SUNDARBANS BIOSPHERE RESERVE NP	A1
336	MAHANANDA WS	A1
337	BALLAVPUR WS & SURROUNDING AREAS	A1
338	KULIK BIRD SANCTUARY	A4iii
339	JALDHAPARA WS	A1
<b>PONDICHERY</b>		
340	OOUSTERI LAKE	A4 iii
341	BAHOURE LAKE	A4 iii

*Legend*

A1 = Red Data Book Species

A2 = Restricted Range Species  
A3 = Biome Restricted assemblages  
A4 = Congregations  
DD = Data Deficient  
NP =National Park  
WS =Wildlife Sanctuary

