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# STATUS AND DISTRIBUTION OF AVIFAUNA IN IMPORTANT BIRD AREAS (IBAs) OF GOA

## FINAL TECHNICAL REPORT

JULY 2023



**Zoological Survey of India  
Western Regional Centre, Pune**





**STATUS AND DISTRIBUTION OF  
AVIFAUNA IN IMPORTANT BIRD  
AREAS (IBAs) OF GOA**

**FINAL TECHNICAL REPORT**

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**Submitted to:**

**Principal Chief Conservator of Forests,  
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**JULY, 2023**

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# Project Summary

- 1) **Title** : STATUS AND DISTRIBUTION OF AVIFAUNA IN IMPORTANT BIRD AREAS (IBAs) OF GOA
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- 5) **Duration** : September 2022 – March 2023
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## **Summary**

A total of 404 species of birds belonging to 216 genera under 80 families and 21 orders were recorded from the IBAs of Goa. The bird order Passeriformes (passerines) is the dominant order with 162 species followed by Charadriiformes-57 species, Accipitriformes-31 species, Anseriformes-16 species etc. Among the IBAs, Carambolim Lake and Dhado wetlands is the most species-rich IBA with 319 species followed by Bondla WLS (274 species), Bhagwan Mahavir WLS & Mollem National Park (266 species), Cotigao WLS (240 species), Navelim wetlands (243 species), Netravali WLS (242 species), and Mhadei WLS (221 species). Of the total 404 species, 25 species are endemic to India, including 18 Western Ghats endemics. A total of 149 species are migratory, and 143 species are waterfowls or wetland-dependent species. Except for the two species (House Crow, *Corvus splendens* and Rock Pigeon *Columba livia*), all other species are protected under the Wildlife (Protection) Amendment Act, 2022 of Govt. of India; 58 species are listed in the Schedule-I of the Act and 338 species are in the Schedule -II of the Act. 34 species are globally threatened as per the new IUCN Redlist, which includes three Critically Endangered, two Endangered, 11 Vulnerable, and 18 Near Threatened. Besides, there are 63 species of mammals, 24 species of reptiles, 18 species of amphibians, 99 species of butterflies, 42 species of odonates, 5 species of brachyuran crabs and 14 species of molluscs were encountered and or reported in different IBAs. Apart from, some of these IBAs have threatened species of mammals, herpetofauna and butterflies that are included under the Schedule-I & II list Indian Wildlife (Protection) Amendment Act of 2022. This is first of its kind of documentation and serves as baseline information on faunal accounts for Managers and Policy Makers while proposing for any kind of development within and outside the periphery of the IBAs of Goa.



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## **Introduction**

The Zoological Survey of India (ZSI) under the Ministry of Environment, Forest and Climate Change, Government of India was established on 1st July, 1916 to promote survey, exploration and research leading to the advancement in our knowledge of various aspects of exceptionally rich life. With the increasing interest in the life sciences and with the advent of country, the survey has established so far 16 Regional and Field Stations, and has developed into a major National Institution. ZSI has been providing regular services with regard to permissible limits of legal trading of faunal resources or derivatives thereof, monitoring services on population status of commercially important species and provides input for underutilized, culturable species both from terrestrial and aquatic systems. ZSI also provides timely warning on declining population of species of commercial importance to ensure sustainable use of components of biological diversity.

As per IUCN Red List (2022), India has 813 globally threatened faunal species, which is nearly 0.2% of the world's total number of threatened faunal species. Globally peoples have realized that maintenance of biodiversity is vital for the human well-being. The forests of India are represented by over 16 major forest types and 251 subtypes, and as per the latest estimate, the total forest of the country constitutes nearly 25% of the total geographical area (ISFR 2021). Against the prevailing global trend of decreasing forest cover, India by and large has been successful in stabilizing its area under forests over the years.

In India, the varied active interactions between physical and biological components resulted in variety of ecosystems which are spread over the different biogeographic zones of India. The Indian Ecosystems and their diversity is usually represented by major natural habitats (Forests, Grasslands, Deserts, Wetlands [includes estuaries, mangroves, coral reefs and marine]); mountain ranges (Trans-Himalayas, North-West Himalayans, Eastern Himalayas including North East hill states of India). The multi-ethnic composition of India makes some of the ecosystems as a distinct microcosm of biodiversity. These ecosystems because of the rapid economic growth and limitations in integrating environmental concerns into



development planning are leading to biodiversity loss. The land use change in the form of conversion of forest land into other land use types by way of building large number of dams and uncontrolled mutation of forest to crop or horticulture land are the major threats for the long-term survival of animal as well as plant species. Unsustainable land use practices, mass tourism and over subsistence dependence on forests and other areas are major challenges to biodiversity conservation.

India has a variety of wetland ecosystems ranging from high altitude cold desert wetlands to hot and humid wetlands in coastal zones with its diverse flora and fauna. The wetlands are distributed in different geographical regions ranging from Himalayas to Deccan plateau. The variety in climatic condition and topographic variability of these wetlands is responsible for significant diversity. As per the directory of National Wetland Atlas 2011, India has totally 757.06 thousand wetlands of which 69% are inland wetlands, 27% are coastal and 4% are other wetlands (SAC 2011; Bassi et al. 2014). About 115 wetlands have been identified by the ministry which requires urgent conservation (Sudhakar 2014) and management intervention under the National Wetland Conservation Plan (NWCP). Out of which 26 wetlands are of international importance covered under Ramsar Convention 1971 (Ramsar 2013). These wetlands provide habitat to large number of resident and migratory birds.

For the *in-situ* conservation a network of 870 Protected Areas (PAs) has been established, with 106 National Parks, 567 Wildlife Sanctuaries, 105 Conservation Reserves and 220 Community Reserves, totalling 998 Protected Areas (PAs) covering an area of 1,73,629.52 km<sup>2</sup> which is 5.28% of total geographical area of the country (WII ENVIS Database, 2022). Out of these Pas, seven are designated as World Heritage Sites by UNESCO by Govt. of India and 554 Important Bird Areas (IBAs) identified by the Bombay Natural History Society (BNHS) and Birdlife International. Further, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value, 75 major wetlands have been declared as Ramsar sites especially for the conservation of birds. However, few of the IBAs and Bird sanctuaries are protected as NP, WLS but majority of them fall outside the PA network and therefore acting as important tool for the conservation of birds.

## **Conservation of birds in India**

Birds are one of the most visible and successful members of the vertebrate animal group in the world. They are considered as an important tool for monitoring the health and functioning of the ecosystem. India is known to harbour about 1331 species of birds, under 26 orders, 113 families, and 484 genera and among them 1227 species as regular visitors as they are known to occur within the Indian territories on a regular basis, and 104 occasionally recorded species as Vagrants, which accounts 12.5% of the total avifauna of the world (Majumder et al., 2022). Many of the birds radiated from Southeast Asia to northwest and about 200 bird species are endemic to Indian subcontinent (Price et al. 2014, BNHS ENVIS 2018). This richness of avifauna in India can be attributed to its varying eco-climatic conditions, different Biogeographic Zones, heterogeneity of the physical parameters, etc. Avifauna monitoring in Indian subcontinent has an history of more than 200 years where several birders and researchers have contributed for the information on avian distribution, assemblage, habits and migration etc. For example, the information on the Jerdon's Courser from Telangana or the Slaty-legged Crake from Karnataka is mainly based on valuable records from the early 1900s literatures. A number of researchers have also contributed towards to present knowledge of birds in India most prominent was Dr. Salim Ali who has surveyed birds throughout the country and played pivotal role in conservation and management of birds in India. He was instrumental in getting the Keolado National Park decalred as a Protected Area and saving the pristine Silent Valley in Kerala. Later, considering their visibility and beautiful colour patterns, birds have attracted numerous pastime bird watchers globally.

The avifauna plays significant role in ecosystem are bio indicators of healthy ecosystem, control insect pests, pollination, scavenger, seed dispersal and support biodiversity, hence efforts have been made towards their conservation and management.

The Government of India has notified 72 Bird Sanctuaries and 554 IBAs were mapped in India by BNHS with the support of Birdlife International. The bird sanctuaries are located in different ecosystems spread through the spatial extent of

the country and are kept especially for conservation of birds and their habitats. Many of them are located in the Central Asian Flyways (Birdlife International 2009). Moreover, these areas serve as conservation areas for the protection of birds of local and global significance. Whereas the designation of IBAs is based on three main criteria, namely (i) hold significant numbers of one or more globally threatened bird species, (ii) be one of a set of sites that together hold a suite of restricted-range species or biome-restricted species and (iii) have exceptionally large numbers of migratory or congregator birds.

### **Threats to conservation and management of birds in India**

The avifauna and other wildlife are threatened because of several factors the most prominent are habitat loss and degradation of forests. A large number of birds are impacted by multiple threats and some of them are interrelated. Moreover, several species are threatened because of hunting and trapping for consumption and illegal wildlife trade. Few of them are directly impacted by environmental toxins and pollution. The major factor for the vulture's population decline is veterinary drug Diclofenac, use of pesticides has also been attributed to the decline of many bird species. About 192 species of birds in India are threatened out of which 18 are listed as Critically Endangered, 21 as Endangered, 65 as Vulnerable and 88 as Near Threatened (IUCN 2022).

As per Birdlife International, Important Bird Area (IBA) is an area identified using an internationally agreed set of criteria as being globally important for the conservation of bird populations. The sites are identified by Birdlife International. There are over 13,000 IBAs worldwide. IBAs are key sites for the conservation of birds and other biodiversity and comprise building blocks for conservation planning. They are identified nationally, by applying internationally agreed criteria and using data gathered locally. The worldwide network of IBAs forms an essential foundation for global nature conservation. To qualify as an IBA, a site must meet one or more of four Global IBA criteria (threatened species, restricted-range species, biome-restricted species, and congregations) that address the two primary issues of concern in site conservation: vulnerability and irreplaceability. In India, the BirdLife International co-

partner is the Bombay Natural History Society, Mumbai. Together they initiated the Indian Important Bird Areas program in 2004. As of now, 544 IBAs have been identified from India, including seven from the state of Goa (Bhagwan Mahavir WLS & Mollem National Park, Carmbolim & Dhado wetlands, Cotigao WLS, Bondla WLS, Mhadei WLS, Navelim wetlands and Netravali WLS).

### **Biodiversity of Goa**

Goa is a small state located in India, situated between 14° 53' to 15° 48' N latitude and 73° 40' to 74° 21' E longitude. It became the twenty-fifth state of the Indian Union on May 30, 1987. The state covers an area of 3,70,200 hectares and is known for its hilly terrain. It is bordered by the Arabian Sea to the west and the Western Ghats (Sahyadri) to the east. Goa shares its borders with Sindhudurg district of Maharashtra to the north, Belgaum district of Karnataka to the east, and Karwar district of Karnataka to the south.

The Eastern boundary of Goa is formed by the Western Ghats, running in a north-south direction. These Ghats are home to Evergreen and Semi-Evergreen forests, providing a habitat for various threatened and restricted range species of birds. Moist Deciduous forests, which are mostly secondary and degraded, are found along the foothills of the Sahyadris. The altitude in Goa varies from sea level to 1,022 meters.

The state can be divided into three main physical divisions:

**The coastal belt:** It stretches for 133 km and consists of sandy bays, beaches, and rocky headlands. The region is dotted with wide estuaries of the Mandovi and Zuari rivers. The area is characterized by coconut farms, saltpans, and saline and freshwater marshes. Mangroves cover approximately 2000 hectares along the coast, forming creeks and estuaries.

**The midland region:** This area mainly comprises plateaus ranging from 30 to 200 meters in height, adjacent to the sea in many places. It is known for cashew trees, thorny scrub, and coarse grass, with some parts still covered with Semi-Evergreen

forest. The valleys in this region are used for intensive cultivation of coconut, spices, fruits, and paddy. Unfortunately, large-scale opencast and strip mining for iron and manganese ore have resulted in irreversible degradation of some areas.

The Western Ghats: Also known as Sahyadris in the state, these Ghats extend along the eastern border of Karnataka and cover around 125 km in Goa. They are elevated up to 1,000 meters and host Tropical Wet Evergreen forest and Tropical Moist Deciduous forest.

Goa experiences an equable tropical climate with relatively mild winters, with temperatures ranging from 16 °C to 34 °C, and warm summers, with temperatures between 27 °C and 37 °C. The region receives an average annual rainfall of 3,100 mm, primarily during the southwest monsoon period from June to September. The relative humidity is generally high, even during the dry season, staying above 60%.

As of the 2011 census, Goa had a total human population of 14,57,72, which is equally divided between urban and rural areas. The population density was 390 persons per square kilometer. The literacy rate in the state is high, at 88.70%. Goa also attracts a large floating population of migrant workers and tourists.

The State has more than 38% of its geographic area under government forests (1,224.38 sq. km.) of which about 62% has been brought under Protected Area Network (PAN). Since there is a substantial area under private forests and a large tract under plantations such as cashew, mango and coconut, the total forest and tree cover constitutes 56.6% of the geographic area. Goa has one (01) National Park and six (06) Wildlife Sanctuaries covering an area of 75,496 ha and constituting 20.39% of the geographical area of the State (Rodgers *et al.* 2000). The BirdLife International has identified seven (07) Important Bird Areas (IBAs) from the state of Goa *viz.* Bhagwan Mahavir Wildlife Sanctuary, Carambolim Lake & Dhado Wetlands, Cotigao Wildlife Sanctuary, Mhadei Wildlife Sanctuary, Bondla Wildlife Sanctuary, Navelim Wetland and Netravali Wildlife Sanctuary (Rahmani *et al.* 2016). Nanda Lake is the first and the only Ramsar wetland site in Goa.

## **Vegetation**

There are three distinct forest types that thrive in Goa i.e. Tropical Evergreen, Tropical Semi-Evergreen, and Littoral and Swamp forests. These diverse forests cover a recorded area of 1,424 square kilometers, accounting for a significant 38.47% of the state's total geographical area. Among these forests, approximately 86% are under government ownership, while the remainder is privately-owned.

To protect and manage these vital natural resources, the forests are legally classified into reserved and unclassified areas. Of the total forest cover, 16,500 hectares have been designated as reserved forests, implying strict protection and conservation measures, while the remaining lands fall under the unclassified category (Ministry of Environment and Forests, 2014).

Geographically, Goa is divided into two districts. The North Goa district, covering an area of 1,736 square kilometers, approximately 869 square kilometers are covered by forests, whereas the South Goa district is spanning 1,966 square kilometers, boasts even more extensive forest cover, encompassing 1,226 square kilometers of landscapes.

Among the state's unique natural treasures are the Myristica swamps, found in the Western Ghats. These ancient swamp forests are believed to have a history dating back over 140 million years, providing a living testament to the region's ecological evolution (Chandran et al. 1999). While Myristica swamps are primarily described from the southern Western Ghats in Karnataka, Tamil Nadu, and Kerala, Goa is home to the northernmost Myristica swamp ever reported in the Western Ghats, located in Bambar, Satari Taluk (Santhakumaran et al. 1995, 1996).

Prabhugaonkar et al. (2014) have conducted important studies in the region, on the ecological significance of these relic Myristica swamps and have identified three plant species listed under the IUCN Red List, a critical inventory of threatened species

facing the risk of extinction. The *Myristica* swamps, in particular, offer a glimpse into the ancient ecosystems that once flourished in the Western Ghats.

The first detailed avian study of Goa was conducted by Grubh and Ali (1976). Grubh and Ali (1976) reported 88 species and subspecies and sight record of 65 species from Goa. Rane (1984) made sight records of another 30 species and later the list was revised as 154 species from the area. Based on long term survey of the area, Saha and Dasgupta (1992) compiled a checklist of 208 species, and subspecies belonging to 124 genera, 44 families and 15 orders. The most comprehensive study on the bird life of Goa was by Lainer (1999a, b; 2004), he recorded 382 species. The works of Harris (1996), Borges (2007), Mahabal and Patil (2008), Desai and Shanbhag (2012); Lainer and Alwares (2013), Baidya and Bhagat (2018) further enriched the bird studies of Goa region. Except for the report made by the Rahmani et al., (2016) no comprehensive study was undertaken on the birds of the Important Bird Areas (IBAs) of the state.

## **Fauna**

Goa state is known for the rich diversity of faunal elements. Due to its unique geographical settings amidst the biologically diverse Western Ghats and the midlands and coastal mangrove ecosystems provide various kinds of fauna. More than 90 species of mammals were reported from Goa including larger mammals like Tiger, Leopard, Gaur, Sloth Bear, Sambar, Spotted Deer, Barking Deer, Mouse Deer, Four-horned Antelope, etc. The primates are represented with three species viz. Bonnet Macaque *Macaca radiata*, Black-footed Gray Langur *Semnopithecus hypoleucos* and the Slender Loris *Loris lydekkerianus*. Two species of Otters, three species of maongoose and three species of civets represented in the area. The most dominant mammalian groups in the state is chiropterans (Bats), represented with more than 30 species, followed by the group of rodents (rats, mouse, porcupines) with 14 species. The bird fauna is represented with 486 species of which 18 species are Western Ghat endemics. More than 60 species of reptilians were reported from the region including the mighty Marsh Crocodile *Crocodylus palustris*. Snake fauna represented with 45 species including the venomous snakes like the King Cobra *Ophiophagus hannah*,



Indian Cobra *Naja naja*, Russel's Viper *Daboia russeli*, Indian Krait *Bungarus caeruleus* and the Saw-scaled Viper *Echis carinatus*. Two species of reptilians were described from the state viz. Goan Snake Skink *Riopa goaensis* and the Goan Dwarf Gecko *Cnemaspis goaensis*. Amphibian fauna is also rich in Goa with 40 species. The region is the type locality for 6 species of amphibians including *Minervarya gomantaki*, *Minervarya goemchi*, *Indirana salelkari*, *Gegeneophis goaensis*, *G. mhadeinsis* and *G. pareshi*. Similarly the streams and forest floors are home to the newly described *Indosylvirana caesari* and *Indirana chiravasi*. Freshwater fish fauna is relatively less explored in the region. About 50 species are known to exist in the various streams and riverine systems of the region. Except for butterflies and odonata, entomofauna of the region also not been studied in detail. Altogether 267 species of butterflies and 87 species of odonata were reported from Goa.

### **Ornithological history of Goa**

When compared to other regions of the southern Indian states, Goa received very little attention during the British Era. Besides, a few observations from the nearby areas of South Konkan part (Vidal, 1880) and North Kanara area (Davidson, 1898), virtually no ornithological explorations were undertaken in the region. The first ornithological survey was done by the scientists of Zoological Survey of India (ZSI), Kolkata during their series of faunal studies conducted between 1968 to 1978. This resulted in the publication later in 1992 by Saha & Dasgupta. In 1972, the Bombay Natural History Society (BNHS) conducted an ornithological survey of the region under the leadership of Dr Salim Ali and R.B. Grubh, mainly with an aim to collect the specimens for taxonomical studies. More than 150 specimens were collected during the survey and finally published it as a document – Birds of Goa (Ali & Grubh, 1976), by listing 100 species from the area. Subsequently, Rane (1992) added 33 species to the list as the outcome of his study conducted in 1981. While the publication of Saha & Dasgupta (1992), documented 208 species from the state. The most important and significant documentation of the ornithology of Goa was done by Heinz Lainer. He published a series of articles in the Journal of Bombay Natural History Society during his more than three-decade-long explorations. He published a book on the Birds of Goa in 2004 and again in 2013 with Rahul Alwares. It documented more than 400

species of birds from the State. Recently, Baidya & Bhagat (2018) updated the checklist of birds of Goa by listing 473 species of birds from the geographical boundary of Goa. The rapid digitalization and the advent of online services ([www.ebird.org](http://www.ebird.org)) in the recent past also contributed much on the birdlife of the State. The advent of these new online services, further enriched the avifauna of the State by adding 13 new records from the State during the last five years (Baidya & Bhagat, 2023)

### **Rationale for this study**

At present, no detailed account was available on the avian diversity of the Important Bird Areas (IBAs) of Goa. Of the seven designated IBAs of Goa, five are Protected Areas and two are wetlands with multiple threats and conservation problems. In order to improve the conservation prospects of the area a complete knowledge of the avifauna and their immediate habitat profile is needed.

For the long-term conservation and management of the avifauna, it is imperative to conduct monitoring and assessment exercise periodically. As periodic monitoring data is required for taking conservation and management actions, hence, on pilot basis to understand the status of avifauna in the IBAs, the Zoological Survey of India, Kolkata conducted a study in the state of Goa for status and documenting distribution of avifauna in the seven IBAs of the state for period of six months i.e. from September 2022 to March 2023. In this background, the Zoological Survey of India, Western Regional Centre, Pune has undertaken the assignment to carry out the Project entitled, "Status and distribution of avifauna of Important Bird Areas (IBAs) of Goa" funded by the Goa Forest Department, Government of Goa.

## **Objectives**

As part of the CAMPA initiative of Goa Forest Department, ZSI was assigned a project on the "Status and Distribution of Avifauna in Important Bird Area (IBAs) of Goa for a short period from September 2022 to March 2023, with the following objectives:

1. To study the population status and distribution of birds of the Important Bird Areas (IBAs) of Goa State.
2. To document the seasonality, occurrence and movement pattern of the migratory birds of the area.
3. To study the ecological and biological aspects of rare, endemic and endangered birds of the IBAs of the State.
4. To evaluate the threats to the birds of these IBAs and suggest suitable conservation measures to mitigate the problems.
5. To prepare a pictorial document on the birds of each IBAs of the State with their current status and distribution.

## **Methodology**

Two extensive surveys were carried out to the IBAs of Goa in September – October 2022 and again in December 2022. Besides, one extensive survey also has been conducted two faunistic surveys in Bhagwan Mahavir WLS & Mollem National Park, as part of our ongoing annual programme of research. Besides, a special field surveys was conducted to Nanda Lake – Ramsar Site where there are reported bird congregations during winter and summer.

Field-based surveys were conducted at different IBAs of Goa for documentation of avian fauna and associated fauna. Bird surveys were carried out using direct count methods which include transect or point count method. The time taken for the survey varied depending on the terrain and topography. The survey was conducted in the morning hours (6.30 a.m. to 9.30 a.m.) and evening hours (3.30 p.m. to 6.30 p.m.) by the team from WRC, ZSI, Pune. Observations on birds were made with the aid of binoculars (Nikon Prostaff 10x42) and cameras (Nikon P 1000/Nikon P

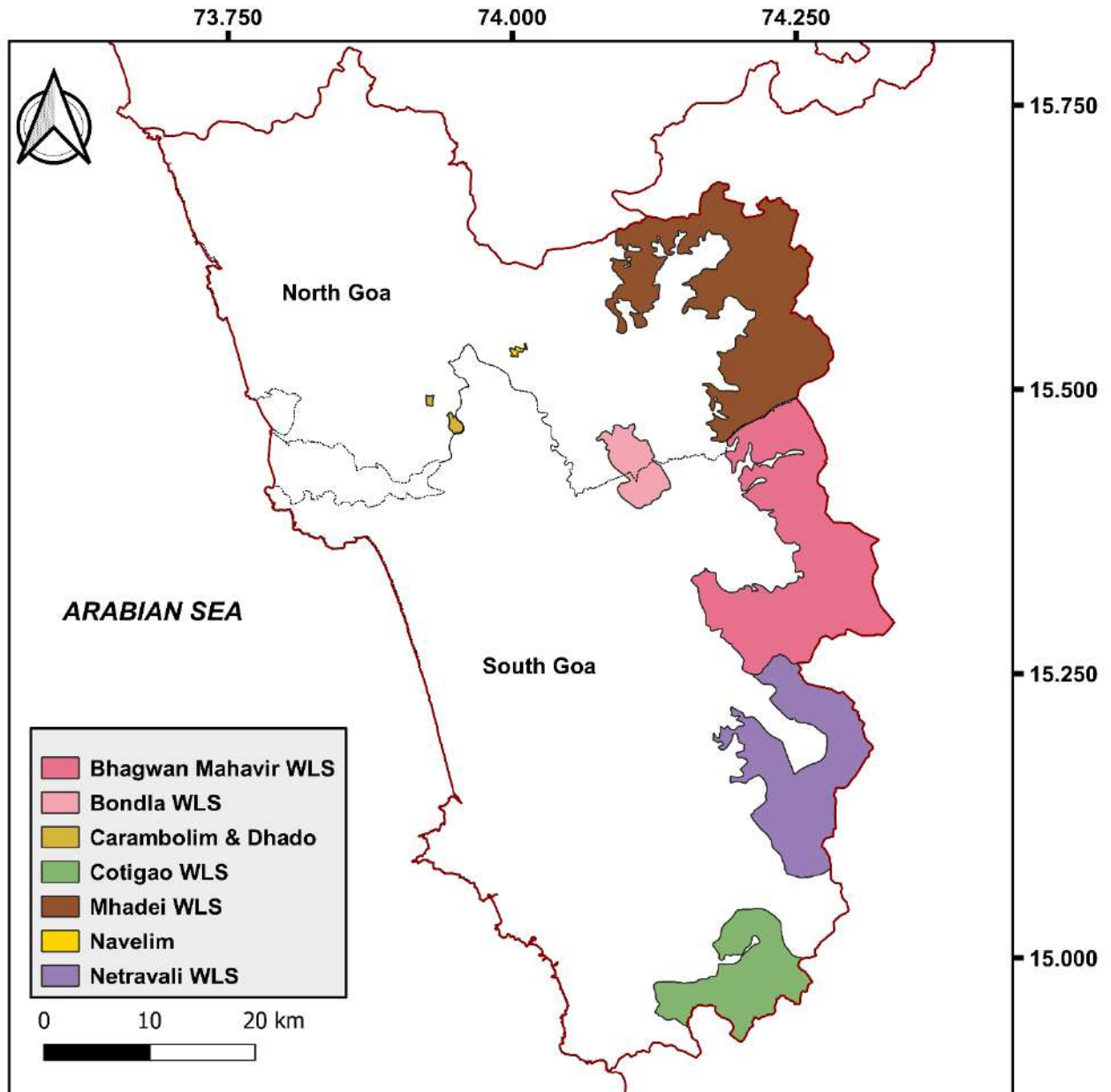
900). During the study, the presence of different species of birds was recorded by direct sighting as well as recording their calls. The field characteristics were noted down on a special ornithological data sheet which includes species, number of individuals, activity, microhabitat, threats with other minor details. The birds encountered in the field were identified with the help of standard field guides (Rasmussen & Anderton, 2012; Grimmet et al, 2013; Sangha, 2021). The secondary information from published records, validated ebird data ([www.ebird.org](http://www.ebird.org)), and authentic trip reports were also consulted for compiling the bird data of the different IBAs of Goa. The sequence and nomenclature followed in the document is that of Praveen & Jayapal (2023).

**Table-1. A list of Important Bird Areas (IBAs) of Goa**

Sl. No.	IBA site codes	IBA site names
1	IN-GA-01	Bhagwan Mahavir Wildlife Sanctuary
2	IN-GA-02	Carambolim Lake & Dhado Wetlands
3	IN-GA-03	Cotigao Wildlife Sanctuary
4	IN-GA-04	Mhadei Wildlife Sanctuary
5	IN-GA-05	Bondla Wildlife Sanctuary
6	IN-GA-06	Navelim Wetland
7	IN-GA-07	Netravali Wildlife Sanctuary



**Landscape of one of the IBA (Mhadei Wildlife Sanctuary)**



**Map 1. Map of Goa showing the Important Bird Areas of the State**

## RESULTS

### Bird diversity

Even though Goa is a small state, it harbours a rich diversity of 486 species (36% of Indian bird fauna) of bird species. In the present study, a total of 404 species of birds belonging to 216 genera under 80 families and 21 orders were recorded from the IBAs of Goa. The bird order Passeriformes (passerines) is the dominant order with 162 species followed by Charadriiformes (Plovers & sandpipers-57 species),

Accipitriformes (Kites, eagles and hawks- 31 species), Anseriformes (Ducks & geese- 16 species), etc. (Table-2) Among the IBAs, Carambolim Lake and Dhado wetlands is the most species-rich IBA with 319 species followed by Bondla WLS (274 species), Bhagwan Mahavir WLS & Mollem National Park (266 species), Cotigao WLS (240 species), Navelim wetlands (243 species), Netravali WLS (242 species), and Mhadei WLS (221 species). Of the total 404 species, 25 species are endemic to India, including 18 Western Ghats endemics (Fig-1). A total of 149 species are migratory, and 143 species are waterfowls or wetland-dependent species. Except for the two species (House Crow, *Corvus splendens* and Rock Pigeon *Columba livia*), all other species are protected under the Indian Wildlife (Protection) Amended Act, 2022; 58 species are listed in the Schedule-I of the Act and 338 species are in the Schedule -II of the Act. 34 species are globally threatened as per the new IUCN Redlist (Table-4), which includes three Critically Endangered, two Endangered, 11 Vulnerable, and 18 Near Threatened.

**Table-2: List of families and orders of birds reported from India, Goa, in correspondence with the IBAs of Goa**

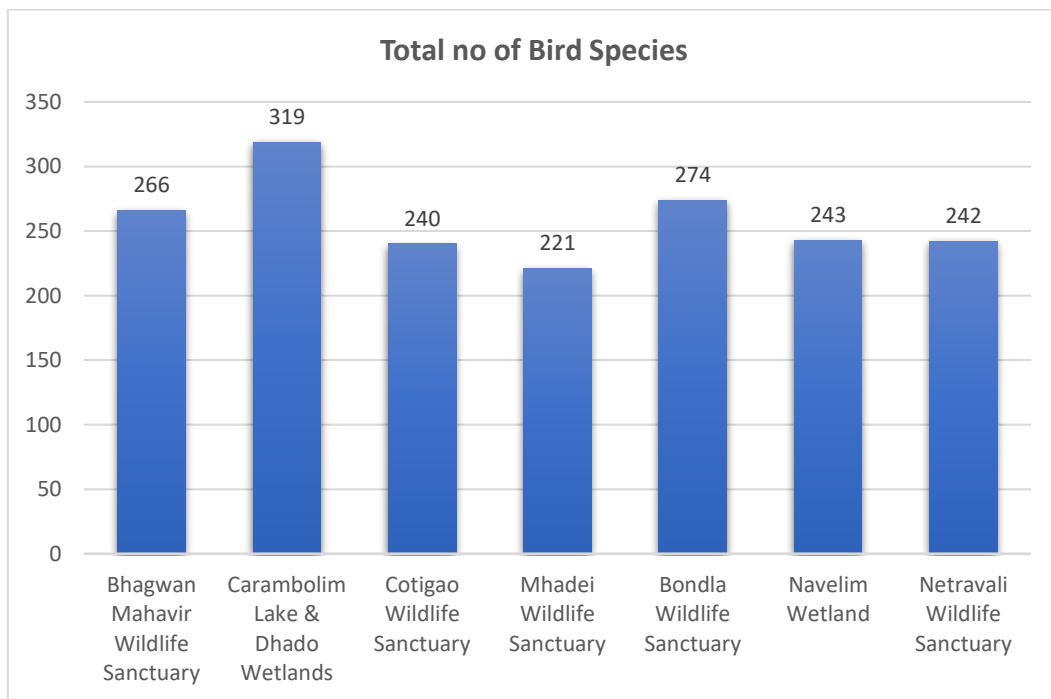
Order/ Family	No. of species in India	No. of species in Goa	No. of species in IBAs of Goa
<b>I. ORDER ANSERIFORMES</b>			
1. Family Anatidae (ducks, geese, swans)	43	18	16
<b>II. ORDER GALLIFORMES</b>			
2. Family Phasianidae (partridges, pheasants, grouse)	43	5	5
<b>III. PODICIPEDIFORMES</b>			
3. Family Podicipedidae (grebes)	5	2	1
<b>IV. ORDER PHOENICOPTERIFORMES</b>			
4. Family Phoenicopteridae (flamingos)	2	2	2
<b>V. ORDER COLUMBIFORMES</b>			
5. Family Columbidae (pigeons)	34	13	13
<b>VI. ORDER CUCULIFORMES</b>			
6. Family Cuculidae (cuckoos)	24	14	10
<b>VII. ORDER CAPRIMULGIFORMES</b>			
7. Family Podargidae (frogmouths)	2	1	1
8. Family Caprimulgidae (nightjars)	9	4	3
9. Family Hemiprocnidae	1	1	1
10. Family Apodidae (swifts)	16	9	9

<b>VIII. ORDER GRUIFORMES</b>			
11. Family Rallidae (rails and coots)	19	12	11
<b>IX. ORDER CHARADRIIFORMES</b>			
12. Family Burhinidae (thick-knees)	3	2	2
13. Family Recurvirostridae (stilts and avocets)	2	2	2
14. Family Charadriidae (plovers & lapwings)	19	12	11
15. Family Rostratulidae (painted-snipe)	1	1	1
16. Family Jacanidae (jacanas)	2	2	2
17. Family Scolopacidae (sandpipers)	42	29	25
18. Family Turnicidae (buttonquails)	3	2	1
19. Family Glareolidae (coursers and pratincoles)	6	3	3
20. Family Laridae (gulls and terns)	38	29	10
<b>X. ORDER CICONIIFORMES</b>			
21. Family Ciconiidae (storks)	8	6	5
<b>XI. ORDER SULIFORMES</b>			
22. Family Phalacrocoracidae (cormorants)	3	3	3
23. Family Anhingidae (darters)	1	1	1
<b>XII. ORDER PELECANIFORMES</b>			
24. Family Ardeidae (herons)	23	15	13
25. Family Threskiornithidae (ibises)	4	4	3
<b>XIII. ORDER ACCIPITRIFORMES</b>			
26. Family Pandionidae (osprey)	1	1	1
27. Family Accipitridae (kites, hawks and eagles)	61	36	30
<b>XIV. ORDER STRIGIFORMES</b>			
28. Family Tytonidae (barn owls)	5	2	2
29. Family Strigidae (owls)	31	11	8
<b>XV. ORDER TROGONIFORMES</b>			
30. Family Trogonidae (trogons)	3	1	1
<b>XVI. ORDER BUCEROTIFORMES</b>			
31. Family Bucerotidae (hornbills)	9	4	4
32. Family Upupidae (hoopoes)	1	1	1
<b>XVII. ORDER PICIFORMES</b>			
33. Family Megalaimidae (toucans and barbets)	9	4	4
34. Family Picidae (woodpeckers)	33	12	12
<b>XVIII. ORDER CORACIIFORMES</b>			
35. Family Meropidae (bee-eaters)	7	6	5
36. Family Coraciidae (rollers)	3	2	2
37. Family Alcedinidae (kingfishers)	12	8	8
<b>XIX. ORDER FALCONIFORMES</b>			
38. Family Falconidae (falcons and caracaras)	13	7	5



<b>XX. ORDER PSITTACIFORMES</b>			
39. Family Psittaculidae (old world parrots)	12	5	5
<b>XXI. ORDER PASSERIFORMES</b>			
40. Family Pittidae (pittas)	6	1	1
41. Family Campephagidae (minivets and cuckooshrikes)	15	6	5
42. Family Oriolidae (orioles, figbirds and allies)	6	3	3
43. Family Artamidae (woodswallows and allies)	2	1	1
44. Family Vangidae (vangas and helmet-shrikes)	4	3	3
45. Family Aegithinidae (ioras)	2	1	1
46. Family Dicruridae (drongos)	9	6	6
47. Family Rhipiduridae (fantails)	3	2	2
48. Family Laniidae (shrikes)	12	4	4
49. Family Corvidae (crows and jays)	23	4	4
50. Family Monarchidae (monarchs)	4	2	2
51. Family Stenostiridae (fairy flycatcher & crested -flycatchers)	2	1	1
52. Family Paridae (tits, chickadees)	15	2	2
53. Family Alaudidae (larks)	22	6	5
54. Family Cisticolidae (cisticolas)	17	6	6
55. Family Locustellidae (bush warblers)	13	3	2
56. Family Acrocephalidae (brush, reed and swamp warblers)	13	6	6
57. Family Hirundinidae (swallows)	16	9	8
58. Family Pycnonotidae (bulbuls)	23	7	7
59. Family Phylloscopidae (old world leaf warblers)	36	9	8
60. Family Sylviidae (sylvia warblers, parrotbills & allies)	7	2	1
61. Family Zosteropidae (white-eyes)	8	1	1
62. Family Timaliidae (scimitar babblers and allies)	28	3	3
63. Family Paradoxornithidae (Parrotbills)	17	1	1
64. Family Pellorneidae (smaller babblers)	16	1	1
65. Family Leiothrichidae (babblers, laughing-thrushes & allies)	57	5	5
66. Family Sittidae (nuthatches & wall creeper)	9	2	2
67. Family Sturnidae (starlings)	22	10	7
68. Family Turdidae (thrushes)	33	4	2

69. Family Muscicapidae (chats and flycatchers)	104	26	23
70. Family Dicaeidae (flowerpeckers)	9	3	3
71. Family Nectariniidae (sunbirds)	15	6	5
72. Family Irenidae (fairy bluebirds)	1	1	1
73. Family Chloropseidae (Leafbirds)	4	2	2
74. Family Ploceidae (weavers)	4	2	2
75. Family Estrildidae (Munias & waxbills)	8	6	6
76. Family Passeridae (sparrows, snowfinches and allies)	12	2	2
77. Family Motacillidae (wagtails and pipits)	21	14	12
78. Family Fringillidae (finches)	48	1	1
79. Family Emberizidae (buntings)	20	5	4

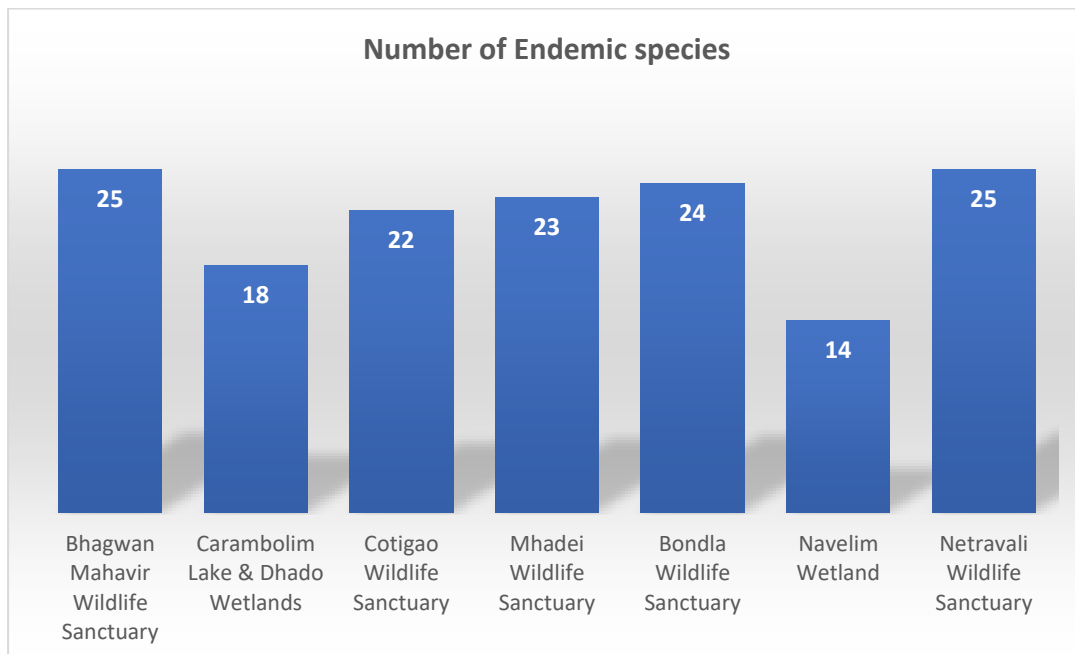


**Fig. 1. Bird diversity in different IBAs of Goa**

### Endemicity

As per the recent taxonomic revisions, 79 species of birds are endemic to India (Rasmussen & Anderton, 2012; Praveen & Jayapal, 2023). Of these, 25 are reported from the IBAs of Goa. The recent taxonomic changes also revised the total number of endemics restricted to the Western Ghats into 28 species. Among these, 17 are reported from the IBAs of Goa. It is noted that all the 25 endemics reported from Goa

are represented in Bhagwan Mahavir WLS & Mollem National Park and Netravali WLS. While, Bondla WLS represented with 24 species followed by Madhei WLS (23 species), Cotigao WLS (22 species), Carambolim Lake & Dhado wetlands (18) and 14 species with Navelim wetlands. Interestingly, many rare WG endemics like Nilgiri Wood Pigeon, Grey-fronted Pigeon, Malabar Grey Hornbill, Grey-headed Bulbul, Nilgiri Flowerpecker, Crimson-backed Sunbird, and Vigor’s Sunbird were noted even in the lowland IBAs of Navelim wetlands and the Carambolim Lake & Dhado wetland complex. The reasons for the rare occurrence of these endemics may be the proximity of Western Ghats and the plenty of fruiting fig trees available in the lowlands. Among the Western Ghat endemics, Crimosn-backed Sunbird is fairly well distributed in all the IBAs of the State. The rarest endemics encountered were the White-bellied Treepie and the Waynad Laughing Thrush, which is reported only from Bhagwan Mahavir WLS and Netravali WLS.



**Fig. 2. Number of endemics reported from different IBAs of Goa**

**Table- 3: Endemic species reported from Important Bird Areas (IBAs) of Goa**

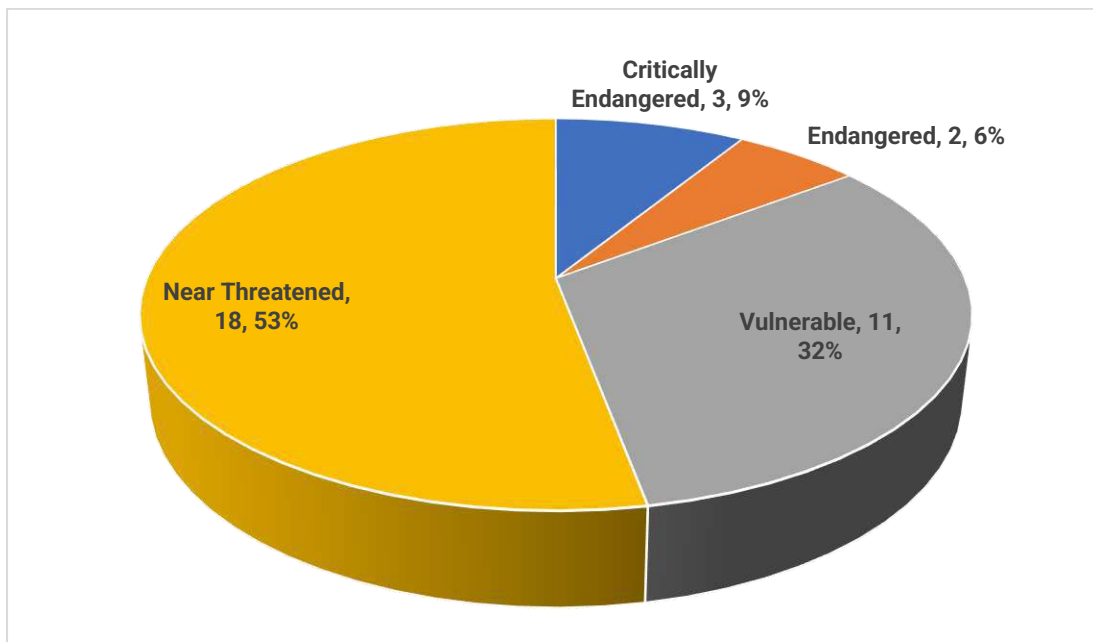
Sl. No	Species	Endemic to
1.	Red Spurfowl <i>Galloperdix spadicea</i>	India
2.	Grey Junglefowl <i>Gallus sonneratii</i>	India
3.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4.	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5.	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6.	Malabar Grey Hornbill <i>Ocyrceros griseus</i>	Western Ghats
7.	Malabar Barbet <i>Psilopogon malabaricus</i>	Western Ghats
8.	White-cheeked Barbet <i>Psilopogon viridis</i>	India
9.	Malabar Parakeet <i>Psittacula columboides</i>	Western Ghats
10.	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
11.	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
12.	White-bellied Treepie <i>Dendrocitta leucogastra</i>	Western Ghats
13.	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
14.	Malabar Lark <i>Galerida malabarica</i>	India
15.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
16.	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
17.	Indian Scimitar Babbler <i>Pomatorhinus horsfieldii</i>	India
18.	Rufous Babbler <i>Argya subrufa</i>	Western Ghats
19.	Wayanad Laughingthrush <i>Pterorhinus delesserti</i>	Western Ghats
20.	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
21.	White-bellied Blue Flycatcher <i>Cyornis pallidipes</i>	Western Ghats
22.	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
23.	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
24.	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
25.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

### Globally Threatened Species

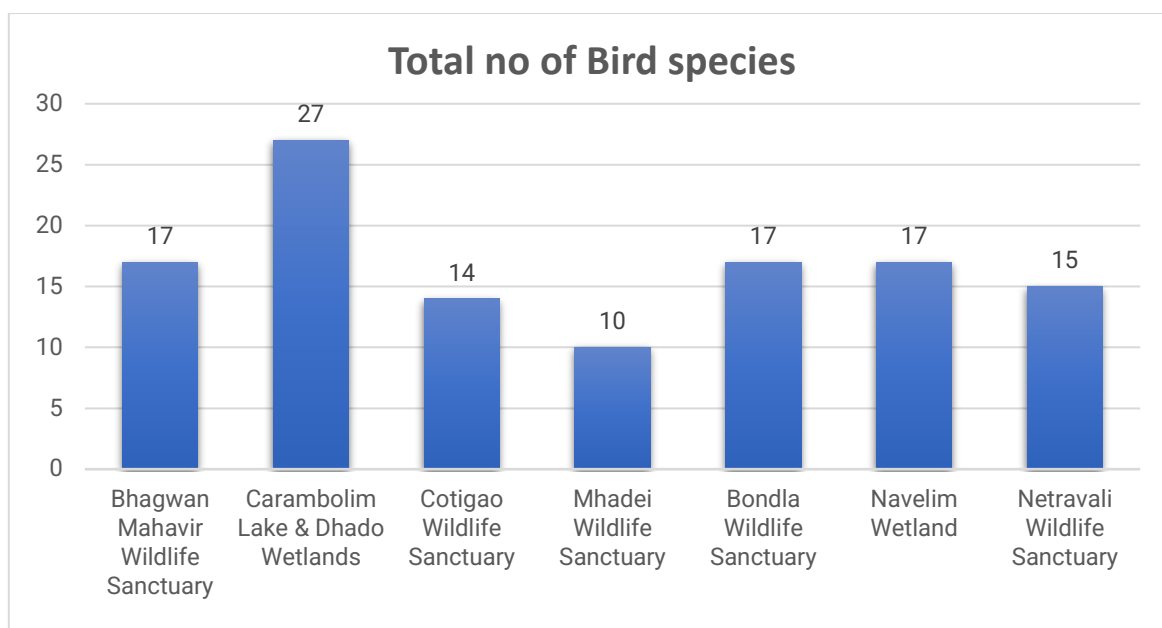
The International Union for Conservation of Nature (IUCN) Red List of Threatened Species has been used to evaluate the conservation priority of bird species and sites. IUCN and Birdlife International have listed several species as

Critically Endangered, Endangered, Vulnerable and near Threatened based on their global status, and this information is updated annually. As per the latest updated list (2022), 34 species are listed from the IBAs of Goa (Table-5). The list includes three Critically Endangered species, two Endangered, 11 Vulnerable and 18 Near threatened species.

Maximum numbers of threatened species are reported from Carambolim Lake & Dhado wetlands complex IBA with 28 species, including three Critically Endangered species viz. White -rumped Vulture, Indian Vulture and the Yellow-breasted Bunting. Even though a Vulnerable species, Nilgiri Wood Pigeon is represented in all the IBAs of Goa. Similarly, Malabar Grey Hornbill, Malabar Pied Hornbill, Grey-headed Bulbul, Indian Spotted Eagle also fairly well distributed all along the IBAs of the state. A good population of Alexandrine Parakeet was also noted on the wetland IBAs of the region. Lesser Adjutant Stork, a Vulnerable species, also recorded in many of the IBAs of the region.



**Fig. 3. Composition of Globally threatened birds recorded from IBAs of Goa**

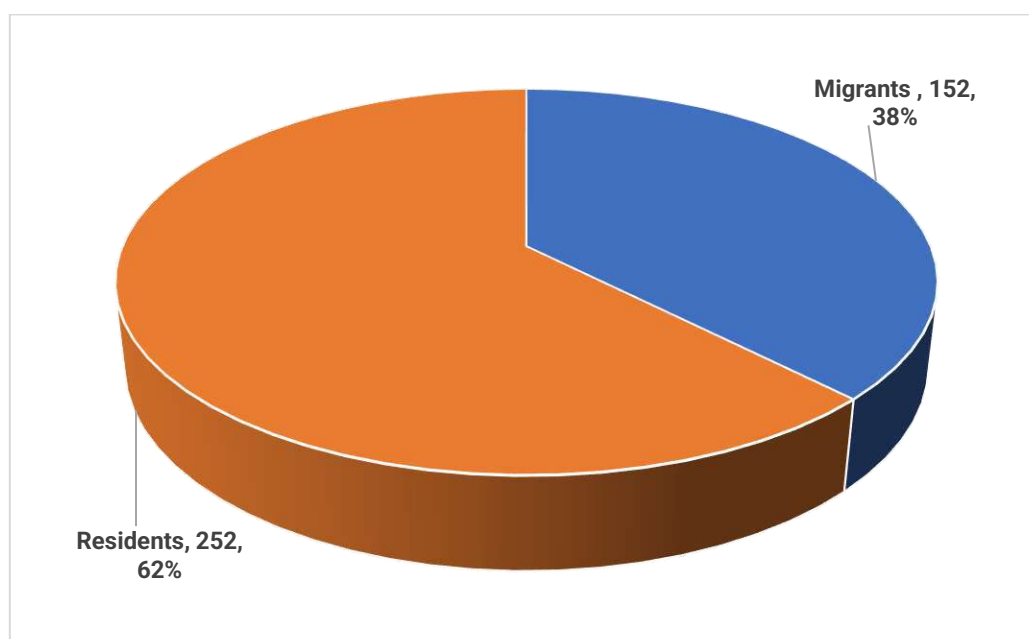


**Fig. 4. No. of Globally threatened bird sp. recorded from the IBAs of Goa**

**Table-4. Globally threatened bird sp. from Important Bird Areas (IBAs) of Goa**

Sl. No	Species	IUCN Category
1.	Common Pochard <i>Aythya ferina</i>	Vulnerable
2.	Ferruginous Duck <i>Aythya nyroca</i>	Near Threatened
3.	Lesser Flamingo <i>Phoeniconaias minor</i>	Near Threatened
4.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
5.	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
6.	Great Thick-knee <i>Esacus recurvirostris</i>	Near Threatened
7.	Eurasian Curlew <i>Numenius arquata</i>	Near Threatened
8.	Bar-tailed Godwit <i>Limosa lapponica</i>	Near Threatened
9.	Black-tailed Godwit <i>Limosa limosa</i>	Near Threatened
10.	Curlew Sandpiper <i>Calidris ferruginea</i>	Near Threatened
11.	River Tern <i>Sterna aurantia</i>	Vulnerable
12.	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
13.	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
14.	Painted Stork <i>Mycteria leucocephala</i>	Near Threatened
15.	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
16.	Black-headed Ibis <i>Threskiornis melanocephalus</i>	Near Threatened
17.	Egyptian Vulture <i>Neophron percnopterus</i>	Endangered
18.	White-rumped Vulture <i>Gyps bengalensis</i>	Critically Endangered
19.	Indian Vulture <i>Gyps indicus</i>	Critically Endangered
20.	Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>	Near Threatened
21.	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable

22.	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable
23.	Tawny Eagle <i>Aquila rapax</i>	Vulnerable
24.	Steppe Eagle <i>Aquila nipalensis</i>	Endangered
25.	Pallid Harrier <i>Circus macrourus</i>	Near Threatened
26.	Great Hornbill <i>Buceros bicornis</i>	Vulnerable
27.	Malabar Grey Hornbill <i>Ocyrceros griseus</i>	Vulnerable
28.	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
29.	Black-capped Kingfisher <i>Halcyon pileata</i>	Vulnerable
30.	Laggar Falcon <i>Falco jugger</i>	Near Threatened
31.	Alexandrine Parakeet <i>Psittacula eupatria</i>	Near Threatened
32.	Bristled Grassbird <i>Schoenicola striatus</i>	Vulnerable
33.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened
34.	Yellow-breasted Bunting <i>Emberiza aureola</i>	Critically Endangered



**Fig. 5. Composition of Migratory and Resident bird species recorded from the different IBAs of Goa**

### **THREATS AND CONSERVATION ISSUES**

The primary threat to the biodiversity and natural habitats in Goa, particularly in the western part of the Western Ghats, is habitat loss and degradation. Once extending to the coastal plain, the lowland Evergreen and Semi-evergreen Rain forests have significantly shrunk below 500 meters due to extensive human encroachment. The



major factors contributing to this habitat loss are livestock grazing and large-scale wood cutting, which have led to the destruction of a substantial portion of the forested areas.

This loss of habitat poses a significant risk to many threatened and restricted range species, including birds. Mining activities have also contributed to the destruction of some crucial bird habitats. Additionally, plantations, which often replace natural forests, further degrade the bird habitats and disrupt the local ecosystem.

Tourism, while an essential part of Goa's economy, also presents a conservation challenge. The State Government has opened many areas, including the Bhagwan Mahavir Wildlife Sanctuary and other Important Bird Areas (IBAs), to tourists. The unregulated influx of tourists can disturb fragile ecosystems and impact the nesting and breeding behaviors of various bird species. It is vital to regulate and control tourism in ecologically sensitive areas while also raising awareness among tourists about the importance of bird and biodiversity conservation.

Another major conservation concern is the Mhadei Diversion Scheme proposed by the Karnataka Government. This project involves diverting the Mhadei River into the Malaprabha basin, which would have a devastating effect on the pristine forests of the Mhadei Valley. The project includes the construction of several diversion dams, which threaten to alter the natural flow of water and disrupt the ecosystem. Despite legal interventions, work on the dam site has progressed, posing a significant threat to the region's ecological integrity.

The Carambolim Important Bird Area (IBA) has also witnessed notable changes that have negatively impacted birdlife. The expansion of the Konkan Railway Corporation has led to parts of the lake being filled, and real estate development in the catchment area has resulted in pollution and increased growth of the invasive *Salvinia molesta*. Changes in the water regime, including the construction of a bund and continuous impounding of water, have further affected bird populations. The

traditional system of draining and impounding water has collapsed, and the reduced water use by downstream paddy farmers has affected bird presence around the lake.

To address these conservation challenges, it is essential to take proactive measures. Collaborating with local NGOs and individuals, the government should initiate awareness programs about birds and biodiversity conservation, leveraging the Indian Bird Conservation Network in Goa. Sustainable development practices, proper regulation of tourism, and stringent measures against habitat destruction should be put in place to safeguard the rich natural heritage of Goa and ensure the protection of its diverse birdlife and ecosystems.

Additionally, careful evaluation and mitigation of large-scale projects, such as the Mhadei Diversion Scheme, are necessary to prevent irreversible damage to critical habitats and ensure the long-term survival of the region's unique biodiversity.



**Faunal collections from one of the IBA in Goa by ZSI Team**

## **BHAGWAN MAHAVIR WILDLIFE SANCTUARY**

### **GENERAL DESCRIPTION**

The Bhagwan Mahavir Wildlife Sanctuary is situated in the Dharbandhora taluka on the eastern border of Goa, adjacent to the Western Ghats. Originally known as the Mollem Game Sanctuary, it was renamed in 1976 to honor the Jain saint Bhagwan Mahavir. The sanctuary's core area, covering 107 square kilometers, was officially declared as the Mollem National Park through a notification on April 13, 1978. The sanctuary is traversed by National Highway NH 4A and the Mormugao-Londa railway line, with the Collem Railway Station located within its boundaries.



**Moist deciduous Forests at Bhagwan Mahavir Wildlife Sanctuary**

During the monsoon season, the sanctuary is replenished by several small rivulets that flow through the area, though they dry up in the summer. A significant river, Dudhsagar, flows through the heart of the sanctuary and remains perennial throughout the year. Apart from its diverse flora and fauna, the sanctuary boasts several important geological and historical features. One such attraction is the

Dudhsagar Falls, which can be reached within an hour's journey from the Collem Railway Station by train, attracting numerous tourists.

The Devil Canyon within the sanctuary stands as a magnificent example of geological rock formation, adding to the area's scenic beauty. Additionally, the Shaiva Tambdi Surla Temple, situated approximately 13 kilometers from Mollem, holds historical significance and is a popular destination for visitors.

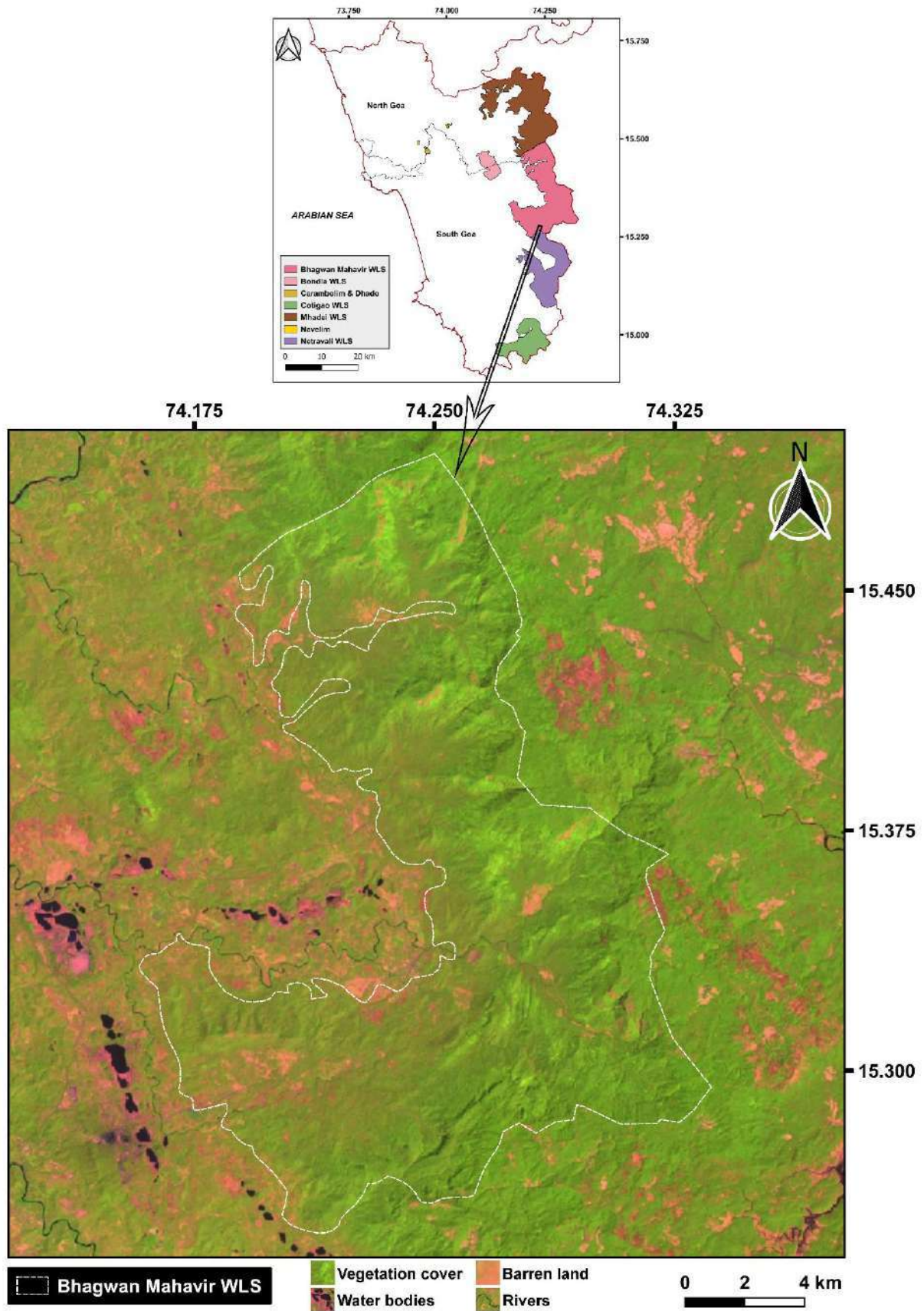
The sanctuary's lush forest growth results in a nearly closed canopy, limiting the availability of grass. Evergreen vegetation dominates the higher altitudes and the riverbanks, creating a rich and diverse habitat for various plant and animal species. The main vegetation types found in the Bhagwan Mahavir Wildlife Sanctuary include West Coast Tropical Evergreen Forest, West Coast Semi-evergreen Forest, and Moist Deciduous Forest.

The sanctuary plays a crucial role in conserving the region's biodiversity and preserving natural habitats. Its combination of diverse vegetation types, geological formations, and historical landmarks make it a significant attraction for eco-tourism and nature enthusiasts. Ensuring the protection and sustainable management of this sanctuary is vital to safeguard its unique flora, fauna, and natural heritage for generations to come.

### **Avifaunal diversity**

A total of 264 species of birds belonging to 181 genera under 78 families and 21 orders were recorded from the Bhagwan Mahawir WLS. Among these, all the 25 endemics known from Goa are well represented in the Park (Table-6), 17 species are globally threatened as per the latest IUCN Red List category (Table-). 46 species are wetland-dependent species and 61 species are migratory in nature.





**MAP-2. Map showing the Bhagwan Mahavir WLS IBA**

**Table-6 – List of Endemic species reported from the IBA**

Sl. No	Species	Endemic to
1.	Red Spurfowl <i>Galloperdix spadicea</i>	India
2.	Grey Junglefowl <i>Gallus sonneratii</i>	India
3.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4.	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5.	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6.	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Western Ghats
7.	Malabar Barbet <i>Psilopogon malabaricus</i>	Western Ghats
8.	White-cheeked Barbet <i>Psilopogon viridis</i>	India
9.	Malabar Parakeet <i>Psittacula columboides</i>	Western Ghats
10.	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
11.	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
12.	White-bellied Treepie <i>Dendrocitta leucogastra</i>	Western Ghats
13.	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
14.	Malabar Lark <i>Galerida malabarica</i>	India
15.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
16.	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
17.	Indian Scimitar Babbler <i>Pomatorhinus horsfieldii</i>	India
18.	Rufous Babbler <i>Argya subrufa</i>	Western Ghats
19.	Wayanad Laughingthrush <i>Pterorhinus delesserti</i>	Western Ghats
20.	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
21.	White-bellied Blue Flycatcher <i>Cyornis pallidipes</i>	Western Ghats
22.	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
23.	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
24.	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
25.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-7. Globally Threatened Birds reported from the IBA**

Sl. No	Species	IUCN Category
1.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
2.	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
3.	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
4.	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
5.	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
6.	Black-headed Ibis <i>Threskiornis melanocephalus</i>	Near Threatened
7.	Egyptian Vulture <i>Neophron percnopterus</i>	Endangered
8.	White-rumped Vulture <i>Gyps bengalensis</i>	Critically Endangered
9.	Indian Vulture <i>Gyps indicus</i>	Critically Endangered
10.	Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>	Near Threatened
11.	Indian Spotted Eagle <i>Clanga hastate</i>	Vulnerable
12.	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable
13.	Great Hornbill <i>Buceros bicornis</i>	Vulnerable
14.	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Vulnerable
15.	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
16.	Black-capped Kingfisher <i>Halcyon pileata</i>	Vulnerable
17.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

**OTHER KEY FAUNA**

The Protected Area is enriched with rich floral elements including 700 flowering plant species (Datar & Lakshminarasimhan 2013), which comprises 127 endemic plants of the Western Ghats. Many species of mushrooms and lichen species are also known from the National Park.

The area is well known for the rich assemblage of butterflies and dragonflies (Odonata). Altogether 219 species of butterflies and 80 species of odonates were recorded from the area. Of the 219 species of butterflies, 14 are endemic to the Western Ghats. Similarly, 18 endemic odonates were also documented from the Sanctuary. The two newly described odonata species viz. *Idionyx gomantakensis* (Subramanian et al. 2013) and *Cyclogomphus flavoannulatus* (Rangnekar et al. 2019)

have been described from this landscape. A study by Baidya (2017) recorded 75 species of ants from the area. The network of streams and rivers within the sanctuary supports a rich diversity of fish fauna. A total of 49 species of fish species were recorded from the landscape (Atkore, 2017). Herpetofauna of the area is diverse with 52 species of reptiles and 36 species of amphibians. The reptiles include the mighty King Cobra (*Ophiophagus hannah*) and the Mugger Crocodile (*Crocodylus palustris*). Many new species of amphibians were described from this locality.

At least 60 species of mammals were reported from the Sanctuary. As it's sharing landscapes with Kali TR, Tiger movements are recorded from the area. In fact, the area has been identified as a tiger corridor connecting the population between Goa to Maharashtra (Sahyadri-Radhanagari-Goa). A good population of Gaur and Sambar was also reported from the region.

## **THREATS AND CONSERVATION ISSUES**

The Bhagwan Mahavir Wildlife Sanctuary faces a unique situation concerning tourism and recreation. Currently, there are no significant threats to the sanctuary due to its full notification status and minimal settlements within its boundaries. However, there are challenges associated with the increasing number of tourists, especially at the Dudhsagar waterfall, which originates in Karnataka but falls within the sanctuary's territory.

The Dudhsagar waterfall is a natural attraction where water cascades from a height of 200 meters, creating a mesmerizing sight as it churns and foams through a wide gorge, resembling a sea of milk. This breathtaking spectacle draws a large number of tourists, making it a major tourist hotspot. However, the authorities have not made concerted efforts to promote the sanctuary as a birdwatcher's paradise, despite its potential as a prime location for birdwatching enthusiasts. This lack of promotion means that many visitors may not be aware of the sanctuary's rich birdlife and the opportunity it presents for birdwatching activities.





### **Dudhsagar Waterfall in Bhagwan Mahavir Wildlife Sanctuary**

Another concern arises from the high volume of vehicular traffic on the route leading to Dudhsagar waterfall and within the sanctuary. With over 400 vehicles operating on this route, and more than 200 vehicles passing through the sanctuary daily, the region experiences considerable pressure due to tourism-related activities.

Currently, the sanctuary is closed and inaccessible during the monsoon period, from June till November. However, recently, the government has announced plans to construct an all-weather tar road to facilitate year-round tourism. This project involves widening the existing road and constructing bridges over numerous streams. While this initiative aims to improve access for tourists, it may lead to further impacts on the sanctuary's environment and wildlife.

It is crucial for the authorities to strike a balance between promoting sustainable tourism and preserving the sanctuary's ecological integrity. Implementing measures to regulate the number of visitors and promoting responsible tourism practices can help mitigate the potential negative impacts on the sanctuary's delicate ecosystem. Additionally, initiatives to raise awareness about the sanctuary's diverse birdlife among tourists can attract more nature enthusiasts and contribute to the overall conservation efforts. Careful planning and management are essential to

ensure that tourism remains an asset to the sanctuary without compromising its natural beauty and biodiversity.



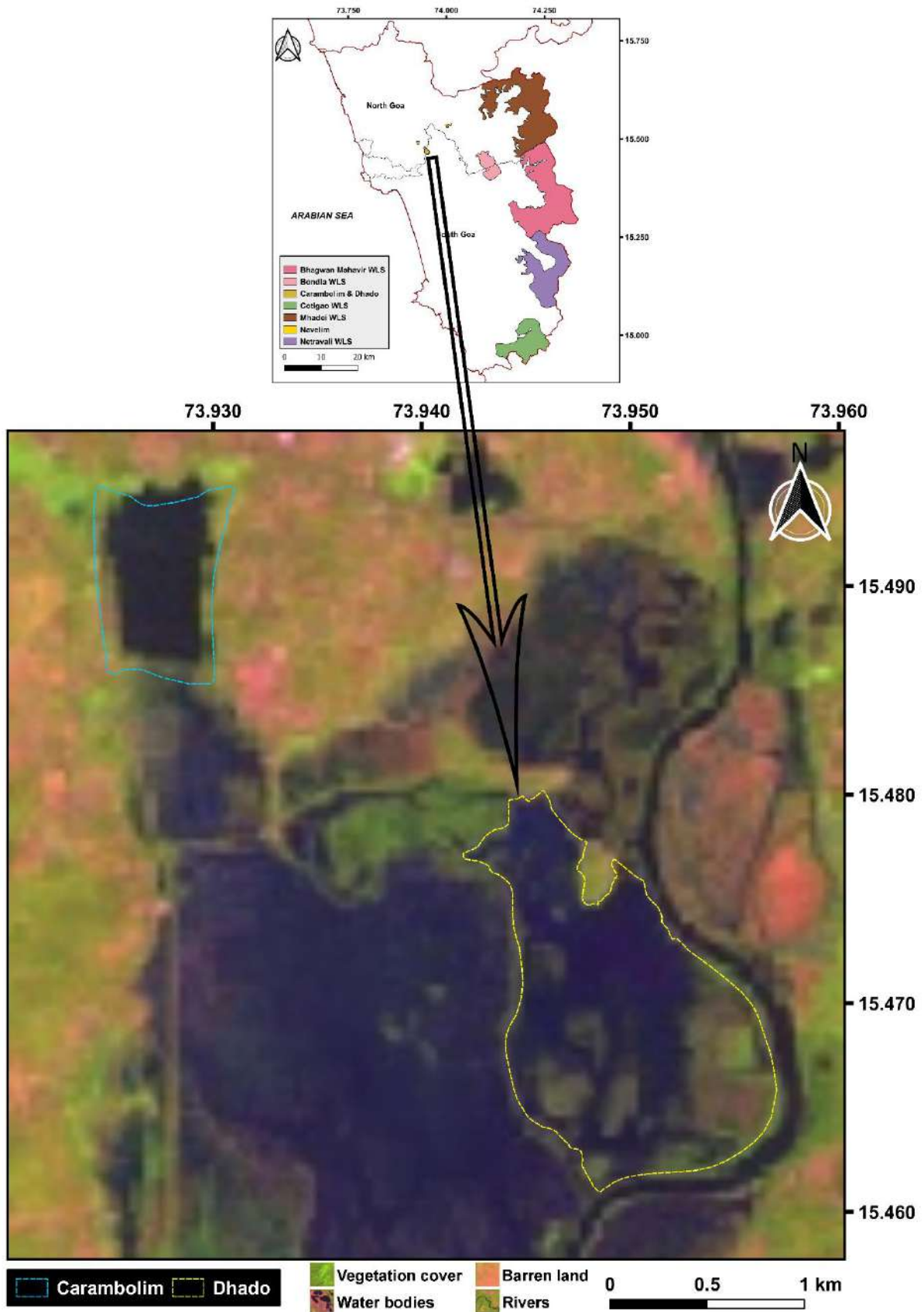
**Carambolim Lake**

## CARAMBOLIM LAKE & DHADO WETLANDS

### GENERAL DESCRIPTION

Carambolim Lake and Dhado wetland complex is the one of the most important IBAs of Goa state. It is located in Tiswadi taluka of north Goa district, about 12km from Panjim, the capital city of Goa. The entire area consists of one large Lake, freshwater swamps, mangrove backwater swamps, jheels and the homestead gardens. The lake water is mainly rainfed and used for irrigation of paddyfields in the lower reaches on the southern side of the Lake. The western side of the Lake is Karmali railway station of Konkan Railway Corporation. The eastern side is lined with coconut palms, huge mango and Ficus trees, that attracts many frugivorous birds to the area. The water depth is between 1.5 m to 3 m, depending upon the season. The main vegetation at Carambolim Lake consists of *Nymphaea stellata*, a rooted plant with floating leaves, *Oryza rufipogon*, an emergent wild paddy, and submerged *Hydrilla verticillata*. At many places water hyacinth (*Eichhornia crassipes*) also appeared in large masses. Southward of Carambolim Lake lies Dhado wetland, which extends over an area of 880 ha. This vast area is part of the estuarine zone of the Mandovi and Zuari rivers, connected by the Cumbarzua canal, which forms the western boundary of Dhado wetland. Being an estuarine zone between Mandovi and Zuari, the level of water depends on the tides and the flow rate of both the rivers.

This area is highly productive and is fringed by mangroves. Agricultural fields dot Dhado wetland on its northern and western sides. The dominant mangrove plant species reported from the area is *Avicennia marina*. Other mangrove species like *Rhizophora mucronata*, *Excoecaria agallocha*, *Aegiceras corniculatum* and *Avicennia officinalis* also noted from the area. Large extent of mangroves, mainly of *Avicennia marina* stretches were dried due to unknown reasons. Mangrove-associated plants like *Clerodendron inerme*, *Dolichandrone spathacea*, *Barringtonia* sp., *Achrosticum aureum*, and *Derris trifoliata* etc were also observed. The marsh lands and the open grassy habitats are covered with many species of grasses and sedges including *Oryza rufipogon*, *Pennisetum* sp., *Elaeocharis* sp., etc.



**Map-3. Map showing the Carambolim- Dhado wetland complex IBA**



### **Avifaunal diversity**

Altogether 322 species of birds belonging to 216 genera under 78 families and 21 orders were recorded from the Carambolim Lake & Dhado wetland complex. Wetland birds are the key members of the area dominated with 130 species. Among the 322 species 109 species are winter migrants, 18 species are endemic to India (11 species to the Western Ghats) and 27 species are globally threatened as per IUCN Redlist category. 50 species are listed in the Schedule-I of Indian Wildlife (Protection) Amendment Act, 2022. Huge congregation of Black-tailed Godwit was noted at many places during the survey in December, we could count more than 200 birds foraging near Carambolim Lake. Similarly, large roosting flights of Glossy Ibis with more than 2000 birds were found flying towards the western side from the Dadho wetlands. Roosting population of hundreds of Chestnut-winged starlings, Baya Weaver, etc were seen on the electric wire at Dhado wetlands. The grasses and sedges in the field and the mangrove marshes provide good foraging habitats for Painted Storks, Black-headed Ibis, Glossy Ibis, etc. Many migratory shorebirds, gulls and terns also use these wetlands for feeding and roosting. The heronry that existed near the busy road is the major breeding colony of waterfowls, especially Indian Shag, Little Cormorant, Darter, etc. Two large ponds near the Heronry also provide good foraging ground for many species of egrets, herons and other waterfowls.



**Large congregation of Black-tailed Godwits at Dhado wetlands**



**Roosting flight of Glossy Ibis at Carambolim Lake & Dhado wetland complex**

**Table 8: Endemic species reported from Carambolim lake & Dhado wetlands**

Sl. No	Species	Endemic to
1	Red Spurfowl <i>Galloperdix spadicea</i>	India
2	Grey Junglefowl <i>Gallus sonneratii</i>	India
3	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Western Ghats
7	White-cheeked Barbet <i>Psilopogon viridis</i>	India
8	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
9	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
10	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
11	Malabar Lark <i>Galerida malabarica</i>	India
12	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
13	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
14	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
15	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
16	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
17	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
18	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-9. Globally threatened bird sp. from Important Bird Areas (IBAs) of Goa**

Sl. No	Species	IUCN Category
1	Common Pochard <i>Aythya ferina</i>	Vulnerable
2	Ferruginous Duck <i>Aythya nyroca</i>	Near Threatened
3	Lesser Flamingo <i>Phoeniconaias minor</i>	Near Threatened
4	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
5	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
6	Great Thick-knee <i>Esacus recurvirostris</i>	Near Threatened
7	Eurasian Curlew <i>Numenius arquata</i>	Near Threatened
8	Bar-tailed Godwit <i>Limosa lapponica</i>	Near Threatened
9	Black-tailed Godwit <i>Limosa limosa</i>	Near Threatened
10	Curlew Sandpiper <i>Calidris ferruginea</i>	Near Threatened
11	River Tern <i>Sterna aurantia</i>	Vulnerable
12	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
13	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
14	Painted Stork <i>Mycteria leucocephala</i>	Near Threatened
15	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
16	Black-headed Ibis <i>Threskiornis melanocephalus</i>	Near Threatened
17	White-rumped Vulture <i>Gyps bengalensis</i>	Critically Endangered
18	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable
19	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable
20	Tawny Eagle <i>Aquila rapax</i>	Vulnerable
21	Pallid Harrier <i>Circus macrourus</i>	Near Threatened
22	Malabar Grey Hornbill <i>Ocyroceros griseus</i>	Vulnerable
23	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
24	Black-capped Kingfisher <i>Halcyon pileata</i>	Vulnerable
25	Alexandrine Parakeet <i>Psittacula eupatria</i>	Near Threatened
26	Bristled Grassbird <i>Schoenicola striatus</i>	Vulnerable
27	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

**Table- Large congregations of waterfowls recorded from Carambolim Lake & Dhado wetland complex**

Sl. No.	Common Name	Numbers	Locality
1.	Glossy Ibis	2000+	Dadho wetlands
2.	Black-tailed Godwit	200+	Dadho wetlands
3.	Rosy Pastor	100+	Dadho wetlands
4.	Chestnut-tailed Starling	100+	Dadho wetlands
5.	Baya Weaver	100+	Dadho wetlands
6.	Little Egret	150+	Dadho wetlands
7.	Great Egret	80+	Dadho wetlands
8.	Little Cormorant	75++	Dadho wetlands
9.	Gull-billed Tern	50+	Dadho wetlands

### **OTHER KEY FAUNA**

The Smooth-coated Otter *Lutrogale perspicillata* is one of the regular mammal resident of this wetland (Atul S. Borkar, pers. comm.) and is protected under Schedule II, Part II of the Wildlife (Protection) Act, 1972. The Indian Flapshell Turtle *Lissemys punctata*, Mugger Crocodile *Crocodylus palustris*, Indian Rock Python *Python molurus* (listed in Schedule I, Part II), and Indian Cobra *Naja naja* (listed in Schedule II, Part II) are some of the important reptiles found in this region.

### **LAND USE LAND PATTERN**

Carambolim Lake is one of the many minor irrigation tanks established in Goa to support paddy cultivation. These tanks are created by impounding rainwater runoff during the monsoon season. At Carambolim Lake, sluice gates located on the southeastern side are closed from late July to early May of the following year. By keeping the sluice gates closed, the lake retains the impounded water, which is then used for irrigating paddy fields in the lower areas to the south of the lake. The practice of impounding water in the lake during the monsoon season allows for the storage of water that can be utilized for agricultural purposes during the dry months. This irrigation system plays a crucial role in supporting paddy cultivation, which is an essential agricultural activity in the region.



By managing the water flow through the sluice gates, farmers can regulate the distribution of water to the paddy fields, ensuring adequate irrigation for crop growth. The water from Carambolim Lake helps sustain the rice paddies in the surrounding areas, enabling successful paddy cultivation and contributing to the agricultural economy of the region. These minor irrigation tanks, including Carambolim Lake, have been vital in ensuring water availability for agricultural needs in Goa, especially for paddy cultivation, which remains an integral aspect of the local farming practices. By effectively managing and utilizing the monsoon runoff, these tanks support the livelihoods of farmers and contribute to the food security of the region.

### **THREATS AND CONSERVATION ISSUES**

Carambolim Lake, an important Important Bird Area (IBA) in Goa, has faced significant threats in the past, with one of the biggest challenges arising during the construction of the Konkan Railway Project. The railway track was initially planned very close to the lake, causing concern among environmentalists. However, due to strong resistance from conservationists, the Konkan Railway Corporation Ltd agreed to shift the line to minimize damage to the wetland. The railway project, which began in 1990 and took eight years to complete, caused disturbance to the lake area during its construction phase. However, once the railway track was completed, birdlife started returning to the area, and the birds gradually adapted to the movement of trains.

Responding to pressure from conservationists, the Konkan Railway Ltd took steps to mitigate the impact of train noise on birdlife. They planted a large number of trees along the track embankments, creating a 'no hooting zone,' which helped in restoring the bird population in the area. However, in mid-2012, when the Konkan Railway Corporation Ltd started laying a second track, part of the lake was filled up, and trees on the western end of the lake, which served as a roosting site for Little Cormorants, were cut down. This caused significant disturbance to the lake's ecosystem.

Additionally, the northern end of Carambolim Lake faces long-term and irreversible disturbance from private encroachment. Sewage, solid waste generated by the local population, and silt deposition also pose major threats to the lake's health. Dhado wetland, which is relatively less disturbed compared to the lake, is still facing damage to its mangrove sections due to pollution originating upstream.

To safeguard Carambolim Lake from further encroachment and development threats, it is essential to designate it as a Community Reserve under the modified Indian Wildlife (Protection) Act. The traditional systems of lake management, such as regular draining during monsoon, cultivation on the lake base, and later use of water for irrigation, have been abandoned as the local community has shifted away from paddy cultivation. This change in management practices seems to be negatively impacting the lake's health, which, in turn, affects bird numbers.

Conservation efforts need to focus on preserving the lake's ecological balance and providing suitable habitats for birds. This includes addressing pollution issues, preventing further encroachment, and re-establishing traditional management practices that have proven effective in maintaining the lake's biodiversity. By implementing these measures, Carambolim Lake can be protected as a vital habitat for birds and other wildlife, ensuring its continued contribution to Goa's natural heritage.



## **COTIGAO WILDLIFE SANCTUARY**

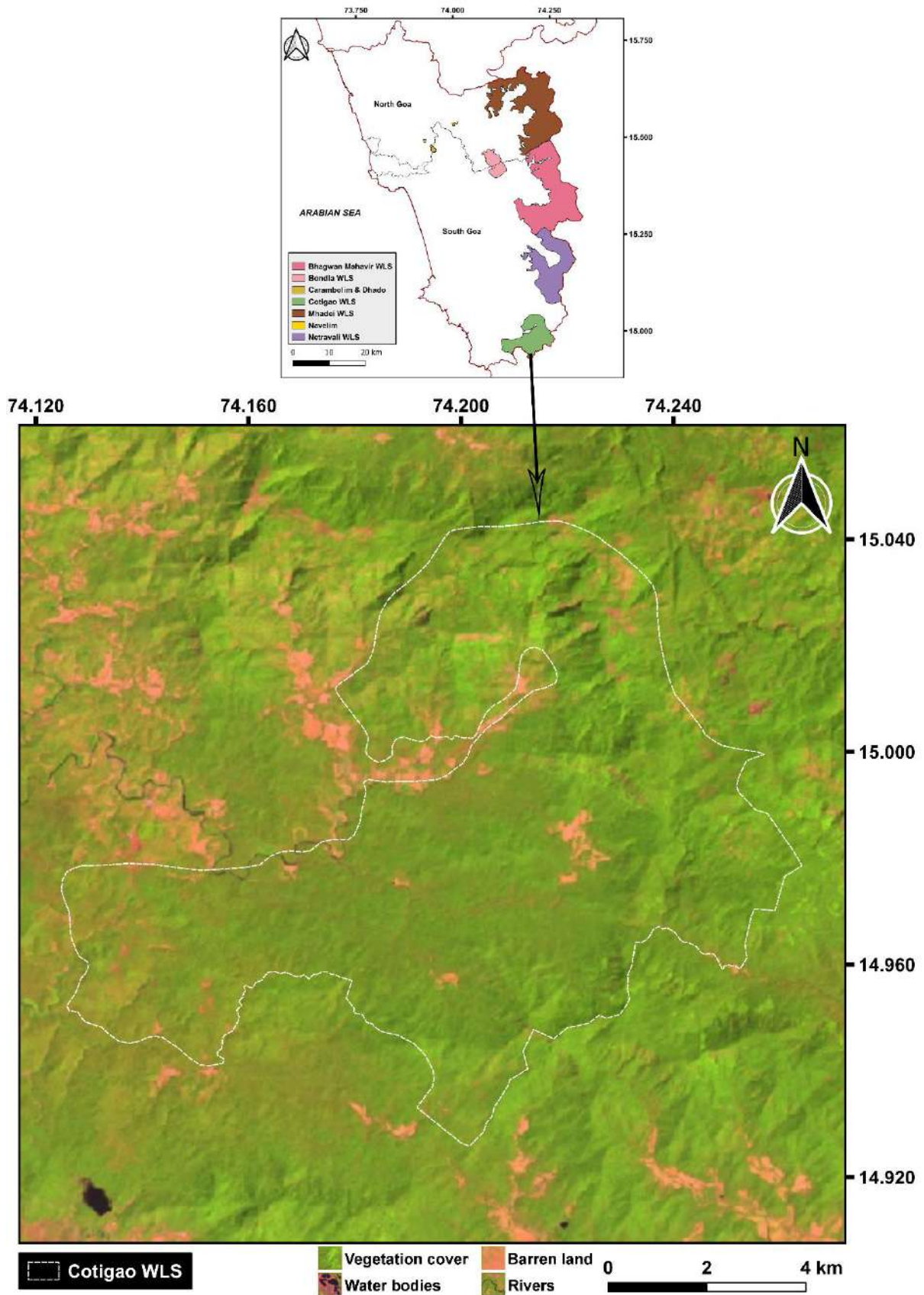
### **GENERAL DESCRIPTION**

The Cotigao Wildlife Sanctuary, in Canacona taluka, is the southern most Wildlife Sanctuary of Goa. It was established in 1969 to protect a remote and vulnerable area of forest lining the Goa-Karnataka interstate border. The western end boundary of the sanctuary is about 9km away from the coast of Arabian Sea. The southern and south-eastern areas are contiguous with the Kali Tiger reserve, while the northern boundary is contiguous with Netravali wildlife sanctuary. The terrain is hilly and includes undulating uplands with elevations ranging from 50m to 843m (Raven Donger peak). Many small rivulets flow through the sanctuary in the monsoon, but dry up in summer. The river Talpona originates from Ravan Donger hills and flows through the sanctuary and finally meets the Arabian Sea at Canacona. The Galgibag River is also originates from the forests of Cotigao Sanctuary and finally drains to Arabian Sea at Mashem village. The major vegetation types found in the forests are Tropical Evergreen Forest, West Coast Semi-evergreen Forest, and Moist Deciduous Forest. The evergreen forests are mainly present at higher altitudes and on riversides. Plantation and grasslands are also found in some areas of the Sanctuary.



**Forest habitat at Cotigao Wildlife Sanctuary**





Map-4. Map showing Cotigao WLS IBA

## Avifaunal diversity

Till date, 238 species of birds belonging to 162 genera under 78 families and 19 orders were recorded from the Sanctuary. Among these, 31 species are wetland-dependent species, 48 are winter migrants, 39 species are listed in the Schedule-I of the Indian Wildlife (Protection) Act. A total of 15 species of Western Ghats endemics and 10 globally threatened species also reported from the Sanctuary.

**Table- 10: Endemic species reported from Cotigao WLS IBA**

Sl. No	Species	Endemic to
1	Red Spurfowl <i>Galloperdix spadicea</i>	India
2	Grey Junglefowl <i>Gallus sonneratii</i>	India
3	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6	Malabar Grey Hornbill <i>Ocyroceros griseus</i>	Western Ghats
7	Malabar Barbet <i>Psilopogon malabaricus</i>	Western Ghats
8	White-cheeked Barbet <i>Psilopogon viridis</i>	India
9	Malabar Parakeet <i>Psittacula columboides</i>	Western Ghats
10	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
11	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
12	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
13	Malabar Lark <i>Galerida malabarica</i>	India
14	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
15	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
16	Indian Scimitar Babbler <i>Pomatorhinus horsfieldii</i>	India
17	Rufous Babbler <i>Argya subrufa</i>	Western Ghats
18	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
19	White-bellied Blue Flycatcher <i>Cyornis pallidipes</i>	Western Ghats
20	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
21	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
22	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
23	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-11. Globally threatened bird species reported from Cotigao WLS IBA**

Sl. No	Species	IUCN Category
1.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
2.	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
3.	River Tern <i>Sterna aurantia</i>	Vulnerable
4.	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
5.	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
6.	Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>	Near Threatened
7.	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable
8.	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable
9.	Great Hornbill <i>Buceros bicornis</i>	Vulnerable
10.	Malabar Grey Hornbill <i>Ocyrceros griseus</i>	Vulnerable
11.	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
12.	Black-capped Kingfisher <i>Halcyon pileata</i>	Vulnerable
13.	Alexandrine Parakeet <i>Psittacula eupatria</i>	Near Threatened
14.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

**OTHER KEY FAUNA**

Due to varying habitats and availability of streams and rivulets the sanctuary harbour good population of larger mammals and other animal groups . The Leopard *Panthera pardus* is the apex predator in this small sanctuary, feeding mainly on Sambar *Rusa unicolor*, Barking Deer *Muntiacus malabaricus*, and Mouse Deer *Moschiola indica*. Other significant mammalian species reported from the Sanctaury are Gaur *Bos gaurus* The Indian Giant Flying Squirrel *Petaurista philippensis*, Slender Loris *Loris lydekkerianus*, Indian Pangolin *Manis crassicaudata* , Small Indian Civet *Viverricula indica*, Brown Mongoose *Urva fusca* and Golden Jackal *Canis aureus*. Cotigao has many interesting reptiles, including King Cobra *Ophiophagus hannah*, but not much is known about them. The Sanctuary and the neighbouring areas are the type locality for the rare and endangered *Gegeneophis pareshi*. The sanctuary is also home to a diverse invertebrate population including lepidopterans, odonates, and arachnids. Three species of freshwater crabs were also reported from the Sanctuary including the newly described *Ghatiana rouxi* and *G. atropurpurea*. The sanctuary is also having a well-maintained Butterfly Park and known for many endemic and rare butterflies.

## **THREATS AND CONSERVATION ISSUES**

Cotigao Wildlife Sanctuary, although fully designated as a protected area, still faces challenges with livestock grazing due to the presence of hamlets within its boundaries. Encroachment by private landowners further compounds the issues for this protected sanctuary. Livestock grazing inside the sanctuary not only intensifies pressure on wildlife and human conflicts but also diminishes food resources for herbivores. To ensure effective conservation, proactive measures are needed to address these concerns and promote harmonious coexistence between human activities and wildlife preservation in the sanctuary.





## MHADEI WILDLIFE SANCTUARY

### GENERAL DESCRIPTION

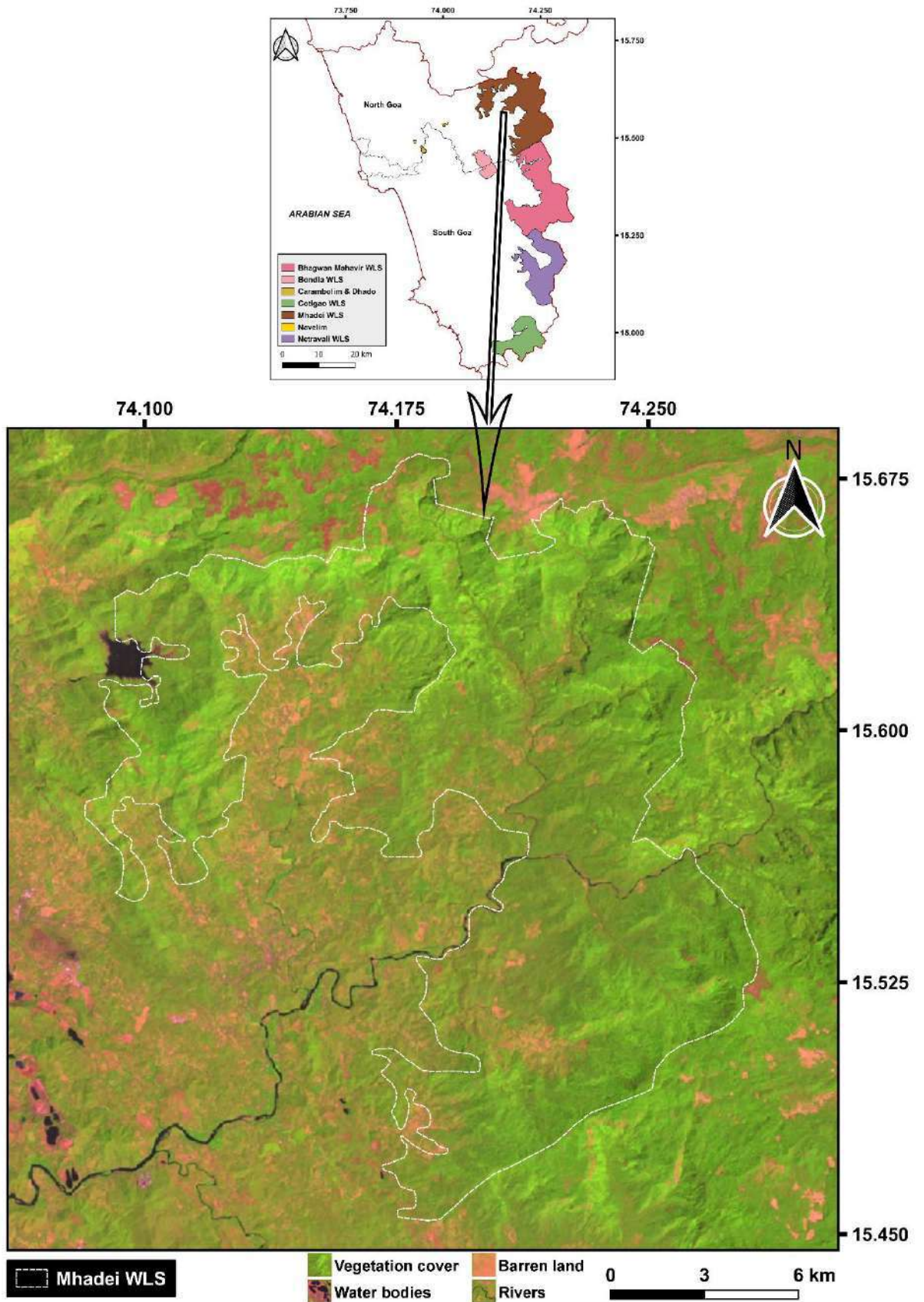
The Mhadei Wildlife Sanctuary is the northernmost Protected Area of Goa. With an extent of 20,848 ha. It is located in the Sattari taluk of north Goa district. The Sanctuary is named after the river Mhadei (Mandovi), one of the important rivers of Goa. The river originates from Karnataka and passes through Mhadei WLS for almost 9.4 kms and finally meet the Arabian sea at Panaji. The Sanctuary is located between 15° 48" 33' to 14° 53" 54' N and 74° 20" 13' to 73° 40" 33' E. The Sanctuary is also noted for a good number of streams and waterfalls. The highest peak in the Sanctuary is Vagheri Peak with an elevation of 1067m. The Madhei WLS of Goa and the Bhimghad WLS of Karnataka along with the reserved forests of Maharashtra are important corridors for large mammals like Tigers, Leopard, Sloth bears, Gaur, Sambhar, etc as well as other life forms. The major vegetation is moist deciduous type, mixed with semi evergreen forests and secondary growth. This IBA site is of great cultural significance as most of the sacred groves of Goa are located here.



**A**

**Riverine habitat at Mhadei Wildlife Sanctuary**





**Map-5. Map showing the Mhadei WLS IBA**

## Avian diversity

A total of 221 species of birds belonging to 151 genera belonging to 78 families in 18 orders were recorded from the Mhadei Wildlife Sanctuary. This includes 24 wetland-dependent species, 39 winter migrants, 14 Western Ghats endemics, 9 globally threatened species and 30 Schedule-I species as per Indian Wildlife (Protection) Amendment Act of 2022.

**Table -12: Endemic species reported from Mhadei WLS IBA**

Sl. No	Species	Endemic to
1.	Red Spurfowl <i>Galloperdix spadicea</i>	India
2.	Grey Junglefowl <i>Gallus sonneratii</i>	India
3.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4.	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5.	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6.	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Western Ghats
7.	Malabar Barbet <i>Psilopogon malabaricus</i>	Western Ghats
8.	White-cheeked Barbet <i>Psilopogon viridis</i>	India
9.	Malabar Parakeet <i>Psittacula columboides</i>	Western Ghats
10.	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
11.	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
12.	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
13.	Malabar Lark <i>Galerida malabarica</i>	India
14.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
15.	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
16.	Indian Scimitar Babbler <i>Pomatorhinus horsfieldii</i>	India
17.	Rufous Babbler <i>Argya subrufa</i>	Western Ghats
18.	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
19.	White-bellied Blue Flycatcher <i>Cyornis pallidipes</i>	Western Ghats
20.	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
21.	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
22.	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
23.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-13. Globally threatened bird species reported from Mhadei WLS IBA**

Sl. No	Species	IUCN Category
1.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
2.	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
3.	River Tern <i>Sterna aurantia</i>	Vulnerable
4.	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
5.	White-rumped Vulture <i>Gyps bengalensis</i>	Critically Endangered
6.	Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>	Near Threatened
7.	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable
8.	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Vulnerable
9.	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
10.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

#### **OTHER KEY FAUNA**

This is the only sanctuary in Goa well known for the presence of Tigers. The varying habitats and the microclimate are conducive for many other species of larger and smaller mammals. The Mhadei hills and surroundings support rare and endangered bat species like Wroughton's Free-tailed Bat *Otomops wroughtoni* and Theobald's tomb bat *Taphozous theobaldi*. The area is well known for its rich diversity of herpetofauna. As many as 45 species of snakes are known to occur in the region including the rare *Rhabdophis aquaticus*, *Uropeltis macrolepis*, *Uropeltis ellioti*, *Melanophidium punctatum*, *Eryx whitakeri*, *Hypnale hypnale*, *Craspedocephalus malabaricus*, *Craspedocephalus gramineus*, etc. The landscape is the type locality of two rare caecilians species: *Gegeneophis goaensis* and *Gegeneophis mhadeiensis*. More than 120 species of butterflies were reported from the Sanctuary which includes the rare and endemic Malabar Raven, Buddha Peacock, Malabar Tree Nymph, Sahyadri Lacewing, and Southern Blue Oakleaf.

#### **THREATS AND CONSERVATION ISSUES**

The site faces extensive habitat degradation and loss, resulting in reduced abundance and range of several bird species due to:

- Kumeri (shifting cultivation) causing irreparable damage by clearing pristine forests, although there has been some reduction in this practice, forest conversion into cashew plantations continues.
- Plantation of exotic species like Acacia and Eucalyptus in natural forest openings, leading to monoculture plantations and loss of plant diversity impacting avian and other fauna.
- The most significant conservation issue is the Mhadei Diversion Scheme proposed by the Karnataka government, which would devastate the pristine forests of the Mhadei Valley. It involves a chain of seven diversion dams and three main dams for the Mhadei Hydroelectric Project, along with plans to divert tributaries, affecting forest areas on their banks.

Other threats include:

- Deforestation, poaching, encroachment, illegal mining, and tree felling (mainly for manganese and iron ore extraction). Planting cash crops like cashew and other monoculture plantations. Pollution from industries and mines leading to sedimentation. Dams and river diversions.

Addressing these challenges requires comprehensive conservation efforts, regulating practices like deforestation, agricultural activities, and illegal actions, as well as preserving the integrity of the Mhadei Valley and preventing proposed water diversion projects. Collaborative initiatives and strong policies are vital to protect the diverse and delicate ecosystem for the benefit of wildlife and local communities.

## BONDLA WILDLIFE SANCTUARY

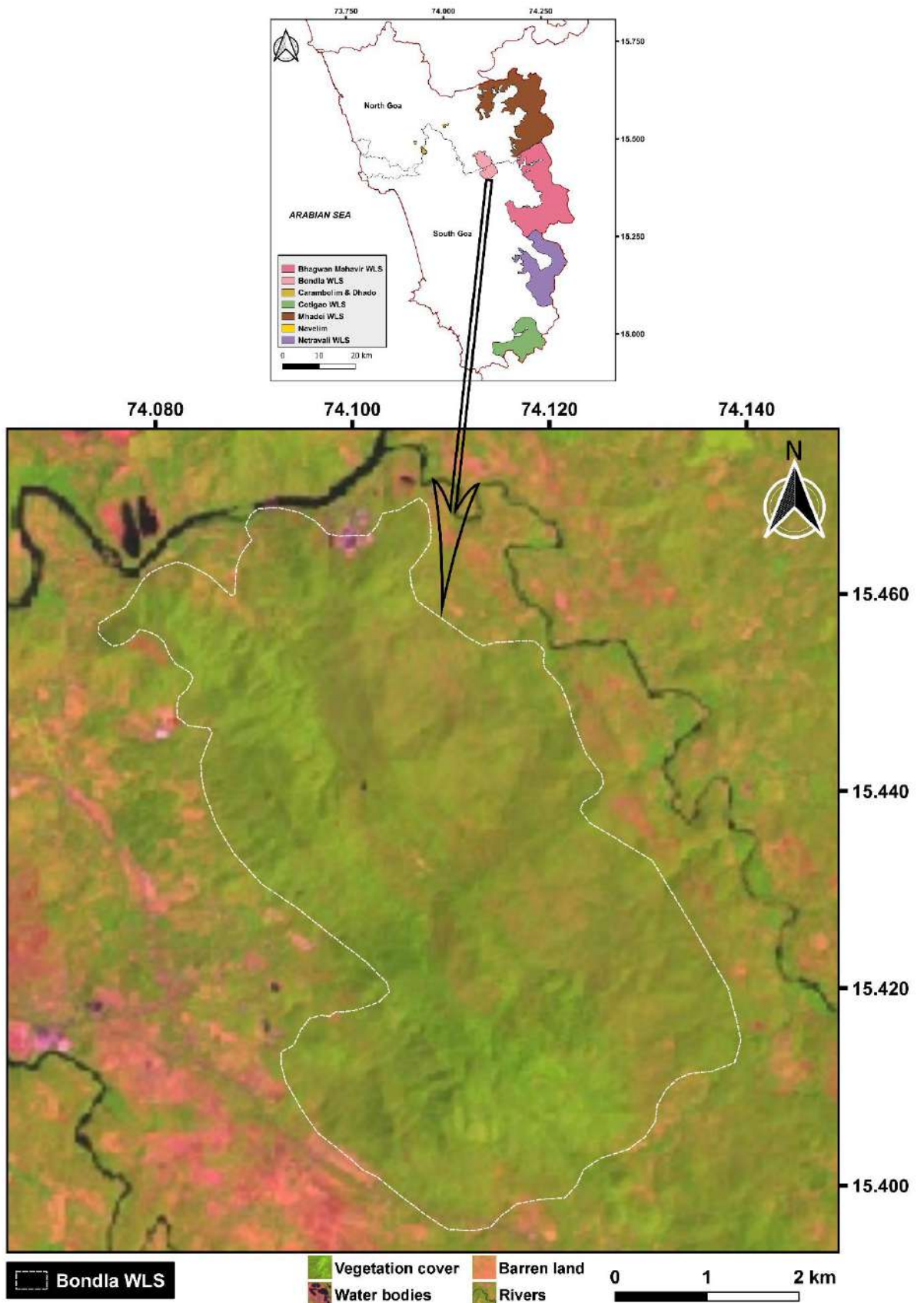
### GENERAL DESCRIPTION

It is one of the smallest sanctuaries of Goa with an extent of only 798 ha. It's located about 16km north of Ponda city. The area was formally notified as a wildlife sanctuary in March, 1969. The main attraction of the sanctuary is a Zoo, Deer Park and Botanical Park. The network of streams, rivulets and large lake provide good habitat for many species of birds and other fauna. The small rivulets originating from the Sanctuary join the Ragda River, which is a tributary of the Mhadei River. The major vegetation type is the moist deciduous or semi evergreen and riparian evergreen vegetation at the riverine areas. Most of the forests are with good undergrowth and lush growth of lianas. The riparian elements are intermixed with the patches of Bamboos. The dominant tree species recorded from the sanctuary are *Dalbergia latifolia*, *Sterculea villosa*, *Garcinia indica*, *Terminalia*, *Caryota urens*, etc. The varying micro habitats and the botanical gardens maintained by the park authorities attract many species of birds, butterflies and other insects to the area.



**Bondla Lake at Bondla Wildlife Sanctuary**





**Map-6. Map showing Bondla WLS IBA**

## Avifaunal diversity

Altogether 273 species of birds belonging to 184 genera under 77 families in 19 orders were recorded from the Sanctuary. Of these, 49 species are waterfowls or wetland-dependent species, 42 species are listed in the Schedule- I of Indian Wildlife (Protection) Act and 64 species are migratory in nature. 15 species are endemic to the Western Ghats, while, 16 species are globally threatened as per IUCN Red List category. The riparian habitat in the sanctuary provides good habitat for rare Blue-eared Kingfisher *Alcido meninting* and the Oriental Dwarf Kingfisher *Ceyx erithaca* which are regularly reported from this site. Breeding of Oriental Dwarf Kingfisher was also reported from the Sanctuary. Other significant bird records from the Sanctuary are Greater Spotted Eagle, Indian Spotted Eagle, Sri Lankan Frogmouth, Crested Tree Swift, Grey-headed Bulbul, Malabar Imperial Pigeon, etc. Historically, the place is known for the distribution of Critically Endangered White-rumped Vulture *Gyps bengalensis* and Indian Vulture *Gyps indicus*. A single observation of Steppe Eagle *Aquila nipalensis* was also noted from the Sanctuary.

**Table 14: Endemic species reported from Bondla WLS IBA**

Sl. No	Species	Endemic to
1.	Red Spurfowl <i>Galloperdix spadicea</i>	India
2.	Grey Junglefowl <i>Gallus sonneratii</i>	India
3.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4.	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5.	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6.	Malabar Grey Hornbill <i>Ocyroceros griseus</i>	Western Ghats
7.	Malabar Barbet <i>Psilopogon malabaricus</i>	Western Ghats
8.	White-cheeked Barbet <i>Psilopogon viridis</i>	India
9.	Malabar Parakeet <i>Psittacula columboides</i>	Western Ghats
10.	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
11.	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
12.	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
13.	Malabar Lark <i>Galerida malabarica</i>	India
14.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
15.	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
16.	Indian Scimitar Babbler <i>Pomatorhinus horsfieldii</i>	India
17.	Rufous Babbler <i>Argya subrufa</i>	Western Ghats

18.	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
19.	White-bellied Blue Flycatcher <i>Cyornis pallidipes</i>	Western Ghats
20.	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
21.	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
22.	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
23.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-15. Globally threatened bird species reported from Bondla WLS IBA**

Sl. No	Species	IUCN Category
1.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
2.	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
3.	River Tern <i>Sterna aurantia</i>	Vulnerable
4.	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
5.	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
6.	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
7.	Black-headed Ibis <i>Threskiornis melanocephalus</i>	Near Threatened
8.	White-rumped Vulture <i>Gyps bengalensis</i>	Critically Endangered
9.	Indian Vulture <i>Gyps indicus</i>	Critically Endangered
10.	Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>	Near Threatened
11.	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable
12.	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable
13.	Steppe Eagle <i>Aquila nipalensis</i>	Endangered
14.	Malabar Grey Hornbill <i>Ocyroceros griseus</i>	Vulnerable
15.	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
16.	Alexandrine Parakeet <i>Psittacula eupatria</i>	Near Threatened
17.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

## OTHER KEY FAUNA

The major predators of the Sanctuary are the Leopard *Panthera pardus* and Dhole *Cuon alpinus*. Main herbivorous species recorded from the Sanctaury are Gaur, *Bos gaurus*, Sambar *Rusa unicolor*, Spotted Deer *Axis axis*, Barking Deer *Muntiacus malabaricus*, and the Mouse Deer *Moschiola indica*. Other mammals of the area are Slender Loris *Loris tardigradus*, Porcupine *Hystrix indica*, Small Indian Civet *Viverricula indica*, Brown Palm Civet *Paradoxurus jerdoni* and Indian Giant Squirrel *Ratufa indica*. Significant sighting during our survey was the record of Madras Tree Shrew *Anathana ellioti*. The lake waters provide good habitat for Marsh Crocodile *Crocodylus palustris*, Indian Pond Terrapin *Melanochelys trijuga* and the Southern Falpshell Turtle *Lissemys*



*punctata*. Other reptilian species encountered during our survey were the Western Ghat Flying Lizard *Draco dussumieri*, Allapalli Skink *Eutropis allapallensis*, etc. The Sanctuary is also known for good diversity of butterflies and odonata. We recorded more than 110 species of butterflies during our survey, which includes many endemics.

### **THREATS AND CONSERVATION ISSUES**

Presently, there is no major threat to this Sanctuary as it is fully notified.

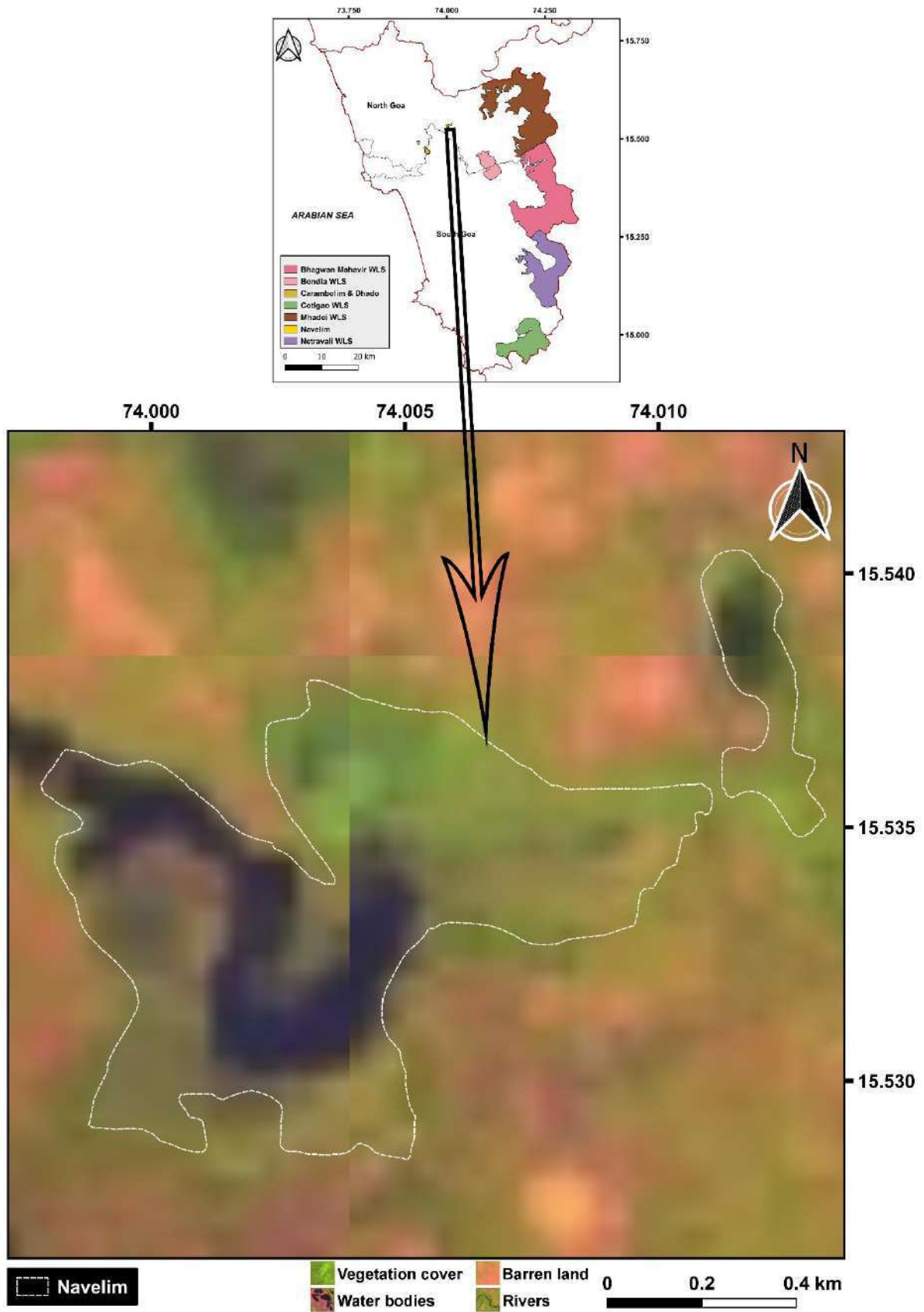


## NAVELIM WETLANDS

### GENERAL DESCRIPTION

Navelim Wetland IBA is an inland wetland ecosystem, located about 24km from Panjim, the capital city of Goa. The area is wedged between Navelim and Cudnem villages of Bicholim Taluka. This wetland is formally declared as an Important Bird Area (IBA) in June 2017 along with the Bondla WLS and Netravali WLS. The main reason for the declaration of the IBA was the congregation of the large number of waterfowls like Glossy Ibis, Common Teal, Grey-headed Swamphen, Jacanas, etc. It is spread over an area of 82 ha, half of which are used for growing traditional paddy varieties during the month of January. The IBA is mainly of agriculture fields interspersed with irrigation tanks, homestead plantations, and rivers. A check dam at the eastern part of the wetlands holds water throughout the year and acts as an irrigation tank. Another check dam at the western end, locally called Navelim Bandar, remains partially open throughout the year, ensuring that a constant flow of water is maintained to the Cudnem River which joins the Mandovi River at Viridi. The chain of laterite hillocks surrounding the wetlands is known for the lush growth of vegetation which provide good habitat for many bird species including Blue-faced Malkoha, White-browed Bulbul, Grey-headed Bulbul, Grey Junglefowl, Red spurfowl, Peafowl, etc.

The eastern side of the wetland near the roadside is fully covered with macrophytes like *Nymphaea stellata*, *Nymphoides sp.*, *Hydrilla verticillate*, etc. The fringes are covered with screw pines (*Pandanus sp.*). These wetlands sustain the good population of migratory ducks as well as resident duck species like Lesser Whistling Duck and Cotton Pygmy Goose. The area is also known for other waterfowl like jacanas, coots, cormorants and Darter.



Map. 7. Map showing Navelim wetlands IBA



**Navelim wetlands**

### **Avifaunal diversity**

Till date, 244 species of birds belonging to 168 genera under 73 families and 19 orders were recorded from the wetlands. The area is dominated with 88 species of waterfowls or wetland-dependant species. Interestingly, seven Western Ghats endemics like Grey-headed Bulbul, Malabar Grey Hornbill, Nilgiri Flowerpecker, Vigor's Sunbird are reported from the area. 15 species of globally threatened species are also recorded from the Sanctuary. Of the 244 species, 76 species are migrants and 33 species are listed in the Schedule-I category of Indian Wildlife (Protection) Amendment Act of 2022. During the September survey, many young ones of Lesser Whistling Teal, Cotton Pygmy Goose, Grey-headed Swamphen, Bronze-winged Jacana were noted at the macrophyte-infested wetlands near the road.

The extensive wetlands at the agriculture field is supported the congregation of a large number of Glossy Ibis, (approximately 500 individuals). The wetland also provides a feeding habitat for Grey-headed Swamphen, Pheasant-tailed Jacana, Bronze-winged Jacana. Large congregation of more than 100 Blue-tailed Bee-eaters were also noted from the wetlands during the survey in December 2022. This wetland is also known for the huge congregation of migratory teals like Cotton Teal, Garganey, etc. Navelim Wetland is also an important breeding and nesting ground for the Streaked Weaver *Ploceus manyar*, Baya Weaver *Ploceus philippinus*, and Wire-tailed Swallow *Hirundo smithii*, besides other resident species.

**Table- 16: Endemic species reported from the Navelim wetlands IBA**

Sl. No	Species	Endemic to
1.	Red Spurfowl <i>Galloperdix spadicea</i>	India
2.	Grey Junglefowl <i>Gallus sonneratii</i>	India
3.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4.	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5.	Malabar Grey Hornbill <i>Ocyroceros griseus</i>	Western Ghats
6.	White-cheeked Barbet <i>Psilopogon viridis</i>	India
7.	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
8.	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
9.	Malabar Lark <i>Galerida malabarica</i>	India
10.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
11.	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
12.	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
13.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-17. Globally threatened bird species from from the Navelim wetlands IBA**

Sl. No	Species	IUCN Category
1.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
2.	Bar-tailed Godwit <i>Limosa lapponica</i>	Near Threatened
3.	Black-tailed Godwit <i>Limosa limosa</i>	Near Threatened
4.	River Tern <i>Sterna aurantia</i>	Vulnerable
5.	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
6.	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
7.	Painted Stork <i>Mycteria leucocephala</i>	Near Threatened
8.	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
9.	Black-headed Ibis <i>Threskiornis melanocephalus</i>	Near Threatened
10.	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable
11.	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable

12	Steppe Eagle <i>Aquila nipalensis</i>	Endangered
13	Pallid Harrier <i>Circus macrourus</i>	Near Threatened
14	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Vulnerable
15	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
16	Alexandrine Parakeet <i>Psittacula eupatria</i>	Near Threatened
17	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

## OTHER KEY FAUNA

The important mammal species found in the Navelim wetlands is the Smooth-coated Otter *Lutrogale perspicillata*, the major apex predator in the wetland ecosystem of the area. The other mammalian species recorded from the area are Wild Boar *Sus scrofa*, Common Indian Mongoose *Urva edwardsii*, Indian Crested Porcupine *Hystrix indica*, Jungle Cat *Felis chaus* etc. More than 20 species of fishes are reported from the region. This wetlands also known to harbour reptiles viz. Indian Flapshell Turtle *Lissemys punctata* and Mugger or Marsh Crocodile *Crocodylus palustris*. Snake species reported from the area are Indian Rock Python *Python molurus*, Indian Cobra *Naja naja*, Checkered Keeback *Fowlea piscator* and the Rat Snake *Ptyas mucosa*, all the snake species are listed in the Schedule I of the Indian Wildlife (Protection) Amendment Act of 2022. More than 70 species of butterflies were observed from the area including the rare endemics like Buddha Peacock, *Papilio buddha*, Southern Birdwing *Triodes helena*, Blue Mormon *Papilio polymnestor*. The wetland attracts large number of odonates to the area. As many as 40 species of dragonflies and damselflies were also recorded from the Navelim wetlands.

## LAND USE LAND PATTERN

**Irrigation:** The eastern check dam acts as an irrigation tank, ensuring consistent water availability for irrigation purposes. This is supporting agricultural productivity and sustaining the livelihoods of farmers in the area.

**Agriculture:** With the provision of water through the check dams, local farmers engage in agricultural practices, benefiting from irrigation for crop cultivation. The surroundings and water availability supports a variety of agricultural endeavors.

*Fishing:* Wetlands and water bodies around serve as important fishing grounds for local fishing communities. The abundance of water in the wetlands support a diverse range of aquatic species.

## **THREATS AND CONSERVATION ISSUES**

This wetland was posing significant threat due to its proximity to open-cast iron mines. During the monsoon season, heavy runoff from these mines leads to the deposition of sediment in the wetland's irrigation tank. Over a period of time, this silting results in a reduction in the tank's depth, endangering the habitats of both resident and migrant waterfowl. The accumulations of sediment disrupt the ecosystem balance and affect the availability of suitable habitats for the wetland's avian species. Another cause for concern is the use of chemical fertilizers and pesticides in the neighboring fields. These agrochemicals are often employed to boost crop yields, but their excessive and reckless use can have negative effects on the wetland's water quality and overall ecosystem health. The runoff of these chemicals can contaminate the wetland, posing risks to aquatic life and waterfowl. However, recent efforts have been made to address these issues and raise awareness among the local villagers. Steps have been taken to inform them about the harmful impacts of using excessive agrochemicals and to discourage such practices. By promoting sustainable and eco-friendly agricultural practices, the aim is to minimize pollution and safeguard the wetland's environment. Moreover, a pig iron plant situated in close proximity to the wetland has been reported as a potential source of pollution. The emissions and discharge from the plant may have adverse effects on the wetland's water quality and surrounding ecosystem. Monitoring and stringent measures are necessary to regulate and control the plant's pollution to prevent further damage to the wetland. Overall, a combination of preventive measures, sustainable agricultural practices, and responsible industrial management is crucial in mitigating the threats faced by this wetland. Preserving its natural integrity and promoting ecological balance will ensure the conservation of the wetland's diverse wildlife and maintain its importance as a vital habitat for waterfowl and other aquatic species.



## **NETRAVALI WILDLIFE SANCTUARY**

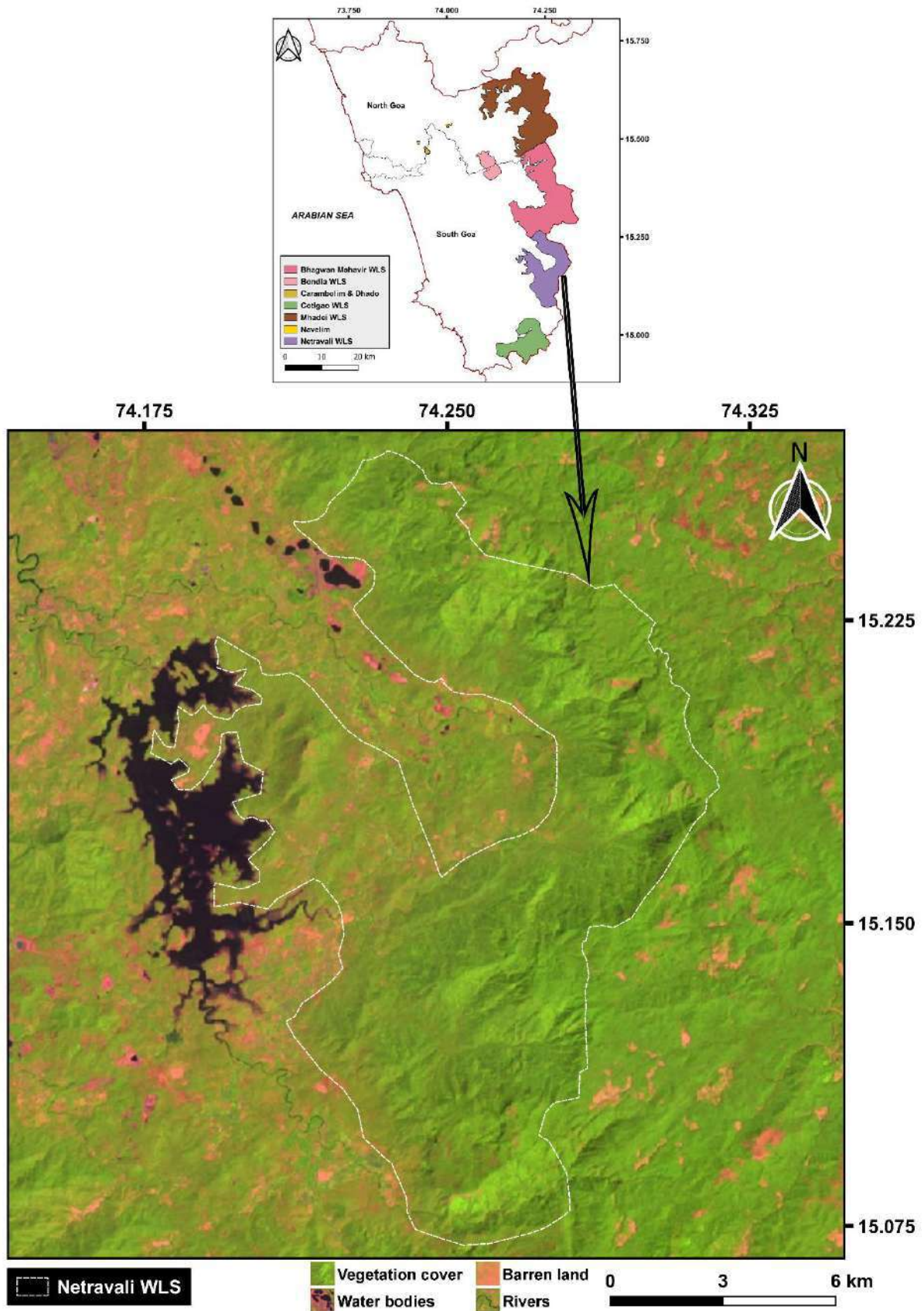
### **GENERAL DESCRIPTION**

Netravali Wildlife Sanctuary is the largest Protected Area of Goa with an extent of about 211 sq. km. It is located in Verlem, in the Sanguem Taluka region of South-Eastern Goa. The sanctuary is bounded on the south by Cotigao WLS and north by Bhagwan Mahavir WLS & Mollem National Park. Eastern side is bordered with Kali Tiger Reserve of Karnataka. The Wildlife sanctuary was formed during the year 1999. The river Netravali or Neturli is an important tributary of River Zuari, which originates in the sanctuary. The sanctuary is famous for the two important waterfalls (Mainapi falls, Savari falls), which attracts many tourists to the area. The falls are perennial and active throughout the year. The vegetation is mainly of moist deciduous type interspersed with evergreen and semi evergreen patches. The thick undergrowth and liana infested forest interiors attract many species of birds and other animals to the area. The highlands are covered with natural grassland system, which is reminiscence of montane shola-grassland ecosystems of southern Western Ghats.



**Netravali Wildlife Sanctuary**





Map. 8. Map showing Netravali WLS IBA

## Avifaunal Diversity

A total of 241 species belonging to 164 genera under 67 families and 19 orders were documented from the Netravali Wildlife Sanctuary. Of these, 32 species are wetland-dependent species; All the 25 Indian endemics reported from the IBAs of Goa are represented in the Sanctuary. Among them, 17 species are Western Ghat endemics including Wayanad Laughing thrush and the White-bellied Treepie; 15 species are globally threatened as per latest IUCN Red List. A good number of 51 species of birds are migratory in nature. 35 species are included in the Schedule-1 of the Indian Wildlife (Protection) Amnded Act, 2022. Significant bird species recorded from the Sanctuary are the Wayanad Laughingthrush, White-bellied Tree-pie and the Black-capped Kingfisher.

**Table- 18: Endemic bird species reported from Netravali WLS IBA**

Sl. No	Species	Endemic to
1.	Red Spurfowl <i>Galloperdix spadicea</i>	India
2.	Grey Junglefowl <i>Gallus sonneratii</i>	India
3.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Western Ghats
4.	Grey-fronted Green Pigeon <i>Treron affinis</i>	Western Ghats
5.	Malabar Imperial Pigeon <i>Ducula cuprea</i>	Western Ghats
6.	Malabar Grey Hornbill <i>Ocyceros griseus</i>	Western Ghats
7.	Malabar Barbet <i>Psilopogon malabaricus</i>	Western Ghats
8.	White-cheeked Barbet <i>Psilopogon viridis</i>	India
9.	Malabar Parakeet <i>Psittacula columboides</i>	Western Ghats
10.	Malabar Woodshrike <i>Tephrodornis sylvicola</i>	Western Ghats
11.	Spot-breasted Fantail <i>Rhipidura albogularis</i>	India
12.	White-bellied Treepie <i>Dendrocitta leucogastra</i>	Western Ghats
13.	Indian Black-lored Tit <i>Machlolophus aplonotus</i>	India
14.	Malabar Lark <i>Galerida malabarica</i>	India
15.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Western Ghats
16.	Flame-throated Bulbul <i>Rubigula gularis</i>	Western Ghats
17.	Indian Scimitar Babbler <i>Pomatorhinus horsfieldii</i>	India
18.	Rufous Babbler <i>Argya subrufa</i>	Western Ghats
19.	Wayanad Laughingthrush <i>Pterorhinus delesserti</i>	Western Ghats
20.	Malabar Starling <i>Sturnia blythii</i>	Western Ghats
21.	White-bellied Blue Flycatcher <i>Cyornis pallidipes</i>	Western Ghats
22.	Malabar Whistling Thrush <i>Myophonus horsfieldi</i>	India
23.	Nilgiri Flowerpecker <i>Dicaeum concolor</i>	Western Ghats
24.	Crimson-backed Sunbird <i>Leptocoma minima</i>	Western Ghats
25.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	Western Ghats

**Table-19. Globally threatened bird species reported from Netravali WLS- IBA**

Sl. No	Species	IUCN Category
1.	Nilgiri Wood Pigeon <i>Columba elphinstonii</i>	Vulnerable
2.	Green Imperial Pigeon <i>Ducula aenea</i>	Near Threatened
3.	River Tern <i>Sterna aurantia</i>	Vulnerable
4.	Woolly-necked Stork <i>Ciconia episcopus</i>	Near Threatened
5.	Lesser Adjutant <i>Leptoptilos javanicus</i>	Vulnerable
6.	Oriental Darter <i>Anhinga melanogaster</i>	Near Threatened
7.	Black-headed Ibis <i>Threskiornis melanocephalus</i>	Near Threatened
8.	Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>	Near Threatened
9.	Indian Spotted Eagle <i>Clanga hastata</i>	Vulnerable
10.	Greater Spotted Eagle <i>Clanga clanga</i>	Vulnerable
11.	Malabar Grey Hornbill <i>Ocyrceros griseus</i>	Vulnerable
12.	Malabar Pied Hornbill <i>Anthracoceros coronatus</i>	Near Threatened
13.	Black-capped Kingfisher <i>Halcyon pileata</i>	Vulnerable
14.	Alexandrine Parakeet <i>Psittacula eupatria</i>	Near Threatened
15.	Grey-headed Bulbul <i>Brachypodius priocephalus</i>	Near Threatened

**OTHER KEY FAUNA**

The sanctuary is host for the larger mammals like Leopard *Panthera pardus*, Gaur *Bos gaurus*, Sambar *Rusa unicolor*, Spotted Deer, *Axis axis* and Barking Deer *Muntiacus malabaricus*. Mouse Deer *Moschiola indica*, Four-horned Antelope *Tetracerus quadricornis*, Sloth Bear *Melursus ursinus* is also found in the sanctuary. Other significant smaller mammals of the site are Slender *Loris Loris lydekkerianus*, Crested Porcupine *Hystrix indica*, Small Indian Civet *Viverricula indica*, Brown Palm Civet *Paradoxurus jerdoni* and Indian Giant Squirrel *Ratufa indica*. The microclimate is suitable for the good assemblage of herpetofauna in the sanctuary. The area is known for the mighty King Cobra *Ophiophagus hannah*. Other endemic snake species reported from the sanctuary are the Northern Western Ghats Vine Snake *Ahaetulla borealis*, Beddome's Keelback *Hebius beddomei*, Other reptilian species observed during the survey were *Monilesaurus rouxii*, *Eutropis allapallensis*, *Cnemaspis goensis*, etc. The pristine habitats of the Mainapi falls provided good habitats for

some of the endemic frog species including *Nyctibatrachus petraeus*, *Indossylvirana caesari* and *Indirana salelkari*. The sanctuary also hosts for good number of butterfly species including endemics like Malabar Tree Nymph *Idea malabarica*, Malabar Raven *Papilio dravidarum*, Malabar-banded Swallowtail *Papilio liomedon*, Southern Oakleaf *Kallima horsfieldi*, etc.

## **LAND USE LAND PATTERN**

■ Nature conservation and research ■ Tourism and recreation

## **THREATS AND CONSERVATION ISSUES**

Currently, there are no major threats to this Sanctuary as it enjoys full legal protection as a notified wildlife reserve. However, the rise of hinterland and ecotourism in the area has brought some challenges. Tourist sites of importance are experiencing issues with littering and environmental impact due to increased visitor activities. While the Wildlife Division of the Department of Forest is implementing some measures to control these issues, more sustainable and long-term solutions are needed.

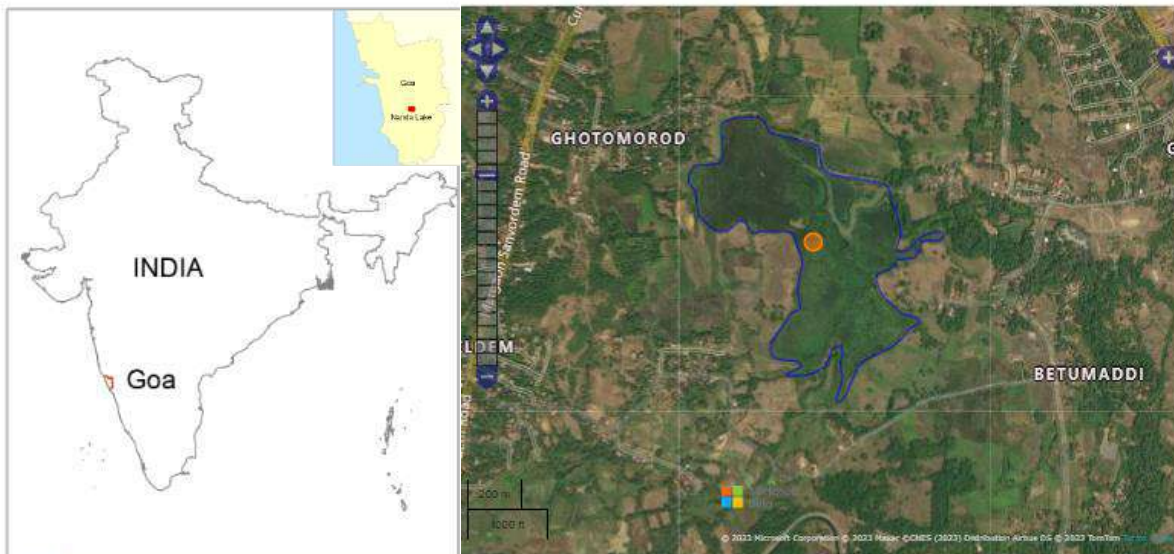
Involving the local population in promoting tourism with a focus on conservation can be an effective approach. By engaging the local community, there is an opportunity to foster a sense of ownership and responsibility towards preserving the Sanctuary's natural heritage. This can be achieved through awareness programs, education, and initiatives that promote responsible tourism practices.

Balancing tourism growth with conservation efforts is essential to ensure the Sanctuary's ecological integrity and safeguard its diverse wildlife. Sustainable tourism practices and cooperation between authorities and local communities are key to preserving the Sanctuary's unique biodiversity.

## NANDA LAKE – RAMSAR SITE

### GENERAL DESCRIPTION

The Nanda Lake or Nanda tollem admeasuring an area of 1,04,550 sq. mts. located in Quepem Municipal Council of Quepem Taluka, South Goa District, State of Goa, is a critically significant ecosystem providing services and biodiversity values for the local communities as well as for the society and considering sustaining these values, the ecological character of wetland ecosystem needs to be maintained by regulating developmental activities within the wetland as well as within its zone of influence, the Department of Environment and Climate Change of Government of Goa notified the Nanda Lake as wetland under the provisions of Wetlands (Conservation and Management) Rules, 2017 on 23.09.2021. Nanda Lake with an area of 42 hectre has been identified as a Ramsar site and included in the database as site number 2471 on 8<sup>th</sup> June 2022.



**Map of Nanda Lake** (Courtesy: Google Earth; Ramsar.org)

Nanda Lake graces the landscape with its intermittent freshwater marshes, situated adjacent to a major tributary of the Zuari River. The marshes are ingeniously connected to the river channel through a well-placed sluice gate, offering a means to flood the marshes when required. This ecosystem thrives as a reserve for an array of migratory and residential waterbirds, plant species and dependent aquatic and



terrestrial fauna. During the one day survey to the lake, the ZSI team sighted bird species include Black-Headed Ibis (*Threskiornis melanocephalus*), Common Kingfisher (*Alcedo atthis*), Wire-Tailed Swallow (*Hirundo smithii*), Bronze-Winged Jacana (*Metopidius indicus*), Brahminy Kite (*Haliastur indus*), Intermediate Egret (*Ardea intermedia*), Little Cormorant (*Microcarbo niger*) and Lesser Whistling Duck (*Dendrocygna javanica*).

### **LAND USE LAND PATTERN**

Not only does Nanda Lake serve as a natural habitat for magnificent creatures, but it also fulfills crucial functions for the neighboring communities. As ascertained from the community living near the lake, during the off-monsoon season, it acts as a strategic water reservoir, enabling the storage of water to later support rice paddies downstream. Local inhabitants also rely on the lake for fishing and recreational activities. Moreover, its presence acts as a protective shield against the perils of monsoon floods, safeguarding the downstream regions.

### **THREATS AND CONSERVATION ISSUES**

The intrusion of invasive non-native species, the accumulation of garbage and solid waste, rampant overfishing, and unsustainable harvesting of aquatic resources may endanger the delicate balance of the ecosystem. The flora and fauna documentaiton from the lake is inadequate for better understanding and formulating suitable biodiversity conservation strategies. Further, although declared recently as a wetland of national and international importance, the Nanda Lake lacks a comprehensive management plan to address and combat these challenges effectively. Preserving this invaluable ecosystem requires concerted efforts to protect the lake.



## Conclusion

A total of 404 species of birds belonging to 216 genera under 80 families and 21 orders were recorded from the IBAs of Goa. The bird order Passeriformes (passerines) is the dominant order with 162 species followed by Charadriiformes (Plovers & sandpipers-57 species), Accipitriformes (Kites, eagles and hawks- 31 species), Anseriformes (Ducks & geese-16 species), etc. Among the IBAs, Carambolim Lake and Dhado wetlands is the most species-rich IBA with 319 species followed by Bondla WLS (274 species), Bhagwan Mahavir WLS & Mollem National Park (266 species), Cotigao WLS (240 species), Navelim wetlands (243 species), Netravali WLS (242 species), and Mhadei WLS (221 species). Of the total 404 species, 25 species are endemic to India, including 18 Western Ghats endemics. A total of 149 species are migratory, and 143 species are waterfowls or wetland-dependent species. Except for the two species (House Crow, *Corvus splendens* and Rock Pigeon *Columba livia*), all other species are protected under the Wildlife (Protection) Amendment Act, 2022 of Govt. of India; 58 species are listed in the Schedule-I of the Act and 338 species are in the Schedule -II of the Act. 34 species are globally threatened as per the new IUCN Redlist, which includes three Critically Endangered, two Endangered, 11 Vulnerable, and 18 Near Threatened.

Besides, there are 63 species of mammals, 24 species of reptiles, 18 species of amphibians, 99 species of butterflies, 42 species of odonates, 5 species of brachyuran crabs and 14 species of molluscs were encountered and or reported in different IBAs (Annexure I-VII ). Apart from, some of these IBAs have threatened species of mammals, herpetofauna and butterflies that are included under the Schedule-I & II list Indian Wildlife (Protection) Amendment Act of 2022. This is first of its kind of documentation and serves as baseline information on faunal accounts for Managers and Policy Makers while proposing for any kind of development within and outside the periphery of the IBAs of Goa. The faunal documentation from these seven IBAs of Goa indicate the potential for bringing some of them under the umbrella of Protected Area Network of the Government of India through legislation, in the form of Conservation Reserve or Community Reserves, which are still outside the preview of PA Network.



The overall assessment of the seven IBAs of Goa indicate that, though the Wildlife Division under the Forest Department of Environment, Forest and Climate Change, the Government of Goa is putting in some controls, involving local community conservation, sustainable agriculture practice, and bird-friendly developmental activities and also in promoting tourism with a long-term goal of conservation need be followed, for the safeguard of birds, especially for IBAs which are outside the Protected Area and land owned by the community.



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**Appendix-I: Mammalian fauna recorded from different IBAs of Goa**

Sl. No.	Order	Species	Common name	IUCN Red List Category
1	Carnivora	<i>Panthera tigris</i>	Royal Bengal Tiger	EN
2	Carnivora	<i>Panthera pardus</i>	Common Leopard	VU
3	Carnivora	<i>Prionailurus bengalensis</i>	Leopard Cat	Least Concern
4	Carnivora	<i>Prionailurus rubiginosus</i>	Rusty-spotted Cat	NT
5	Carnivora	<i>Felis chaus</i>	Jungle Cat	LC
6	Carnivora	<i>Cuon alpinus</i>	Dhole	EN
7	Carnivora	<i>Canis aureus</i>	Golden Jackal	LC
8	Carnivora	<i>Melursus ursinus</i>	Sloth Bear	VU
9	Carnivora	<i>Herpestes/Urva vitticollis</i>	Stripe-necked Mongoose	LC
10	Carnivora	<i>Herpestes/Urva smithii</i>	Ruddy Mongoose	LC
11	Carnivora	<i>Urva edwardsii</i>	Indian Grey Mongoose	LC
12	Carnivora	<i>Aonyx cinereus</i>	Small-clawed Otter	VU
13	Carnivora	<i>Lutrogale perspicillata</i>	Smooth-coated Otter	VU
14	Carnivora	<i>Viverricula indica</i>	Small Indian Civet	LC
15	Carnivora	<i>Paradoxurus jerdoni</i>	Brown Palm Civet	LC
16	Carnivora	<i>Paradoxurus hermaphroditus</i>	Common Palm Civet	LC
17	Cetartiodactyla	<i>Bos gaurus</i>	Gaur	VU
18	Cetartiodactyla	<i>Tetracerus quadricornis</i>	Four-horned antelope	VU
19	Cetartiodactyla	<i>Rusa unicolor</i>	Sambar	VU
20	Cetartiodactyla	<i>Axis axis</i>	Chital	LC
21	Cetartiodactyla	<i>Muntiacus vaginalis</i>	Barking Deer	LC
22	Cetartiodactyla	<i>Moschiola indica</i>	Indian Chevrotain/ Mouse deer	LC
23	Cetartiodactyla	<i>Sus scrofa</i>	Wild Boar	LC
24	Pholidota	<i>Manis crassicaudata</i>	Indian Pangolin	EN
25	Primates	<i>Semnopithecus hypoleucos</i>	Black-footed Gray Langur	VU
26	Primates	<i>Macaca radiata</i>	Bonnet Macaque	LC
27	Primates	<i>Loris lydekkerianus</i>	Slender Loris	LC
28	Lagomorpha	<i>Lepus nigricollis</i>	Indian Hare	LC
29	Rodentia	<i>Ratufa indica</i>	Indian Giant Squirrel	LC
30	Rodentia	<i>Petaurista philippensis</i>	Indian Giant Gliding Squirrel	LC
31	Rodentia	<i>Funambulus tristriatus</i>	Western Ghats Striped Squirrel	LC
32	Rodentia	<i>Funambulus palmarum</i>	Common Palm Squirrel	LC

33	Rodentia	<i>Hystrix indica</i>	Indian Crested Porcupine	LC
34	Rodentia	<i>Tatera indica</i>	Indian Gerbil	LC
35	Rodentia	<i>Vandeleuria oleracea</i>	Asiatic Long-tailed Climbing Mouse	LC
36	Rodentia	<i>Mus musculus</i>	House Mouse	LC
37	Rodentia	<i>Mus booduga</i>	Indian Field Mouse	LC
38	Rodentia	<i>Mus saxicola</i>	Brown Spiny Mouse	LC
41	Rodentia	<i>Madromys blanfordi</i>	White-tailed Wood Rat	LC
42	Rodentia	<i>Golunda ellioti</i>	Indian Bush-rat	LC
43	Rodentia	<i>Bandicota indica</i>	Greater Bandicoot Rat	LC
44	Rodentia	<i>Bandicota bengalensis</i>	Lesser Bandicoot Rat	LC
45	Rodentia	<i>Rattus rattus</i>	House Rat	LC
47	Chiroptera	<i>Pteropus medius</i>	Indian Flying Fox Bat	LC
48	Chiroptera	<i>Rousettus leschenaultii</i>	Leschenault's Rousette	LC
49	Chiroptera	<i>Cynopterus sphinx</i>	Greater Short-nosed Fruit Bat	LC
50	Chiroptera	<i>Cynopterus brachyotis</i>	Lesser Short-nosed Fruit Bat	LC
51	Chiroptera	<i>Taphozous melanopogon</i>	Black-bearded Tomb Bat	LC
52	Chiroptera	<i>Megaderma spasma</i>	Lesser False Vampire Bat	LC
53	Chiroptera	<i>Rhinolophus rouxii</i>	Rufous Horseshoe Bat	LC
54	Chiroptera	<i>Rhinolophus lepidus</i>	Blyth's Horseshoe Bat	LC
55	Chiroptera	<i>Rhinolophus beddomei</i>	Beddome's Horseshoe Bat	LC
56	Chiroptera	<i>Hipposideros lankadiva</i>	Kelaart's Leaf-nosed Bat	LC
57	Chiroptera	<i>Pipistrellus coromandra</i>	Indian Pipistrelle	LC
58	Chiroptera	<i>Pipistrellus tenuis</i>	Least Pipistrelle	LC
59	Chiroptera	<i>Kerivoula picta</i>	Painted Bat	NT
60	Chiroptera	<i>Miniopterus fuliginosus</i>	Schreiber's Long-fingered Bat	NT
61	Eulipotyphla	<i>Suncus murinus</i>	House Shrew	LC
62	Scandentia	<i>Anathana ellioti</i>	Madras Tree Shrew	LC
63.	Rodentia	<i>Petaurista philippensis</i>	Indian giant flying squirrel	LC

**Appendix-II: Reptilian fauna observed from the different IBAs of Goa**

No.	English Name	Scientific Name
	<b>ORDER CROCODYLIA</b>	
	Family Crocodylidae (Crocodyles )	
1	Mugger (Marsh Crocodile)	<i>Crocodylus palustris</i> (Lesson, 1831)
	<b>ORDER TESTUDINES</b>	
	Family Geoemydidae (turtles & terrapins)	
2	Indian Black Turtle (Indian Pond Terrapin)	<i>Melanochelys trijuga</i> (Schweigger, 1812)
	Family Trionychidae (softshell turtles)	
4	Indian Flapshell Turtle (Indian flap-shelled Turtle)	<i>Lissemys punctata</i> (Bonnaterre, 1789)
	<b>III. ORDER SQUAMATA</b>	
	Family Agamidae (lizards)	
5	Common Green Forest Lizard (Southern Green Calotes)	<i>Calotes calotes</i> (Linnaeus, 1758)
6	Indian Garden Lizard (Oriental Garden Lizard)	<i>Calotes versicolor</i> (Daudin, 1802)
7	Roux's Forest Lizard (Roux's Forest Calotes)	<i>Monilisaurus rouxii</i> Duméril & Bibron, 1837
8	South Indian Flying Lizard (Draco)	<i>Draco dussumieri</i> Duméril & Bibron, 1837
	Family Gekkonidae (geckoes)	
9	Goan Day Gecko	<i>Cnemaspis goensis</i> Sharma, 1976
10	Asian House Gecko (Common House Gecko)	<i>Hemidactylus frenatus</i> Schlegel, 1836
11	Bark Gecko (Lesschenault's Leaf-toed Gecko)	<i>Hemidactylus leschenaultii</i> Duméril & Bibron, 1836
12	Murray's Day Gecko	<i>Hemidactylus murrayi</i> Gleadow, 1887
13	Prashad's Gecko	<i>Hemidactylus prashadi</i> Smith, 1935
	Family Lacertidae (lacertas)	
14	Allapalli Grass Skink	<i>Eutropis allapallensis</i> (Schmidt, 1926)
15	Common Keeled Skink	<i>Eutropis carinata</i> (Schneider, 1801)
16	Bronze Grass Skink (Bronze Mabuya)	<i>Eutropis macularia</i> (Blyth, 1853)
	Family Varanidae (monitor lizards)	
17	Bengal Monitor (Indian Monitor)	<i>Varanus bengalensis</i> (Daudin, 1802)
	Suborder: Serpentes	
	Family Typhlopidae (worm snakes)	
18	Brahminy Worm Snake	<i>Indotyphlops braminus</i> (Daudin, 1803)
	Family Colubridae (colubrid snakes)	
19	Indian Rat Snake (Dhaman)	<i>Ptyas mucosa</i> (Linnaeus, 1758)

20	Variegated Kukri Snake	<i>Oligodon taeniolatus</i> (Jerdon, 1853)
21	Checkered Keelback (Asiatic Water Snake)	<i>Fowlea piscator</i> Schneider, 1799
22	Northern Western Ghat Vine Snake	<i>Ahaetulla borealis</i> Mallik et al, 2020
	Family: Viperidae	
23	Malabar Pit Viper	<i>Craspedocephalus malabaricus</i> (Jerdon, 1854)
24	Hump-nosed Pit Viper	<i>Hypnale hypnale</i> Merrem, 1820

### Appendix-III: Amphibian fauna observed from the different IBAs of Goa

Sl.No.	Scientific Name	Common Name
	<b>Family: Bufonidae</b>	
1	<i>Duttaphrynus melanostictus</i>	Asian Common Toad
	<i>Duttaphrynus peninsularis</i>	Peninsular Toad
	Family: Microhylidae	
2	<i>Microhyla ornata</i>	Ornamented Pygmy Frog
	<b>Family: Ranidae</b>	
3	<i>Indosylvirana caesari</i>	Maharashtra Golden-backed Frog
4	<i>Hydrophylax bahuvistara</i>	Wide-spread Fungoid Frog
5	<i>Clinotarsus curtipes</i>	Bicolored Frog
	<b>Family: Rhacophoridae</b>	
6	<i>Rhacophorus malabaricus</i>	Malabar Gliding Frog
7	<i>Polypedates maculatus</i>	Chunam Tree Frog
8	<i>Pseudophilautus amboli</i>	Amboli Bush Frog
9	<i>Raorchestes bombayensis</i>	Bombay Bubble-nest Frog
	Family: Dicroglossidae	
10	<i>Euphlyctis hexadactylus</i>	Indian Five-fingered Frog
11	<i>Euphlyctis jaladhara</i>	Skittering Frog
12	<i>Hoplobatrachus tigerinus</i>	Indus Valley Bullfrog
13	<i>Hoplobatrachus crassus</i>	Jerdon's Bullfrog
14	<i>Minervarya syhadrensis</i>	Hill Cricket Frog
15	<i>Minervarya cepfi</i>	Cepf Burrowing Frog
16	<i>Minervarya rufescens</i>	Malabar Wart Frog
	<b>Family: Ranixalidae</b>	
17	<i>Indirana salelkari</i>	Netravali Leaping Frog
	<b>Family: Nyctibatrachidae</b>	
18	<i>Nyctibatrachus petraeus</i>	Castle Rock Night Frog

**Appendix-IV: Butterfly fauna observed from the different IBAs of Goa**

Sl. No.	Family/ Scientific Name	Common Name
	<b>Papilionidae</b>	
1	<i>Troides minos</i> (Cramer, 1779)	Southern Birdwing
2	<i>Pachliopta aristolochiae aristolochiae</i> (Fabricius, 1775)	Common Rose
3	<i>Pachliopta hector</i> (Linnaeus, 1758)	Crimson Rose
4	<i>Graphium agamemnon menides</i> (Fruhstorfer, 1904)	Tailed Jay
5	<i>Graphium doson eleius</i> (Felder & Felder, 1864)	Common Jay
6	<i>Graphium tereon</i> (Felder & Felder, 1865)	Narrow-banded Bluebottle
7	<i>Papilio clytia clytia</i> Linnaeus, 1758	Common Mime
8	<i>Papilio demoleus demoleus</i> Linnaeus, 1758	Lime Butterfly
9	<i>Papilio dravidarum</i> Wood-Mason, 1880	Malabar Raven
10	<i>Papilio helenus daksha</i> Hampson, 1888	Red helen
11	<i>Papilio polymnestor polymnestor</i> Cramer, 1775	Blue Mormon
12	<i>Papilio polytes romulus</i> Cramer, 1775	Common Mormon
13	<i>Papilio paris tamilana</i> Moore, 1881	Paris Peacock
14	<i>Papilio buddha</i> Westwood, 1872	Buddha Peacock
	<b>Pieridae</b>	
15	<i>Catopsilia pomona pomona</i> (Fabricius, 1775)	Common emigrant
16	<i>Catopsilia pyranthe pyranthe</i> (Linnaeus, 1758)	Mottled Emigrant
17	<i>Eurema (Terias) blanda silhetana</i> (Wallace, 1867)	Three-spot Grass Yellow
18	<i>Eurema (Terias) hecabe hecabe</i> (Linnaeus, 1758)	Common Grass Yellow
19	<i>Eurema brigitta rubella</i> (Wallace, 1867)	Small Grass Yellow
20	<i>Delias eucharis</i> (Drury, 1773)	Common Jezebel
21	<i>Cepora nerissa phryne</i> (Fabricius, 1775)	Common Gull
22	<i>Leptosia nina nina</i> (Fabricius, 1793)	Psyche
23	<i>Pareronia hippia</i> (Fabricius, 1787)	Common Wanderer
24	<i>Hebomoia glaucippe australis</i> Butler, 1898	Great Orange Tip
	<b>Nymphalidae</b>	
25	<i>Elymnias caudata</i> Butler, 1871	Tailed Palmfly
26	<i>Melanitis leda leda</i> (Linnaeus, 1758)	Common Evening Brown
27	<i>Lethe rohria neelgheriensis</i> (Guérin-Méneville, 1843)	Common Tree Brown
28	<i>Mycalesis patina junonia</i> Butler, 1868	Glad-eye Bushbrown
29	<i>Mycalesis mineus polydecta</i> (Cramer, [1777])	Dark-brand Bushbrown
30	<i>Mycalesis perseus tabitha</i> (Fabricius, 1793)	Common Bushbrown
31	<i>Orsotriaena medus mandata</i> (Moore, 1857)	Medus Brown
32	<i>Ypthima huebneri</i> Kirby, 1871	Common Fourring
33	<i>Ariadne ariadne indica</i> (Moore, 1884)	Common Castor
34	<i>Ariadne merione merione</i> (Cramer, [1777])	Angled Castor
35	<i>Charaxes bharata</i> Felder & Felder, [1867]	Common Nawab



36	<i>Acraea terpsicore</i> (Linnaeus, 1758)	Tawny Coster
37	<i>Cirrochroa thais thais</i> (Fabricius, 1787)	Tamil Yeoman
38	<i>Cupha erymanthis maja</i> Fruhstorfer, 1898	Rustic
39	<i>Phalanta phalantha phalantha</i> (Drury, [1773])	Common Leopard
40	<i>Euthalia aconthea meridionalis</i> Fruhstorfer, 1913	Common Baron
41	<i>Tanaecia lepidea miyana</i> (Fruhstorfer, 1913)	Grey count
42	<i>Moduza procris procris</i> Fruhstorfer, 1906	Commander
43	<i>Neptis hylas varmona</i> Moore, 1872	Common Sailer
44	<i>Neptis jumbah nalanda</i> Fruhstorfer, 1908	Chestnut-streaked Sailer
45	<i>Pantoporia hordonia hordonia</i> (Stoll, [1790])	Common Lascar
46	<i>Parthenos sylvia virens</i> Moore, 1877	Clipper
47	<i>Vindula erota</i> (Fabricius, 1793)	Cruiser
48	<i>Hypolimnas bolina jacintha</i> (Drury, 1773)	Great Eggfly
49	<i>Hypolimnas misippus</i> (Linnaeus, 1764)	Danaid Eggfly
50	<i>Junonia almana almana</i> (Linnaeus, 1758)	Peacock Pansy
51	<i>Junonia atlites atlites</i> (Linnaeus, 1763)	Grey pansy
52	<i>Junonia iphita iphita</i> (Cramer, [1779])	Chocolate Pansy
53	<i>Junonia lemonias lemonias</i> (Linnaeus, 1758)	Lemon Pansy
54	<i>Kallima horsfieldii</i> Kollar, [1844]	Southern Oakleaf
55	<i>Danaus chrysippus chrysippus</i> (Linnaeus, 1758)	Plain Tiger
56	<i>Danaus genutia genutia</i> (Cramer, [1779])	Striped Tiger
57	<i>Euploea core core</i> (Cramer, [1780])	Common Crow
58	<i>Euploea klugii kollari</i> Felder & Felder, [1865]	King Crow
59	<i>Euploea sylvester coreta</i> (Godart, 1819)	Double-branded Crow
60	<i>Idea malabarica</i> (Moore, 1877)	Malabar Tree Nymph
61	<i>Parantica aglea aglea</i> (Stoll, [1782])	Glassy Blue Tiger
62	<i>Tirumala limniace exoticus</i> (Gmelin, 1790)	Blue Tiger
	<i>Tirumala septentrionis dravidarum</i> Fruhstorfer, 1899	Dark Blue Tiger
	<b>Riodinidae</b>	
63	<i>Abisara bifasciata suffusa</i> Moore, 1882	Double-banded Judy
	<b>Lycaenidae</b>	
64	<i>Acytolepis puspa felderi</i> Toxopeus, 1927	Common Hedge Blue
65	<i>Castalius rosimon rosimon</i> (Fabricius, 1775)	Common Pierrot
66	<i>Catochrysops strabo strabo</i> (Fabricius, 1793)	Forget-me Not
67	<i>Chilades pandava pandava</i> (Horsfield, [1829])	Plains Cupid
68	<i>Discolampa ethion ethion</i> Westwood, 1851	Banded Blue Pierrot
69	<i>Euchrysops cnejus cnejus</i> (Fabricius, 1798)	Gram Blue
70	<i>Jamides bochus bochus</i> (Stoll, [1782])	Dark Cerulean
71	<i>Jamides celeno celeno</i> (Cramer, [1775])	Common Cerulean
72	<i>Neopithecops zalmora</i> (Butler, 1860)	Common Quaker
73	<i>Lampides boeticus</i> (Linnaeus, 1767)	Pea Blue
74	<i>Prosotas dubiosa indica</i> (Evans, [1925])	Tailless Line-blue
75	<i>Prosotas nora ardates</i> (Moore, [1875])	Common Line Blue
76	<i>Talicauda nyseus nyseus</i> (Guérin-Méneville, 1843)	Red Pierrot

77	<i>Zizeeria karsandra</i> (Moore, 1865)	Dark Grass Blue
78	<i>Zizula hylax hylax</i> (Fabricius, 1775)	Tiny Grass Blue
79	<i>Cigaritis vulcanus</i> (Fabricius, 1775)	Common Silverline
80	<i>Arhopala centaurus pirama</i> (Moore, [1881])	Centaur oak Blue
81	<i>Cheritra freja butleri</i> Cowan, 1965	Common Imperial
82	<i>Rathinda amor</i> (Fabricius, 1775)	Monkey Puzzle
83	<i>Loxura atymnus atymnus</i> (Stoll, [1780])	Yamfly
84	<i>Curetis thetis</i> (Drury, [1773])	Common Sunbeam
	<b>Hesperiidae</b>	
85	<i>Hasora badra badra</i> (Moore, [1858])	Common Awl
86	<i>Sarangesa dasahara davidsoni</i> Moore, [1866]	Common small Flat
87	<i>Tagiades litigiosa litigiosa</i> Möschler, 1878	Water Snow Flat
88	<i>Ampittia dioscorides dioscorides</i> (Fabricius, 1793)	Bush Hopper
89	<i>Gangara thyrasis thyrasis</i> (Fabricius, 1775)	Giant Red-eye
90	<i>Iambrix salsala luteipalpis</i> (Plötz, 1886)	Chestnut Bob
91	<i>Matapa aria</i> (Moore, [1866])	Common Red-eye
92	<i>Psolos fuligo subfasciatus</i> (Moore, 1878)	Dusky Parwing
93	<i>Suastus gremius gremius</i> (Fabricius, 1798)	Oriental Palm Bob
94	<i>Udaspes folus</i> (Cramer, [1775])	Grass Demon
95	<i>Oriens goloides</i> (Moore, [1881])	Smaller Dartlet
96	<i>Telicota bambusae bambusae</i> (Moore, 1878)	Dark Palm Dart
97	<i>Borbo cinnara</i> (Wallace, 1866)	Rice Swift
98	<i>Parnara bada bada</i> (Moore, 1878)	Straight Swift
99	<i>Pelopidas mathias mathias</i> (Fabricius, 1798)	Smaller Branded Swift

#### Appendix-V: Odonata fauna observed from the different IBAs of Goa

Sl.No.	Scientific Names	Common English Names
	<b>Suborder Anisoptera</b>	<b>DRAGONFLIES</b>
	<b>Family AESHNIDAE</b>	<b>Darners &amp; Dusk-Hawkers</b>
1	<i>Anax guttatus</i> (Burmeister, 1839)	Blue-tailed Green Darner
2	<i>Anax immaculifrons</i> (Rambur, 1842)	Blue Darner
3	<i>Gynacantha dravida</i> Lieftinck, 1960	Brown Darner
	<b>GOMPHIDAE</b>	<b>Clubtails</b>
4	<i>Ictinogomphus rapax</i> (Rambur, 1842)	Common Clubtail
5	<i>Paragomphus lineatus</i> (Selys, 1850)	Common Hooktail
	<b>LIBELLULIDAE</b>	<b>Skimmers, Hawks, Hawklets, Trotters, Gliders etc.</b>
6	<i>Acisoma panorpoides</i> Rambur, 1842	Trumpet Tail
7	<i>Aethriamanta brevipennis</i> (Rambur, 1842)	Scarlet Marsh-Hawk
8	<i>Brachydiplax chalybea</i> Brauer, 1868	Rufous-backed Marsh-Hawk
9	<i>Brachythemis contaminata</i> (Fabricius, 1793)	Ditch Jewel
10	<i>Bradinyopyga geminata</i> (Rambur, 1842)	Granite Ghost

11	<i>Cratilla lineata calverti</i> (Forster,1903)	Emerald Banded Skimmer
12	<i>Crocothemis servilia</i> (Drury,1770)	Ruddy Marsh-Skimmer
13	<i>Diplacodes trivialis</i> (Rambur, 1842)	Ground Skimmer
14	<i>Neurothemis fulvia</i> (Drury, 1773)	Fulvous Forest-Skimmer
15	<i>Neurothemis tullia</i> (Drury, 1773)	Pied Paddy-Skimmer
16	<i>Orthetrum chrysis</i> (Selys, 1891)	Brown-backed Marsh-Hawk
17	<i>Orthetrum pruinatum neglectum</i> (Rambur, 1842)	Crimson-tailed Marsh-Hawk
18	<i>Orthetrum sabina sabina</i> (Drury, 1770)	Green Marsh-Hawk
19	<i>Orthetrum taeniolatum</i> (Schneider, 1845)	Ashy Marsh-Hawk
20	<i>Pantala flavescens</i> (Fabricius, 1798)	Pantala / Wandering Glider
21	<i>Rhodothemis rufa</i> (Rambur, 1842)	Rufous Marsh-Glider
22	<i>Rhyothemis variegata variegata</i> (Linn. 1763)	Common Picture-Wing
23	<i>Tholymis tillarga</i> (Fabricius, 1798)	Coral-tailed Cloud-Wing
24	<i>Tamea limbata</i> (Desjardins, 1832)	Black Marsh-Trotter
25	<i>Trithemis aurora</i> (Burmeister,1839)	Crimson Marsh-Glider
26	<i>Trithemis festiva</i> (Rambur, 1842)	Black Stream-Glider
27	<i>Trithemis pallidinervis</i> (Kirby, 1889)	Long-legged Marsh-Glider
28	<i>Zygonyx iris malabarica</i> Fraser, 1926	Iridescent Stream-Glider
29	<i>Zyxomma petiolatum</i> Rambur, 1842	Brown Dusk-Hawk
	<b>Suborder Zygoptera</b>	<b>DAMSELFLIES</b>
	<b>CALOPTERYGIDAE</b>	<b>Stream Glories &amp; Forest-Glories</b>
30	<i>Neurobasis chinensis</i> (Linnaeus, 1758)	Stream Glory
31	<i>Vestalis apicalis</i> Selys, 1873	Black-tipped Forest-Glory
32	<i>Vestalis gracilis</i> (Rambur, 1842)	Clear-winged Forest-Glory
	<b>CHLOROCYPHIDAE</b>	<b>Stream Jewels</b>
33	<i>Heliocypha bisignata</i> (Hagen in Selys, 1853)	Stream Ruby
	<b>COENAGRIONIDAE</b>	<b>Marsh-Darts, Sprites, Dartlets &amp; Lilly-Squatters</b>
34	<i>Agriocnemis pygmaea</i> (Rambur, 1842)	Pygmy Dartlet
35	<i>Ceriagrion cerinorubellum</i> (Brauer, 1865)	Orange-tailed Marsh-Dart
36	<i>Ceriagrion coromandelianum</i> (Fabricius, 1798)	Coromandel Marsh-Dart
37	<i>Ischnura rubilio</i> Selys, 1876	Golden Dartlet
38	<i>Pseudagrion microcephalum</i> (Rambur, 1872)	Blue Sprite
39	<i>Pseudagrion rubriceps</i> (Selys, 1876)	Red-faced Sprite
	<b>PLATYCNEMIDIDAE</b>	<b>Bambootails, Threadtail</b>
40	<i>Copera marginipes</i> (Rambur, 1842)	Plain Ditch-Dart
41	<i>Copera vittata deccanensis</i> Laidlaw, 1917	Spined Ditch-Dart
	<b>PLATYSTICTIDAE</b>	<b>Reedtails</b>
42	<i>Protosticta sanguinostigma</i> Fraser, 1922	Blood-spotted Reedtail

### Appendix-VI: Brachyuran crabs observed from the different IBAs of Goa

Sl.No.	Scientific Names/Family
	<b>Family: Gecarcinucidae</b>
1	<i>Barytelphusa cunicularis</i> (Westwood in Sykes, 1836)
2	<i>Ghatiana atropurpurea</i> Pati et al, 2016
3	<i>Ghatiana rouxii</i> Pati & Thackeray, 2021
	<b>Family: Sesarmidae</b>
4	<i>Pseudosesarma glabarum</i> Ng et al, 2017
5	<i>Neosarmatium malabaricum</i> (Henderson, 1893)

### Appendix- VII: Molluscan fauna recorded from the different IBAs of Goa

Sl. NO	Order	Family	Species
1.	[unassigned]	Pachychilidae	<i>Paracrostoma</i> sp.
2.	[unassigned]	Thiaridae	<i>Melanoides tuberculata</i> (Müller, 1774)
3.	Hygrophila	Bulinidae	<i>Indoplanorbis exustus</i> (Deshayes, 1833)
4.	Architaenioglossa	Cyclophoridae	<i>Cyclophorus jerdoni</i> (Benson, 1851)
5.	Stylommatophora	Ariophantidae	<i>Ariophanta canarica</i> W.T. Blanford, 1901
6.	Stylommatophora	Ariophantidae	<i>Ariophanta interrupta</i> (Benson, 1834)
7.	Stylommatophora	Ariophantidae	<i>Macrochlamys indica</i> Benson in Godwin-Austen, 1883
8.	Stylommatophora	Camaenidae	<i>Chloritis propinqua</i> (Pfeiffer, 1857)
9.	Stylommatophora	Helicarionidae	<i>Eurychlamys todarum</i> (W.T. & H.F. Blanford, 1861)
10.	Stylommatophora	Subulinidae	<i>Glessula chessoni</i> (Benson, 1860)
11.	Stylommatophora	Subulinidae	<i>Glessula indica</i> Gude, 1914
12.	Cycloneritida	Neritidae	<i>Clithon oualaniense</i> (Lesson, 1831)
13.	Cycloneritida	Neritidae	<i>Neripteron violaceum</i> (Gmelin, 1791)
14.	Venerida	Cyrenidae	<i>Corbicula striatella</i> Deshayes, 1855

# PLATE 1

Order: Anseriformes (Ducks and Teals)



**Garganey *Spatula querquedula***



**Northern Pintail *Anas acuta***



**Common Teal *Anas crecca***



**Ruddy Shelduck *Tadorna ferruginea***



**Indian Spot-billed Duck *Anas poecilorhyncha***



**Cotton Pygmy Goose *Nettapus coromandelianus***



**Northern Shoveler *Spatula clypeata***



**Lesser Whistling Duck *Dendrocygna javanica***

## PLATE 2

Order: Anseriformes (Ducks & Teals)



Bar-headed Goose *Anser indicus*



Ferruginous Duck *Aythya nyroca*



Common Pochard *Aythya ferina*



Tufted Duck *Aythya fuligula*



Gadwall *Mareca strepera*



Eurasian Wigeon *Mareca penelope*



## PLATE 3

Order: Galliformes (Fowls & Quails)



Grey Junglefowl *Gallus sonnerati*



Red Spurfowl *Galloperdix spadicea*



Rain Quail *Coturnix coromandelica*



Jungle Bush Quail *Perdicula asiatica*



Indian Peafowl *Pavo cristatus*



## PLATE 4

Order; Columbiformes (Doves & Pigeons)



Spotted Dove *Spilopelia chinensis*



Laughing Dove *Spilopelia senegalensis*



Asian Emerald Dove *Chalcophaps indica*



Eurasian Collared Dove *Streptopelia decaocto*



Oriental Turtle Dove *Streptopelia orientalis*



Blue Rock Pigeon *Columba livia*

## PLATE 5

Order: Columbiformes (Pigeons & Doves)



Malabar Imperial Pigeon *Ducula cuprea*



Nilgiri Wood Pigeon *Columba elphinstonii*



Orange-breasted Green Pigeon *Treron bicinctus*



Yellow-footed Green Pigeon *Treron phoenicopterus*



Green Imperial Pigeon *Ducula aenea*



Grey-fronted Green Pigeon *Treron affinis*



## PLATE 6

Order: Cuculiformes (Koel, Cuckoos & Malkohas)



Common Cuckoo *Cuculus canorus*



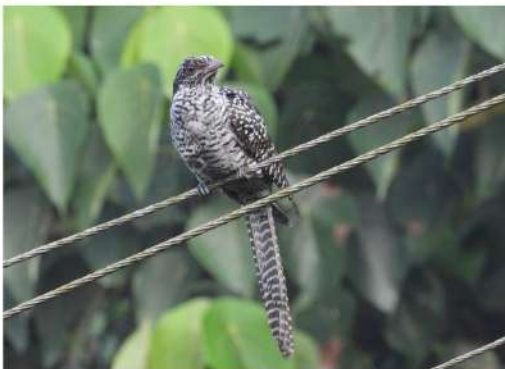
Banded Bay Cuckoo *Cacomantis sonneratii*



Common Hawk Cuckoo *Hierococcyx varius*



Greater Coucal *Centropus sinensis*



Asian Koel *Eudynamys scolopaceus* (Female)



Asian Koel *Eudynamys scolopaceus* (Male)

## PLATE 7

Order: cuculiformes (Koel, Cuckoos & Malkohas)



Indian Cuckoo *Cuculus micropterus*



Grey-bellied Cuckoo *Cacomantis passerinus*



Pied Cuckoo *Clamator jacobinus*



Blue-faced Malkoha *Phaenicophaeus viridirostris*



Fork-tailed Drongo Cuckoo *Surniculus dicruoides*



## PLATE 8

### Order Caprimulgiformes (Frogmouth & Nightjars)



Savanna Nightjar *Caprimulgus affinis*



Jungle Nightjar *Caprimulgus indicus*



Sri Lanka Frogmouth *Batrachostomus moniliger*

## PLATE 9

### Crag Martins, Swifts & Tree Swifts



Dusky Crag Martin *Ptyonoprogne concolor*



Eurasian Crag Martin *Ptyonoprogne rupestris*



Brown-backed Needletail *Hirundapus giganteus*



Alpine Swift *Tachymarptis melba*



Asian Palm Swift *Cypsiurus balasiensis*



Crested Treeswift *Hemiprocne coronata*



## PLATE 10

Order: Gruiformes (Rails , Waterhen & Crakes)



Grey-headed Swamphehen *Porphyrio poliocephalus*



Common Moorhen *Gallinula chloropus*



Slaty-breasted Rail *Lewinia striata*



Eurasian Coot *Fulica atra*



Watercock *Gallixrex cinerea*



Slaty-legged Crake *Rallina eurizonoides*



White-breasted Waterhen *Amaurornis phoenicurus*



Ruddy-breasted Crake *Zapornia fusca*



PLATE 11



Bronze-winged Jacana *Metopidius indicus*



Pheasant-tailed Jacana *Hydrophasianus chirurgus*



Little Grebe *Tachybaptus ruficollis*



Barred Buttonquail *Turnix suscitator*



Lesser Flamingo *Phoeniconaias minor*

## PLATE 12

Order : Charadriiformes (Lapwings , Thick-knees, Stilts & Turnstone)



White-tailed Lapwing *Vanellus leucurus*



Grey-headed Lapwing *Vanellus cinereus*



Red-wattled Lapwing *Vanellus indicus*



Yellow-wattled Lapwing *Vanellus malabaricus*



Indian Thick-knee *Burhinus indicus*



Great Thick-knee *Esacus recurvirostris*



Black-winged Stilt *Himantopus himantopus*



Ruddy Turnstone *Arenaria interpres*



PLATE 13



Lesser Sand Plover *Charadrius mongolus*



Greater Sand Plover *Charadrius leschenaultii*



Kentish Plover *Charadrius alexandrinus*



Little Ringed Plover *Charadrius dubius*



Pacific Golden Plover *Pluvialis fulva*



Common Ringed Plover *Charadrius hiaticula*

## PLATE 14

Order: Charadriiformes (Ruff, Shanks, Whimbrel, Curlews & Godwits)



**Ruff** *Calidris pugnax*



**Common Greenshank** *Tringa nebularia*



**Spotted Redshank** *Tringa erythropus*



**Common Redshank** *Tringa totanus*



**Whimbrel** *Numenius phaeopus*



**Eurasian Curlew** *Numenius arquata*



**Black-tailed Godwit** *Limosa limosa*



**Bar-tailed Godwit** *Limosa lapponica*



## PLATE 15

Order: Charadriiformes (Dunlin, Small sandpipers, Stints & Pratincoles)



Sanderling *Calidris alba*



Broad-billed Sandpiper *Calidris falcinellus*



Dunlin *Calidris alpina*



Curlew Sandpiper *Calidris ferruginea*



Little Stint *Calidris minuta*



Temminck's Stint *Calidris temminckii*



Small Pratincole *Glareola lactea*



Oriental Pratincole *Glareola maldivarum*

## PLATE 16

Order: Charadriiformes (Sandpipers, Snipes & Buttonquail)



Marsh Sandpiper *Tringa stagnatilis*



Terek Sandpiper *Xenus cinereus*



Common Sandpiper *Actitis hypoleucos*



Wood Sandpiper *Tringa glareola*



Green Sandpiper *Tringa ochropus*



Common Snipe *Gallinago gallinago*



Greater Painted-snipe *Rostratula benghalensis*



Pintail Snipe *Gallinago stenura*



## PLATE 17

Order: Charadriiformes (Gulls & Terns)



**Black-headed Gull** *Chroicocephalus ridibundus*



**Brown-headed Gull** *Chroicocephalus brunnicephalus*



**Whiskered Tern** *Chlidonias hybrida*



**Greater Crested Tern** *Thalasseus bergii*



**Little Tern** *Sternula albifrons*



**Caspian Tern** *Hydroprogne caspia*



**Gull-billed Tern** *Gelochelidon nilotica*



**River Tern** *Sterna aurantia*



## PLATE 18

Order: Ciconiiformes (Storks)



Painted Stork *Mycteria leucocephala*



Asian Openbill *Anastomus oscitans*



Woolly-necked Stork *Ciconia episcopus*



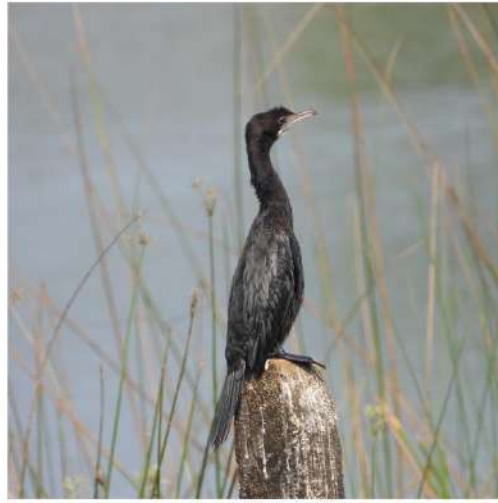
Lesser Adjutant *Leptoptilos javanicus*

## PLATE 19

Order: Suliformes (Cormorants & Darter)



Indian Cormorant *Phalacrocorax fuscicollis*



Little Cormorant *Microcarbo niger*



Oriental Darter *Anhinga melanogaster*



PLATE 20

Order: Pelecaniformes (Bitterns & Herons)



Yellow Bittern *Isobrychus sinensis*



Indian Pond Heron *Ardeola grayii*



Striated Heron *Butorides striata*



Black-crowned Night Heron *Nycticorax nycticorax*



Cinnamon Bittern *Isobrychus cinnamomeus*



Malayan Night Heron *Gorsachius melanolophus*



## PLATE 21

Order: Pelicaniformes (Egrets & Herons)



Intermediate Egret *Ardea intermedia*



Great Egret *Ardea alba*



Little Egret *Egretta garzetta*



Cattle Egret *Bubulcus ibis*



Western Reef Egret *Egretta gularis*



## PLATE 22

Order: Pelecaniformes (Hérons, Ibises & Spoonbill)



**Black-headed Ibis** *Threskiornis melanocephalus*



**Glossy Ibis** *Plegadis falcinellus*



**Grey Heron** *Ardea cinerea*



**Purple Heron** *Ardea purpurea*



**Eurasian Spoonbill** *Platalea leucorodia*



## PLATE 23

Order: Accipitriformes (Eagles & Kites)



Osprey *Pandion haliaetus*



Changeable Hawk Eagle *Nisaetus cirrhatus*



Legge's Hawk Eagle *Nisaetus kelaarti*



Western Marsh Harrier *Circus aeruginosus*



Crested Serpent Eagle *Spilornis cheela*



Brahminy Kite *Haliastur indus*



Oriental Honey Buzzard *Pernis ptilorhynchus*



Black Kite *Milvus migrans*

## PLATE 24

Order: Accipitriformes (Vultures & Eagles)



White-rumped Vulture *Gyps bengalensis*



Indian Vulture *Gyps indicus*



Egyptian Vulture *Neophron percnopterus*



Steppe Eagle *Aquila nipalensis*



Black Eagle *Ictinaetus malaiensis*

**PLATE 25**

**Order: Accipitriformes (Buzzards & Eagles)**



**Short-toed Snake Eagle *Circaetus gallicus***



**White-eyed Buzzard *Butastur teesa***



**Booted Eagle *Hieraaetus pennatus***



**Common Buzzard *Buteo buteo***



**Bonelli's Eagle *Aquila fasciata***



**White-bellied Sea Eagle *Haliaeetus leucogaster***



PLATE 26



**Shikra** *Accipiter badius*



**Common Kestrel** *Falco tinnunculus*



**Rufous-bellied Eagle** *Lophotriorchis kienerii*



**Eurasian Sparrowhawk** *Accipiter nisus*



**Black-winged Kite** *Elanus caeruleus*



**Black Baza** *Aviceda leuphotes*



**Crested Goshawk** *Accipiter trivirgatus*



**Amur Falcon** *Falco amurensis*

## PLATE 27

Order: Strigiformes (Owls & Owlets)



Indian Scops Owl *Otus bakkamoena*



Common Barn Owl *Tyto alba*



Sri Lanka Bay Owl *Phodilus assimilis*



Brown Boobook *Ninox scutulata*



Jungle Owlet *Glaucidium radiatum*



Spotted Owlet *Athene brama*



Oriental Scops Owl *Otus sunia*



Brown Wood Owl *Strix leptogrammica*



PLATE 28



**Brown Fish Owl** *Ketupa zeylonensis*



**Indian Eagle Owl** *Bubo bengalensis*



**Spot-bellied Eagle Owl** *Ketupa nipalensis*

**PLATE 29**

**Order: Bucerotiformes (Hornbills)**



**Indian Grey Hornbill *Ocyceros birostris***



**Malabar Grey Hornbill *Ocyceros griseus***



**Malabar Grey Hornbill *Ocyceros griseus***



**Great Hornbill *Buceros bicornis***



## PLATE 30

Order: Coraciiformes (Kingfishers)



Pied Kingfisher *Ceryle rudis*



Stork-billed Kingfisher *Pelargopsis capensis*



Black-capped Kingfisher *Halcyon pileata*



White-throated Kingfisher *Halcyon smyrnensis*



Common Kingfisher *Alcedo atthis*



Collared Kingfisher *Todiramphus chloris*



Blue-eared Kingfisher *Alcedo meninting*



Oriental Dwarf Kingfisher *Ceyx erithaca*

PLATE 31



Blue-bearded Bee-eater *Nyctyornis athertoni*



Blue-tailed Bee-eater *Merops philippinus*



Green Bee-eater *Merops orientalis*



Chestnut-headed Bee-eater *Merops leschenaulti*



Indian Roller *Coracias benghalensis*



European Roller *Coracias garrulus*



Eurasian Hoopoe *Upupa epops*



Malabar Trogon *Harpactes fasciatus*



**PLATE 32**

Order: Piciformes (Barbets & Woodpeckers)



**Brown-headed Barbet *Psilopogon zeylanicus***



**White-checked Barbet *Psilopogon viridis***



**Malabar Barbet *Psilopogon malabaricus***



**Coppersmith Barbet *Psilopogon haemacephalus***



**Heart-spotted Woodpecker *Hemicircus canente***



**Brown-capped Pygmy Woodpecker *Yungipicus nanus***



**Eurasian Wryneck *Jynx torquilla***



**Indian Pitta *Pitta brachyura***



PLATE 33

Order: Piciformes (Woodpeckers)



White-bellied Woodpecker *Dryocopus javensis*



Greater Flameback *Chrysocolaptes guttacristatus*



Black-rumped Flameback *Dinopium benghalense*



Common Flameback *Dinopium javanense*



Lesser Yellownape *Picus chlorolophus*



Yellow-crowned Woodpecker *Leiopicus mahrattensis*

## PLATE 34

Order: Psittaciformes (Parakeets & Parrots)



Alexandrine Parakeet *Psittacula eupatria*



Plum-headed Parakeet *Psittacula cyanocephala*



Malabar Parakeet *Psittacula columboides*



Vernal Hanging Parrot *Loriculus vernalis*



Rose-ringed Parakeet *Psittacula krameri*



## PLATE 35

Order: Passeriformes (Minivets, Cuckooshrikes, Woodshrikes & Orioles)



Small Minivet *Pericrocotus cinnamomeus*



Orange Minivet *Pericrocotus flammeus*



Black-headed Cuckooshrike *Lalage melanoptera*



Large Cuckooshrike *Coracina macei*



Common Woodshrike *Tephrodornis pondicerianus*



Malabar Woodshrike *Tephrodornis sylvicola*



Black-hooded Oriole *Oriolus xanthornus*



Indian Golden Oriole *Oriolus kundoo*

PLATE 36

Order: Passeriformes (Drongos)



Bronzed Drongo *Dicrurus aeneus*



White-bellied Drongo *Dicrurus caerulescens*



Ashy Drongo *Dicrurus leucophaeus*



Black Drongo *Dicrurus macrocercus*



Hair-crested Drongo *Dicrurus hottentottus*



Greater Racket-tailed Drongo *Dicrurus paradiseus*



PLATE 37



Spot-breasted Fantail *Rhipidura albogularis*



White-bellied Blue Flycatcher *Cyornis pallidipes*



Indian Paradise-flycatcher *Terpsiphone paradisi*



Black-naped Monarch *Hypothymis azurea*



Bar-winged Flycatcher-shrike *Hemipus picatus*



Velvet-fronted Nuthatch *Sitta frontalis*



## PLATE 38

Order: Passeriformes (Crows, Treepies, Tits & Canary Flycatcher)



House Crow *Corvus splendens*



Large-billed Crow *Corvus macrorhynchos*



White-bellied Treepie *Dendrocitta leucogastra*



Rufous Treepie *Dendrocitta vagabunda*



Grey-headed Canary-flycatcher *Culicicapa ceylonensis*



Indian White-eye *Zosterops palpebrosus*



Indian Black-lored Tit *Machlolophus aplonotus*



Cinereous Tit *Parus cinereus*

## PLATE 39

Order: Passeriformes (Larks)



Rufous-tailed Lark *Ammomanes phoenicura*



Oriental Skylark *Alauda gulgula*



Malabar Lark *Galerida malabarica*



Ashy-crowned Sparrow Lark *Eremopterix griseus*



Mongolian Short-toed Lark *Calandrella dukhunensis*



**PLATE 40**

**Order: Passeriformes (Prinias , Tailor Bird & Cisticola)**



**Jungle Prinia *Prinia sylvatica***



**Plain Prinia *Prinia inornata***



**Ashy Prinia *Prinia socialis***



**Grey-breasted Prinia *Prinia hodgsonii***



**Common Tailorbird *Orthotomus sutorius***



**Zitting Cisticola *Cisticola juncidis***

PLATE 41

Order: Passeriformes (Leaf Warblers & Reed Warblers)



Tickell's Leaf Warbler *Phylloscopus affinis*



Sykes's Warbler *Iduna rama*



Greenish Warbler *Phylloscopus trochiloides*



Green Warbler *Phylloscopus nitidus*



Paddyfield Warbler *Acrocephalus agricola*



Clamorous Reed Warbler *Acrocephalus stentoreus*



Booted Warbler *Iduna caligata*



Blyth's Reed Warbler *Acrocephalus dumetorum*



**PLATE 42**

**Order: Passeriformes (Swallows & Woodswallow)**



**Streak-throated Swallow *Petrochelidon fluvicola***



**Barn Swallow *Hirundo rustica***



**Ashy Woodswallow *Artamus fuscus***



**Red-rumped Swallow *Cecropis daurica***



**Wire-tailed Swallow *Hirundo smithii***

PLATE 43

Order: Passeriformes (Bulbuls)



Red-vented Bulbul *Pycnonotus cafer*



Red-whiskered Bulbul *Pycnonotus jocosus*



Yellow-browed Bulbul *Acritillas indica*



Grey-headed Bulbul *Brachypodius priocephalus*



White-browed Bulbul *Pycnonotus luteolus*



Flame-throated Bulbul *Rubigula gularis*



## PLATE 44

Order: Passeriformes (Babblers)



Brown-cheeked Fulvetta *Alcippe poioicephala*



Dark-fronted Babbler *Dumetia atriceps*



Yellow-eyed Babbler *Chrysomma sinense*



Puff-throated Babbler *Pellorneum ruficeps*



Jungle Babbler *Argya striata*



Yellow-billed Babbler *Argya affinis*



Rufous Babbler *Argya subrufa*



Tawny-bellied Babbler *Dumetia hyperythra*

## PLATE 45

Order: Passeriformes (Mynas & Blackbird)



Common Myna *Acridotheres tristis*



Jungle Myna *Acridotheres fuscus*



Brahminy Starling *Sturnia pagodarum*



Malabar Starling *Sturnia blythii*



Chestnut-tailed Starling *Sturnia malabarica*



Rosy Starling *Pastor roseus*



Southern Hill Myna *Gracula indica*



Indian Blackbird *Turdus simillimus*



**PLATE 46**

**Order: Passeriformes (Rock thrush, Robins and Shama)**



**Black Redstart *Phoenicurus ochruros***



**Blue Rock Thrush *Monticola solitarius***



**Blue-capped Rock Thrush *Monticola cinclorhyncha***



**Malabar Whistling Thrush *Myophonus horsfieldii***



**Indian Blue Robin *Larvivora brunnea***



**White-rumped Shama *Copsychus malabaricus***



**Oriental Magpie Robin *Copsychus saularis***



**Indian Robin *Copsychus fulicatus***

## PLATE 47

Order: Passeriformes (Flycatchers)



Verditer Flycatcher *Eumyias thalassinus*



Tickell's Blue Flycatcher *Cyornis tickelliae*



Taiga Flycatcher *Ficedula albicilla*



Red-breasted Flycatcher *Ficedula parva*



Asian Brown Flycatcher *Muscicapa dauurica*



Brown-breasted Flycatcher *Muscicapa muttui*



Rusty-tailed Flycatcher *Ficedula ruficauda*



Blue-throated Flycatcher *Cyornis rubeculoide*



PLATE 48



**Brown Shrike** *Lanius cristatus*



**Bay-backed Shrike** *Lanius vittatus*



**Long-tailed Shrike** *Lanius schach*



**Orange-headed Thrush** *Geokichla citrina*



**Siberian Stonechat** *Saxicola maurus*



**Bluethroat** *Luscinia svecica*



**Isabelline Wheatear** *Oenanthe isabellina*



**Pied Bushchat** *Saxicola caprata*

## PLATE 49

Order : Passeriformes (Flowerpeckers, Sunbirds & Spider hunter)



Nilgiri Flowerpecker *Dicaeum concolor*



Pale-billed Flowerpecker *Dicaeum erythrorhynchos*



Thick-billed Flowerpecker *Dicaeum agile*



Purple Sunbird *Cinnyris asiaticus*



Purple-rumped Sunbird *Leptocoma zeylonica*



Crimson-backed Sunbird *Leptocoma minima*



Loten's Sunbird *Cinnyris lotenius*



Little Spiderhunter *Arachnothera longirostra*



## PLATE 50

Order: Passeriformes (Leafbirds, Fairy Bluebird, Iora, etc)



Jerdon's Leafbird *Chloropsis jerdoni*



Golden-fronted Leafbird *Chloropsis aurifrons*



Asian Fairy-bluebird *Irena puella*



Common Iora *Aegithina tiphia*



Indian Scimitar Babbler *Pomatorhinus horsfieldii*



Wayanad Laughingthrush *Pterorhinus delesserti*

## PLATE 51

Order: Passeriformes (Munias, Sparrows & Weaver Birds)



Scaly-breasted Munia *Lonchura punctulata*



Red Munia *Amandava amandava*



White-rumped Munia *Lonchura striata*



Tricoloured Munia *Lonchura malacca*



Yellow-throated Sparrow *Gymnoris xanthocollis*



House Sparrow *Passer domesticus*



Baya Weaver *Ploceus philippinus*



Streaked Weaver *Ploceus manyar*



**PLATE 52**

**Order: Passeriformes (Wagtails)**



**Western Yellow Wagtail *Motacilla flava***



**Grey Wagtail *Motacilla cinerea***



**Citrine Wagtail *Motacilla citreola***



**White-browed Wagtail *Motacilla maderaspatensis***



**White Wagtail *Motacilla alba***



**Forest Wagtail *Dendronanthus indicus***

**PLATE 53**

**Order: Passeriformes (Pipits)**



**Tawny Pipit *Anthus campestris***



**Paddyfield Pipit *Anthus rufulus***



**Richard's Pipit *Anthus richardi***



**Olive-backed Pipit *Anthus hodgsoni***



**Blyth's Pipit *Anthus godlewskii***



## PLATE 54

Order: Passeriformes (Finches & Buntings)



Common Rosefinch *Carpodacus erythrinus*



Yellow-breasted Bunting *Emberiza aureola*



Black-headed Bunting *Emberiza melanocephala*



Grey-necked Bunting *Emberiza buchanani*



Red-headed Bunting *Emberiza bruniceps*

**ANNOTATED CHECKLIST OF BIRDS OF THE IMPORTANT BIRD AREAS (IBAs)  
OF GOA STATE**

**Order: Anseriformes**

**Family: Anatidae**

1. ***Dendrocygna javanica*** (Horsfield, 1821) **Lesser Whistling Duck**  
**Alternative/Old Names** : Lesser Whistling Teal, Tree Duck  
**Habitat** : Flooded grasslands, freshwater marshes lakes  
**Status** : Resident  
**Distribution** : Most parts of the Indian subcontinent; Also, to South East Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
  
2. ***Anser indicus*** (Latham, 1790) **Bar-headed Goose**  
**Habitat** : Flooded grasslands, marshlands, larger rivers, or backwaters.  
**Status** : Winter Migrant  
**Distribution** : Breeds in Central Asia. Wintering to South Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
  
3. ***Sarkidiornis melanotos*** (Pennant, 1769) **Knob-billed Duck**  
**Alternative/Old Names** : Comb Duck, African Comb Duck  
**Habitat** : Lakes, wet grasslands  
**Status** : Resident  
**Distribution** : Widely distributed to most parts of the Indian subcontinent and SouthEast Asia.  
  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Netravali WLS
  
4. ***Tadorna ferruginea*** (Pallas, 1764) **Ruddy Shelduck**  
**Alternative/Old Names** : Brahminy Duck  
**Habitat** : Terrestrial open lakes, rivers, sandy islands  
**Status** : winter visitor  
**Distribution** : Breeds over huge areas from Morocco to Central Siberia and North China; Also, in Ladakh, Sikkim, and Nepal. Wintering to most parts of the Indian subcontinent.  
  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

5. *Tadorna tadorna* (Linnaeus, 1758) **Common Pochard**  
**Habitat** : Coastal wetlands, rivers, lakes  
**Status** : Winter visitor  
**Distribution** : A resident bird of Europe. Wintering to most of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
6. *Nettapus coromandelianus* (J.F. Gmelin, 1789) **Cotton Pygmy Goose**  
**Alternative/Old Names** : Cotton Teal  
**Habitat** : Well-vegetated waterbodies, mainly freshwater  
**Status** : Resident  
**Distribution** : Almost throughout Indian Subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands
7. *Spatula querquedula* (Linnaeus, 1758) **Garganey**  
**Habitat** : Freshwater wetland and coastal lagoon  
**Status** : Winter visitor  
**Distribution** : Wintering in most of the Indian Subcontinent; breeds in West & Central Siberia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
8. *Spatula clypeata* (Linnaeus, 1758) **Northern Shoveler**  
**Habitat** : Shallow freshwater bodies  
**Status** : Winter visitor  
**Distribution** : A rather common winter migrant to the Indian subcontinent; Breeds in Central Siberia and Central Asia, winters in South Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
9. *Mareca strepera* (Linnaeus, 1758) **Gadwall**  
**Habitat** : Freshwater marshes and lakes with aquatic vegetation  
**Status** : Winter visitor  
**Distribution** : Wintering to most of the Indian subcontinent. Breed in Central Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

10. ***Mareca penelope*** (Linnaeus, 1758) **Eurasian Wigeon**
- Habitat** : Open lakes, tidal creeks, rivers and marshes  
**Status** : Winter visitor  
**Distribution** : Widespread and common winter migrants in most of the Indian Subcontinent. Breeds in Central Asia, winters in South Asia
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
11. ***Anas poecilorhyncha*** (J.R. Forster, 1781) **Indian Spot-billed Duck**
- Alternative/Old Names** : Spotbill Duck  
**Habitat** : Freshwater marshes, reedy areas of lake edges  
**Status** : Resident  
**Distribution** : Throughout the Indian subcontinent. Breeds in Central Asia, winters in South Asia
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
12. ***Anas acuta*** (Linnaeus, 1758) **Northern Pintail**
- Status** : Winter visitor  
**Distribution** : Common and widely distributed winter migrant to India; Pakistan; Sri Lanka; Nepal; breeds in Central Siberia and Central Asia.
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
13. ***Anas crecca*** Linnaeus, 1758 **Common Teal**
- Alternative/Old Names** : Eurasian Teal, Eurasian Green-winged Teal  
**Habitat** : Freshwater marshes, reedy areas of lake edges  
**Status** : Winter visitor  
**Distribution** : Breeds in Europe; winters in South Asia including some parts of Indian subcontinent.
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands, Netravali WLS
14. ***Aythya fuligula*** (Linnaeus, 1758) **Tufted Duck**
- Alternative/Old Names** : Tufted Pochard  
**Habitat** : Lakes and reservoirs with large open areas  
**Status** : Winter visitor  
**Distribution** : Widely distributed to the Indian subcontinent. Breeds West & Central Siberia, winters in Central & South Asia.
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II



- IBA-wise Occurrence** : Carambolim Lake
15. *Aythya nyroca* (Güldenstädt, 1770) **Ferruginous Duck**  
**Alternative/Old Names** : White-eyed Pochard  
**Status** : Resident  
**Distribution** : Common in North India, Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, breeds in South Asia to W China and W Mangolia  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix I  
**IBA-wise Occurrence** : Carambolim Lake
16. *Aythya ferrina* (Linnaeus, 1758) **Common Pochard**  
**Status** : Winter visitor  
**Distribution** : Breeds in northern Europe. Wintering to most of Indian subcontinent.  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-I  
**CMS Appendix** : Appendix I  
**IBA-wise Occurrence** : Carambolim Lake
- Order: Galliformes**  
**Family: Phasianidae**
17. *Pavo cristatus* Linnaeus, 1758 **Indian Peafowl**  
**Alternative/Old Names** : Blue Peafowl, Common Peafowl  
**Habitat** : Deciduous forest, usually near streams, in villages near cultivation  
**Status** : Resident  
**Distribution** : Widely distributed to the Indian subcontinent and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
18. *Galloperdix spadicea* (J.F. Gmelin, 1789) **Red Spurfowl**  
**Habitat** : Dense scrubs and undergrowth  
**Status Distribution** : Resident  
**IUCN Category** : South of the Ganges across India  
**WPA Schedule** : Least Concern  
**Remarks** : Schedule-II  
**IBA-wise Occurrence** : Endemic to India.  
**Habitat** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
19. *Gallus sonneratii* Temminck, 1813 **Grey Junglefowl**  
**Habitat** : Forest undergrowth and wild plantations  
**Status** : Resident  
**Distribution** : The species occurs mainly in the Indian Peninsula, but extends into Gujarat, Madhya Pradesh, and southern Rajasthan.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I

**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

20. *Perdica asiatica* (Latham, 1790) **Jungle Bush Quail**

**Habitat** : Dry grass and scrub and deciduous forest  
**Status** : Resident  
**Distribution** : Widely distributed to most of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.

21. *Coturnix coromandelica* (Gmelin, JF, 1789) **Rain Quail**

**Alternative/Old Names** : Black-breasted Quail  
**Habitat** : Grasslands, crop fields.  
**Status** : Resident  
**Distribution** : Distributed to most of the Indian subcontinent. Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Navelim Wetlands

**Order: Podicipediformes**

**Family: Podicipedidae**

22. *Tachybaptus ruficollis* (Pallas, 1764) **Little Grebe**

**Alternative/Old Names** : Dabchick  
**Habitat** : Lakes, reservoirs, and ponds  
**Status** : Resident  
**Distribution** : Distributed to most of the Indian subcontinent. SW, S Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**Order: Phoenicopteriformes**

**Family: Phoenicopteridae**

23. *Phoenicopterus roseus* Pallas, 1811 **Greater Flamingo**

**Habitat** : Large shallow brackish water lakes, saltpans, and estuaries  
**Status** : Resident  
**Distribution** : Distributed to most parts of India, Pakistan, Nepal, Bangladesh, Sri Lanka, Maldives, East Mediterranean, and South West Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

24. *Phoeniconaias minor* (E. Geoffroy Saint Hillaire, 1798) **Lesser Flamingo**

**Habitat** : Large shallow brackish water lakes, saltpans and estuaries  
**Status** : Resident  
**Distribution** : Breeds in NW India.  
**IUCN Category** : Near Threatened

**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake.

**Order: Columbiformes**

**Family: Columbidae**

**25. *Columba livia* (J.F. Gmelin, 1789) Rock Pigeon**

**Alternative/Old Names** : Rock Dove, Blue Rock Pigeon  
**Habitat** : Mainly found near human habitation.  
**Status** : Resident  
**Distribution** : Native to Europe, North Africa and Southwestern Asia. Feral pigeons are found worldwide.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Not Listed  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**26. *Columba elphinstonii* (Sykes, 1832) Nilgiri Wood Pigeon**

**Alternative/Old Names** : Nilgiri Pigeon  
**Habitat** : Wet forests in hilly and montane areas  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**27. *Streptopelia orientalis* (Latham, 1790) Oriental Turtle Dove**

**Alternative/Old Names** : Rufous Turtle Dove  
**Habitat** : Open forests and cultivation  
**Status** : Locally Migratory  
**Distribution** : Resident.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS.

**28. *Streptopelia decaocto* (Frisch, 1838) Eurasian Collared Dove**

**Alternative/Old Names** : Indian Ring Dove  
**Habitat** : Light woodland and open country  
**Status** : Resident  
**Distribution** : A native of Asia and Europe. Introduced to many parts of the world.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS.

**29. *Streptopelia tranquebarica* (Hermann, 1804) Red Collared Dove**

**Alternative/Old Names** : Red Turtle Dove  
**Habitat** : Well-wooded and open country

- Status** : Migrant  
**Distribution** : Distributed to India, Pakistan, Nepal, and Tibet to northern China.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bondla WLS
- 30. *Streptopelia chinensis* (Scopoli, 1786) Spotted Dove**  
**Alternative/Old Names** : Western Spotted Dove  
**Habitat** : Parks, gardens, scrub, cultivation, and habitation  
**Status** : Resident  
**Distribution** : A native of Indian subcontinent and in Southeast Asia. Introduced to many parts of the world.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 31. *Spilopelia senegalensis* (Linnaeus, 1766) Laughing Dove**  
**Alternative/Old Names** : Little Brown Dove, Senegal Dove  
**Habitat** : Dry scrubs and semi-desert habitats.  
**Status** : Resident  
**Distribution** : Widely distributed to Africa, the Middle East, South Asia, and West Australia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Cotigao WLS
- 32. *Treron bicinctus* (Jerdon, 1840) Orange-breasted Green Pigeon**  
**Habitat** : Broadleaved forest and open well-wooded country  
**Status** : Resident  
**Distribution** : Found across tropical Asia south of the Himalayas across parts of the Indian Subcontinent and Southeast Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS
- 33. *Treron affinis* (Jerdon, 1840) Grey-fronted Green Pigeon**  
**Habitat** : Foothill, evergreen and deciduous forest  
**Status** : Resident  
**Distribution** : It is found in the forests of the Western Ghats in India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 34. *Treron phoenicopterus* (Latham, 1790) Yellow-footed Green Pigeon**  
**Alternative/Old Names** : Yellow-legged Green Pigeon  
**Habitat** : Well-wooded county side and forests  
**Status** : Resident  
**Distribution** : Found in the Indian subcontinent and parts of Southeast Asia.



- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**Remarks** : A single record from Bondla WLS  
**IBA-wise Occurrence** : Bondla WLS
- 35. *Ducula cupera* (Jerdon, 1840) Malabar Imperial Pigeon**  
**Alternative/Old Names** : Mountain Imperial Pigeon, Maroon-backed Imperial Pigeon, Grey-headed Imperial Pigeon  
**Habitat** : Matured forests in foothills and montane areas  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 36. *Ducula aenea* (Linnaeus, 1766) Green Imperial Pigeon**  
**Habitat** : Matured forests in foothills and montane areas  
**Status** : Resident  
**Distribution** : The large range extends from Nepal, southern India and Sri Lanka eastwards to southern China, Indonesia and the Philippines  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 37. *Chalcophaps indica* (Linnaeus, 1758) Asian Emerald Dove**  
**Alternative/Old Names** : Common Emerald Dove, Grey-capped Emerald Dove  
**Habitat** : Forests and well-wooded country-sides  
**Status** : Resident  
**Distribution** : Native to the tropical and subtropical parts of the Indian Subcontinent and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- Order: Cuculiformes**  
**Family: Cuculidae**
- 38. *Centropus sinensis* (Stephens, 1815) Greater Coucal**  
**Alternative/Old Names** : Crow-pheasant  
**Habitat** : Dense vegetation, tall grassland, scrub  
**Status** : Resident  
**Distribution** : Widely distributed to the Indian subcontinent and parts of Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

39. *Centropus bengalensis* (Stephens, 1815) **Lesser Coucal**  
**Alternative/Old Names** : Crow-pheasant  
**Habitat** : Vegetation near wetlands, grassland, and plantations.  
**Status** : Resident  
**Distribution** : Widely distributed to the Indian subcontinent and parts of southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS
40. *Phaenicophaeus viridirostris* (Jerdon, 1840) **Blue-faced Malkoha**  
**Alternative/Old Names** : Small Green-billed Malkoha  
**Habitat** : Thorny scrub and secondary growths  
**Status** : Resident  
**Distribution** : Found in Peninsular India and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
41. *Clamator jacobinus* (Boddaert, 1783) **Pied Cuckoo**  
**Alternative/Old Names** : Pied Crested Cuckoo, Jacobin Cuckoo  
**Habitat** : Light woodland, scrub, gardens  
**Status** : Monsoon Migrant  
**Distribution** : The species is distributed south of the Sahara in Africa and south of the Himalayas in India. Also found in Sri Lanka and parts of Myanmar.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
42. *Eudynamys scolopaceus* (Linnaeus, 1758) **Asian Koel**  
**Alternative/Old Names** : Common Koel  
**Habitat** : Open parks, gardens, and lightly wooded areas.  
**Status** : Resident  
**Distribution** : A native of southern Asia from Iran, Pakistan, India, Bangladesh, and Sri Lanka to southern China and the Greater Sundas. Also vagrant to Australia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
43. *Cacomantis sonneratii* (Latham, 1790) **Banded Bay Cuckoo**  
**Alternative/Old Names** : Bay-banded Cuckoo  
**Habitat** : lowland and foothill forests  
**Status** : Resident  
**Distribution** : Found in the Indian subcontinent and Southeast Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II

- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 44. *Cacomantis passerines* (Vahl, 1797) Grey-bellied Cuckoo**
- Alternative/Old Names** : Indian Plaintive Cuckoo  
**Habitat** : Lightly wooded country  
**Status** : Breeding or Summer Migrant  
**Distribution** : A bird of tropical southern Asia from India and Sri Lanka to south China and Indonesia.
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 45. *Surniculus dicruroides* (Hodgson, 1839) Fork-tailed Drongo Cuckoo**
- Alternative/Old Names** : Drongo Cuckoo  
**Habitat** : Forests and scrubby plains and mountain areas  
**Status** : A monsoon visitor  
**Distribution** : It is found resident mainly in Peninsular India in hill forests although some specimens are known from the Himalayan foothills
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 46. *Hierococcyx varius* (Vahl, 1797) Common Hawk Cuckoo**
- Alternative/Old Names** : Brain fever Bird  
**Habitat** : Well-wooded areas and gardens  
**Status** : Resident  
**Distribution** : Found in most of the Indian subcontinent.
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 47. *Cuculus canorus* Linnaeus, 1758 Common Cuckoo**
- Alternative/Old Names** : Eurasian Cuckoo  
**Habitat** : Open forest clearings  
**Status** : Winter visitor  
**Distribution** : Mainly a bird of Europe and northern Asia. Winters in Africa and South Asia
- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands

**Order: Caprimulgiformes**  
**Family: Podargidae**

**48. *Batrachostomus moniliger* Blyth, 1849 Sri Lanka Frogmouth**

- Alternative/Old Names** : Ceylon Frogmouth  
**Habitat** : Bamboo and cane forest, dense tropical and subtropical evergreen forest  
**Status** : Resident  
**Distribution** : This species is found in the Western Ghats of southwest India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Order: Caprimulgiformes**  
**Family: Caprimulgidae**

**49. *Caprimulgus atripennis* Jerdon, 1845 Jerdon's Nightjar**

- Habitat** : Forest edges, plantations.  
**Status** : Resident  
**Distribution** : Native to southern India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**50. *Caprimulgus indicus* Latham, 1790 Jungle Nightjar**

- Alternative/Old Names** : Indian Jungle Nightjar  
**Habitat** : Forest clearings, scrub and plantations  
**Status** : Resident  
**Distribution** : Peninsular India south of the Himalayas.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**51. *Caprimulgus affinis* Horsfield, 1821 Savanna Nightjar**

- Alternative/Old Names** : Franklin's Nightjar, Allied Nightjar  
**Habitat** : Open forest, lightly wooded grassland  
**Status** : Winter visitor.  
**Distribution** : Found in South and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Bondla WLS,

**Family: Apodidae**

**52. *Aerodramus unicolor* (Jerdon, 1840) Indian Swiftlet**

- Alternative/Old Names** : Indian Edible-Nest Swiftlet  
**Habitat** : hills and caves



- Status** : Resident  
**Distribution** : It is a common resident colonial breeder in the hills of Sri Lanka and South West India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mahadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 53. *Zoonavena sylvatica* (Tickell, 1846) **White-rumped Spinetail****  
**Alternative/Old Names** : White-rumped Needletail, White-rumped Spinetail Swift  
**Habitat** : Hills and woodlands  
**Status** : Resident  
**Distribution** : India south of the Himalayas to western Myanmar.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 54. *Hirundapus giganteus* (Temminck, 1825) **Brown-backed Needletail****  
**Alternative/Old Names** : Brown-throated Needletail, Large Brown-throated Spine-tail  
**Habitat** : Hill forests and caves  
**Status** : Resident  
**Distribution** : Distributed to hill forests in southern Asia from India east to Indonesia and the Philippines  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 55. *Tachymarptis melba* (Linnaeus, 1758) **Alpine Swift****  
**Habitat** : Open country, coastal wetlands  
**Status** : Resident  
**Distribution** : Found in Africa, southern Europe and Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Cotigao WLS, Bondla WLS, Netravali WLS
- 56. *Apus pacificus* (Latham, 1801) **Pacific Swift****  
**Alternative/Old Names** : Large White-rumped Swift  
**Habitat** : Mostly aerial.  
**Status** : Winter visitor  
**Distribution** : Breeds in Eastern Asia and wintering to SE Asia and Australia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS
- 57. *Apus affinis* (J.E. Gray, 1830) **Little Swift****  
**Alternative/Old Names** : Indian House Swift, House Swift  
**Habitat** : Urban areas and at rocky cliffs  
**Status** : Resident

- Distribution** : Widely distributed species found in Africa and southwestern Asia, and are vagrants and local breeders in southern Europe.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

58. *Apus leuconyx* (Blyth, 1845) **Blyth's Swift**

- Alternative/Old Names** : Fork-tailed Swift
- Habitat** : Mostly aerial.
- Status** : Winter visitor
- Distribution** : It breeds from the outer Himalayas through the Assam hills. winters in the southern part of India and Sri Lanka
- IUCN Category** : Least Concern
- IBA-wise Occurrence** : Bondla WLS, Cotigao WLS

59. *Apus apus* (Linnaeus, 1758) **Common Swift**

- Alternative/Old Names** : Swift
- Habitat** : Mostly aerial.
- Status** : Winter visitor.
- Distribution** : Widely distributed to Africa and Europe and some parts of Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS

60. *Cypsiurus balasiensis* (J.E. Gray, 1829) **Asian Palm Swift**

- Habitat** : Open country and cultivation
- Status** : Resident
- Distribution** : Indian subcontinent and Sri Lanka.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Hemiprocnidae**

61. *Hemiprogne coronate* (Tickell, 1833) **Crested Treeswift**

- Habitat** : Open country, forest clearings, higher tree branches
- Status** : Resident
- Distribution** : Distributed to most part of the Indian subcontinent.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-I
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Order: Gruiformes**

**Family: Rallidae**

62. *Rallus aquaticus* Linnaeus, 1758 **Water Rail**

- Alternative/Old Names** : Western Water Rail
- Habitat** : Reedy marshes

- Status** : Winter visitor  
**Distribution** : Breeds in West and Central Asia, winter in North West & North East India and East China  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake
- 63. *Lewinia striata* (Linnaeus, 1766) Slaty-breasted Rail**  
**Alternative/Old Names** : Blue-breasted Banded Rail  
**Habitat** : Marshes, paddy fields, and mangroves  
**Status** : Resident  
**Distribution** : Native to the Indian subcontinent and South East Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake
- 64. *Porzana porzana* (Linnaeus, 1766) Spotted Crake**  
**Habitat** : Reedy jheels, marshes around reservoirs and canals, swamps  
**Status** : Winter visitor  
**Distribution** : Rare winter migrant, mainly to North West India; Pakistan; Nepal; Myanmar; breeds in North, Central Asia East to North West China, also in North West Kashmir.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
- 65. *Gallinula chloropus* (Linnaeus, 1758) Common Moorhen**  
**Alternative/Old Names** : Eurasian Moorhen, Indian Moorhen  
**Habitat** : lakes, wetlands, marshes  
**Status** : Resident  
**Distribution** : Widely distributed to the Indian subcontinent  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake,
- 66. *Fulica atra* Linnaeus, 1758 Eurasian Coot**  
**Alternative/Old Names** : Common Coot  
**Habitat** : large lakes, reservoirs  
**Status** : Resident  
**Distribution** : Widely distributed to India and Central and South Asia; Pakistan; Nepal; Bangladesh; Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 67. *Porphyrio poliocephalus* (Latham, 1801) Grey-headed Swampen**  
**Alternative/Old Names** : Purple Moorhen, Purple Swampen

- Habitat** : large marshes, reed bed around lakes and rivers  
**Status** : Resident  
**Distribution** : Occurring from the Middle East and the Indian subcontinent to southern China and northern Thailand  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands
68. *Gallicrex cinerea* (J.F. Gmelin, 1789) **Watercock**  
**Alternative/Old Names** : Kora  
**Habitat** : Terrestrial waterbodies, marshes, flooded fields and canals  
**Status** : Resident and summer visitor  
**Distribution** : Found across south Asia from India, Pakistan, and Sri Lanka to South China, Korea, Japan, Philippines and Indonesia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
69. *Rallina eurizonodes* Lafresnaye, 1845 **Slaty-legged Crake**  
**Alternative/Old Names** : Slaty-legged Banded Crake  
**Habitat** : Forest edges, well wooded marsh edges  
**Status** : Resident  
**Distribution** : Found across south Asia east from India, Pakistan, and Sri Lanka to the Philippines and Indonesia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS
- 70 *Amaurornis phoenicurus* (Pennant, 1769) **White-breasted Waterhen**  
**Habitat** : Reedy marshes, edges of submerged fields, ponds, and reservoir  
**Status** : Resident  
**Distribution** : Widely distributed to the Indian subcontinent; extends up to East China and South East Asia, Malaysia and Philippines.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
71. *Zapornia fusca* (Linnaeus, 1766) **Ruddy-breasted Crake**  
**Alternative/Old Names** : Ruddy Crake  
**Habitat** : Near waterbodies, reedy marshes, and paddy fields  
**Status** : Resident  
**Distribution** : Found across South Asia from the Indian subcontinent east to south China, Japan, and Indonesia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
72. *Zapornia pusilla* (Pallas, 1776) **Baillon's Crake**  
**Habitat** : Reedy marshes, lakes with emergent vegetation, paddy fields  
**Status** : Winter visitor



- Distribution** : Breeds in Europe and across Palearctic. Wintering in east Africa and South Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.

**Order: Charadriiformes**  
**Family: Burhinidae**

73. *Burhinus indicus* (Salvadori, 1865) **Indian Thick-knee**  
**Alternative/Old Names** : Indian Stone Curlew, Eurasian Thick-knee, Stone Curlew  
**Habitat** : Open lands, thickets, and the edges of plantations.  
**Status** : Resident  
**Distribution** : It is found in the plains of South and South-eastern Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Mhadei WLS

74. *Esacus recurvirostris* (Cuvier, 1829) **Great Thick-knee**  
**Alternative/Old Names** : Great Stone Plover, Great Stone-curlew  
**Habitat** : Marshes, Uncultivated lands, and laterite plains.  
**Status** : Resident, locally migratory  
**Distribution** : Native to tropical southern Asia from India, Pakistan, Sri Lanka, and Bangladesh into Southeast Asia.  
**IUCN Category** : Near threatened  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

**Family: Recurvirostridae**

75. *Himantopus himantopus* (Linnaeus, 1758) **Black-winged Stilt**  
**Habitat** : Freshwater and brackish water marshes, village tanks, reservoirs and shallow margins of the lake  
**Status** : Resident  
**Distribution** : Breeds from southern Europe, West Asia, and Africa, to Russia, China, Japan and South and South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Mhadei WLS, Navelim Wetlands

76. *Recurvirostra avosetta* Linnaeus, 1758 **Pied Avocet**  
**Alternative/Old Names** : Avocet  
**Habitat** : Shallow brackish pools, swamps, mudflats, tidal creeks  
**Status** : Winter visitor and passage migrant  
**Distribution** : Distributed in the Indian subcontinent, Asia, Africa and Europe.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

**Family: Charadriidae**

**77. *Pluvialis squatarola* (Linnaeus, 1758) Grey Plover**

<b>Alternative/Old Names</b>	: Black-bellied Plover
<b>Habitat</b>	: Sandy shores, mudflats, tidal creeks
<b>Status</b>	: Winter visitor
<b>Distribution</b>	: A widespread winter migrant to coastal India, Pakistan; Nepal; Bangladesh; Sri Lanka; Maldives. Breeds in Arctic Russia, winter in South Asia.
<b>IUCN Category</b>	: Least Concern
<b>WPA Schedule</b>	: Schedule-II
<b>CMS Appendix</b>	: Appendix II
<b>IBA-wise Occurrence</b>	: Carambolim Lake

**78. *Pluvialis fulva* (J.F. Gmelin, 1789) Pacific Golden Plover**

<b>Alternative/Old Names</b>	: Eastern Golden Plover
<b>Habitat</b>	: Wet grasslands, coasts and coastal lagoons, and tidal mudflats
<b>Status</b>	: Winter visitor
<b>Distribution</b>	: Wintering to India, Pakistan; Nepal; Bangladesh; Sri Lanka; Maldives. Breeds in N Asia up to Yenisey River, winter chiefly in South West, South Asia & East Africa.
<b>IUCN Category</b>	: Least Concern
<b>WPA Schedule</b>	: Schedule-I
<b>CMS Appendix</b>	: Appendix II
<b>IBA-wise Occurrence</b>	: Carambolim Lake, Navelim Wetlands

**79. *Vanellus malabaricus* (Boddaert, 1783) Yellow-wattled Lapwing**

<b>Habitat</b>	: Fallow fields, stony ground and open dry country
<b>Status</b>	: Resident
<b>Distribution</b>	: Biome Restricted Species. Endemic to subcontinent; Pakistan; Nepal; Bangladesh; Sri Lanka.
<b>IUCN Category</b>	: Least Concern
<b>WPA Schedule</b>	: Schedule-II
<b>CMS Appendix</b>	: Appendix II
<b>IBA-wise Occurrence</b>	: Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**80. *Vanellus indicus* (Boddaert, 1783) Red-wattled Lapwing**

<b>Habitat</b>	: lakes, tanks, ditches, puddles, open cultivation, countryside
<b>Status</b>	: Resident
<b>Distribution</b>	: Widely distributed to India, Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Myanmar; extends to North Malaysia and Vietnam
<b>IUCN Category</b>	: Least Concern
<b>WPA Schedule</b>	: Schedule-II
<b>CMS Appendix</b>	: Appendix II
<b>IBA-wise Occurrence</b>	: Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**81. *Vanellus leucurus* (Lichtenstein, MHC, 1823) White-tailed Lapwing**

<b>Habitat</b>	: Lakes, tanks, ditches, puddles, edges of paddy fields
<b>Status</b>	: Winter Migrant

- Distribution** : Breeds in Europe and West. Asia; migrate south in winter to the Indian Subcontinent, the Middle East and northeast Africa
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake
- 82. *Vanellus cinereus* (Blyth, 1842) Grey-headed Lapwing**
- Habitat** : Uncultivated paddy fields, saline marshes, tidal creeks.
- Status** : Winter Migrant
- Distribution** : It breeds in northeast China and Japan. The mainland population winters in northern Southeast Asia from north-eastern India to Cambodia
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 83. *Charadrius mongolus* Pallas, 1776 Lesser Sand Plover**
- Alternative/Old Names** : Mongolian Plover
- Habitat** : Occurs in sandy plains in the vicinity of lakes and marshes and coasts
- Status** : Winter Migrant
- Distribution** : Breeds in the Himalayas; wintering on sandy beaches in east Africa, south Asia and Australasia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands, Netravali WLS
- 84. *Charadrius leschenaultia* Lesson, 1826 Greater Sand Plover**
- Alternative/Old Names** : Large Sand Plover
- Habitat** : Sandy shores, intertidal mudflats, saltpans, mangroves and rocky coasts
- Status** : winter visitor
- Distribution** : Winter migrant to most of the Indian subcontinent, Sri Lanka and Maldives. Breed in Central Asia winter in Coastal South Asia
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 85. *Charadrius alexandrinus* Linnaeus, 1758 Kentish Plover**
- Alternative/Old Names** : White-faced Plover
- Habitat** : Sandy shores, intertidal mudflats, saltpans mangroves and rocky coasts
- Status** : Winter visitor and some breeds locally in India
- Distribution** : Winter to India; Pakistan; Nepal; Bhutan; Bangladesh; Sri Lanka; Maldives. Breeds across Central Asia
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II

**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**86. *Charadrius hiaticula* Linnaeus, 1758 **Common Ringed Plover****

**Alternative/Old Names** : Eastern Ringed Plover  
**Habitat** : Coastal mudflats, beaches and uncultivated fields.  
**Status** : Winter Migrant  
**Distribution** : Breed in NE Europe & Arctic; wintering to South West Asia, West & South Africa  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

**87. *Charadrius dubius* Scopoli, 1786 **Little Ringed Plover****

**Habitat** : Sandy pebbled margins of lakes, rivers and mudflats  
**Status** : Resident and partly winter visitor  
**Distribution** : Chiefly breeds in Siberia, North, East & South China, Indian subcontinent, Sri Lanka & South East Asia; winter in South & South East Asia, South China.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Navelim Wetlands

**Family: Rostratulidae**

**88. *Rostratula benghalensis* (Linnaeus, 1758) **Greater Painted-snipe****

**Habitat** : Freshwater marshes with deep pools and also in mangroves  
**Status** : Resident  
**Distribution** : It is found in marshes in Africa, South Asia and South-east Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**Family: Jacanidae**

**89. *Hydrophasianus chirurgus* (Scopoli, 1786) **Pheasant-tailed Jacana****

**Habitat** : Occurs in macrophyte infested lakes, reservoirs  
**Status** : Resident  
**Distribution** : Widely distributed to India, Pakistan; Nepal; Bangladesh; Sri Lanka South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands

**90. *Metopidius indicus* (Latham, 1790) **Bronze-winged Jacana****

**Habitat** : Occurs in lotus and water hyacinth covered lakes, reservoirs  
**Status** : Resident



**Distribution** : Widespread resident bird in India, Pakistan; Nepal; Bangladesh. South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands

**Family: Scolopacidae**

**91. *Numenius phaeopus* (Linnaeus, 1758) Whimbrel**

**Habitat** : Estuaries, mudflats, tidal creeks  
**Status** : winter visitor  
**Distribution** : Winter migrant to Indian; Pakistan; Nepal; Bhutan; Bangladesh; Sri Lanka; Maldives. Breed in Central, East Siberia, winter South Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**92. *Numenius arquata* (Linnaeus, 1758) Eurasian Curlew**

**Alternative/Old Names** : Curlew  
**Habitat** : Estuaries, mudflats, tidal creeks  
**Status** : Winter visitor  
**Distribution** : Winter migrant to India Pakistan; Nepal; Bangladesh; Sri Lanka; Maldives. Breeds in Siberia, winter in South, South West Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

**93. *Limosa lapponica* (Linnaeus, 1758) Bar-tailed Godwit**

**Habitat** : Estuaries lagoons, salt pans  
**Status** : Winter visitor  
**Distribution** : Winter visitor to India Pakistan, Bangladesh, Sri Lanka and Maldives. Breeds in Central Siberia  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**94. *Limosa limosa* (Linnaeus, 1758) Black-tailed Godwit**

**Habitat** : Inland lakes, shallows, mud banks of rivers tidal waters, coastal salt pans  
**Status** : Winter visitor  
**Distribution** : Winter migrant to India; Pakistan; Nepal; Bangladesh; Sri Lanka; Maldives. Breeds in Central Asia, disjunct areas in Central & East Siberia, winter in South & South East Asia, Philippines to Australia.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

95. *Arenaria interpres* (Linnaeus, 1758) **Ruddy Turnstone**  
**Habitat** : Coastal beaches, tidal marshes, and inland wetlands  
**Status** : Winter visitor  
**Distribution** : Breeding in northern parts of Eurasia and North America and flying south to winter on coastlines almost worldwide  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.
96. *Calidris pugnax* (Linnaeus, 1758) **Ruff**  
**Habitat** : Freshwater lakes, pools, marshes, grasslands, intertidal mudflats and estuaries  
**Status** : Winter visitor and passage migrant  
**Distribution** : Breeds in northern Eurasia, wintering to tropics, mainly in Africa and South Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.
97. *Calidris falcinellus* (Pontoppidan, 1763) **Broad-billed Sandpiper**  
**Habitat** : Intertidal mudflats, fallow lands and estuaries  
**Status** : Winter visitor  
**Distribution** : Breeds in northern Eurasia, wintering to tropics, mainly in Africa, Australia and South Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
98. *Calidris ferruginea* (Pontoppidan, 1763) **Curlew Sandpiper**  
**Habitat** : Coasts, seashores, mudflats and saltpans  
**Status** : Winter visitor  
**Distribution** : Breed in Arctic Siberia. Wintering to most of the coasts of Indian Subcontinent and Sri Lanka  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
99. *Calidris temminckii* (Leisler, 1812) **Temminck's Stint**  
**Habitat** : Freshwater habitats with vegetation, riverbanks, mudflats and tidal lagoons  
**Status** : Winter visitor  
**Distribution** : Breed in North Siberia winter in Asia including most part of Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

100. *Calidris subminuta* (von Middendorff, 1853) **Long-toed Stint**
- Habitat** : Freshwater and brackish marshes, lakes, rivers and intertidal mudflats
- Status** : winter visitor
- Distribution** : Breeds in South West Central & East Siberia winter in India, Sri Lanka South East Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake
101. *Calidris alba* (Pallas, 1764) **Sanderling**
- Habitat** : Shoreline and sandy beaches
- Status** : winter visitor
- Distribution** : Breeds on Arctic Tundra, winters in coasts of South Asia including India, Pakistan; Nepal; Bangladesh; Sri Lanka; Maldives
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake
102. *Calidris alpina* (Linnaeus, 1758) **Dunlin**
- Habitat** : Seashore, intertidal mudflats and creeks
- Status** : winter visitor
- Distribution** : Breeds in Siberia, winters in Caspian, South West Asia most part of Indian subcontinent, Sri Lanka; Maldives
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
103. *Calidris minuta* (Leisler, 1812) **Little Stint**
- Habitat** : Open lakes, reservoirs, saltpans
- Status** : Winter visitor
- Distribution** : Breeds in North West & North Central Siberia to New Siberian Isle and R Yana. Winters in Subcontinent, Sri Lanka, India and Myanmar.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
104. *Limnodromus semipalmatus* (Blyth, 1848) **Asian Dowitcher**
- Alternative/Old Names** : Snipe-billed Godwit
- Habitat** : Intertidal mudflats and mangroves
- Status** : Winter visitor
- Distribution** : Rare winter migrant to Indian coasts; Bangladesh and Sri Lanka; breeds in West, Central & East Siberia, Mongolia, North Manchuria, winters in East India, South East Asia.
- IUCN Category** : Near Threatened

- WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
- 105. *Gallinago gallinago* (Linnaeus, 1758) **Common Snipe****  
**Alternative/Old Names** Fantail Snipe  
**Habitat** : Swampy edges of lakes, marshes around reservoirs, paddy stubble  
**Status** : Resident  
**Distribution** : Resident in Himalaya, common and widespread winter migrant to rest of Indian subcontinent. Breeds from North Central Asia to Kamchatka, W Aleutians.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 106. *Gallinago stenura* (Bonaparte, 1831) **Pintail Snipe****  
**Habitat** : Marshes, paddy stubble, occasionally on dry ground  
**Status** : Winter visitor  
**Distribution** : Wintering to India, Pakistan; Nepal; Bangladesh; Sri Lanka; Maldives. Breeds in the Urals to Central Siberia, winter in East Africa, Saudi Arabia, and South Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.
- 107. *Lymnocyptes minimus* (Brünnich, 1764) **Jack Snipe****  
**Habitat** : Marshes, paddy stubble,  
**Status** : Winter visitor  
**Distribution** : Breeds in northern Europe and winters to Indian subcontinent, Africa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Navelim Wetlands.
- 108. *Xenus cinereus* (Güldenstädt, 1775) **Terek Sandpiper****  
**Habitat** : Intertidal mudflats, mangroves and freshwater lakes  
**Status** : Winter visitor  
**Distribution** : Breed in Boreal Siberia. Winter in most parts of the Indian subcontinent and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 109. *Actitis hypoleucos* (Linnaeus, 1758) **Common Sandpiper****  
**Habitat** : Hill streams and rivers during breeding in winter prefer freshwater bodies  
**Status** : Winter visitor



- Distribution** : Breeds in Central Asia, Siberia, winters in South Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 110. *Tringa ochropus* Linnaeus, 1758 **Green Sandpiper****  
**Habitat** : Small wetlands, puddles, streams, marshes and paddy fields  
**Status** : Winter visitor  
**Distribution** : Breeds in Central Asia to East Siberia, winter in South and South East Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 111. *Tringa erythropus* (Pallas, 1764) **Spotted Redshank****  
**Alternative/Old Names** : Dusky Redshank  
**Habitat** : Inland lakes, muddy banks, lakes and rivers  
**Status** : Winter visitor  
**Distribution** : Breeds on Sakhalin Isles and West Okhotsk Sea, winter in India, Bangladesh, Myanmar, Sri Lanka & South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 112. *Tringa nebularia* (Gunnerus, 1767) **Common Greenshank****  
**Alternative/Old Names** : Greenshank  
**Habitat** : Salt water and freshwater wetlands  
**Status** : Winter visitor  
**Distribution** : Breeds in Central Asia, Central and East Siberia, winter in South Asia including most parts of the Indian subcontinent, Sri Lanka, Maldives.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.
- 113. *Tringa stagnatilis* (Bechstein, 1803) **Marsh Sandpiper****  
**Habitat** : swampy edges of freshwater ponds, lakes, fields and marshes  
**Status** : Winter visitor  
**Distribution** : Breeds in Siberia. Wintering to South Asia including India, Pakistan, Nepal, Bangladesh, Sri Lanka, Maldives,  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Navelim Wetlands

114. *Tringa glareola* Linnaeus, 1758 **Wood Sandpiper**  
**Alternative/Old Names** : Spotted Sandpiper  
**Habitat** : Emergent vegetation, marshes, paddy fields and tidal creeks  
**Status** : Winter visitor  
**Distribution** : Breeds in Central & East Siberia. Winter in South Asia, including most of the parts of Indian subcontinent, Sri Lanka and Maldives  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Navelim Wetlands

115. *Tringa totanus* (Linnaeus, 1758) **Common Redshank**  
**Habitat** : Fresh water and coastal waters  
**Status** : Winter visitor  
**Distribution** : Breeds in Pamirs, Russia East of Ural, Central & South Tibet, India (Ladakh & Sikkim). Wintering to most parts of the Indian subcontinent and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**Family: Turnicidae**

116. *Turnix suscitator* (J.F. Gmelin, 1789) **Barred Buttonquail**  
**Alternative/Old Names** : Common Bustard-quail  
**Habitat** : Grasslands and crop fields  
**Status** : Resident  
**Distribution** : Widely distributed to India, Sri Lanka, Bangladesh, Burma, Indonesia, Philippines and most of Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands.

**Family: Glareolidae**

117. *Glareola maldivarum* J.R. Forster, 1795 **Oriental Pratincole**  
**Alternative/Old Names** : Large Indian Swallow-plover, Large Indian Pratincole  
**Habitat** : Dry bare ground around waterbodies, mudflats and marshes  
**Status** : Resident  
**Distribution** : A native of South and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
118. *Glareola pratincola* (Linnaeus, 1766) **Collared Pratincole**  
**Alternative/Old Names** : Collared Swallow-plover, Swallow-plover  
**Habitat** : Dry bare ground around waterbodies, mudflats and marshes  
**Status** : Winter visitor/Passage migrant

- Distribution** : Found in the warmer parts of Europe, Southwest Asia, and Africa.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake
119. *Glareola lactea* Temminck, 1820 **Small Pratincole**
- Alternative/Old Names** : Little Pratincole, Small Indian Pratincole, Small Indian Swallow-plover
- Habitat** : Large rivers with shingle or sand banks
- Status** : Resident
- Distribution** : The small pratincole is a resident breeder in India, Western Pakistan, Bangladesh, Burma, Laos, Cambodia, Sri Lanka and Thailand.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Navelim Wetlands
- Family: Laridae**
120. *Chroicocephalus ridibundus* (Linnaeus, 1766) **Black-headed Gull**
- Alternative/Old Names** : Common Black-headed Gull
- Habitat** : Coasts, harbors and fishing villages
- Status** : Winter visitor and passage migrant
- Distribution** : Breeds in Russia, Central Asia; winters in South Asia
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
121. *Chroicocephalus brunnicephalus* (Jerdon, 1840) **Brown-headed Gull**
- Habitat** : Coasts, tidal creeks and large inland rivers and lakes
- Status** : Breeds in Ladakh, winter visitor and passage migrant
- Distribution** : Breeds in high plateaus of South Central Asia; winters on coasts South and South East Asia and West to Arabian Peninsula
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
122. *Ichthyaetus ichthyaetus* (Pallas, 1773) **Pallas's Gull**
- Habitat** : Coastal beaches, creeks, estuaries, inland mudflats.
- Status** : Winter visitor
- Distribution** : Breeds in high plateaus of South Central Asia; winters on coasts South and South East Asia and West to Arabian Peninsula
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
123. *Sternula albifrons* (Pallas, 1764) **Little Tern**
- Alternative/Old Names** : Inland rivers, lakes
- Habitat** : White-shafted Ternlet
- Status** : Resident

- Distribution** : Mostly breeds Gangetic Plains, Sri Lanka, Myanmar, Sumatra, Java, winters in Indian Ocean, along W coast of India, South East Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 124. *Gelochelidon nilotica* (J.F. Gmelin, 1789) Gull-billed Tern**
- Habitat** : Coastal mudflats and freshwater wetlands
- Status** : Resident
- Distribution** : Breeds in Central Asia (also in West Bengal, and Chilika Lake in Orissa), winters in South Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-I
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 125. *Hydroprogne caspia* (Pallas, 1770) Caspian Tern**
- Habitat** : Coastal mudflats, tidal creeks and saltpans
- Status** : Winter visitor
- Distribution** : Breeds in Central Asia (though breeds in Gujarat within Indian limits, as also in Pakistan and Sri Lanka), winters in Pakistan, India. Sri Lanka.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake
- 126. *Chlidonias hybrida* (Pallas, 1811) Whiskered Tern**
- Habitat** : Coastal and inland waters
- Status** : Resident
- Distribution** : Breeds in N India, Pakistan; winters in most of the South Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 127. *Sterna aurantia* J.E. Gray, 1831 River Tern**
- Habitat** : Coastal mudflats and freshwater wetlands
- Status** : Resident
- Distribution** : : A widespread locally common resident species on the plains of the Indian subcontinent
- IUCN Category** : Vulnerable
- WPA Schedule** : Schedule-I
- IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 128. *Thalasseus bengalensis* (Lesson, 1831) Lesser Crested Tern**
- Habitat** : Coastal mudflats, beaches and estuaries.
- Status** : Winter visitor



**Distribution** : It breeds in subtropical coastal parts of the world mainly from the Red Sea across the Indian Ocean to the western Pacific and Australia.  
**IUCN Category** : Least concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

**129. *Thalasseus bergii* (Lichtenstein, MHC, 1823) Greater Crested Tern**

**Alternative/Old Names** : Large Crested Tern  
**Habitat** : Coastal mudflats, beaches, and estuaries.  
**Status** : Winter visitor  
**Distribution** : It breeds in subtropical coastal parts of the world mainly from the Red Sea across the Indian Ocean to the western Pacific, and Australia.  
**IUCN Category** : Least concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

**Order: Ciconiiformes**  
**Family: Ciconiidae**

**130. *Anastomus oscitans* (Boddaert, 1783) Asian Openbill**

**Alternative/Old Names** : Asian Openbill Stork, Open-billed Stork  
**Habitat** : Freshwater marshes, large lakes, riverbanks and flooded plains  
**Status** : Resident  
**Distribution** : Widely distributed in India, Sri Lanka, Nepal, Bangladesh, Myanmar, Thailand, Cambodia, and South West China.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**131. *Ciconia episcopus* (Boddaert, 1783) Woolly-necked Stork**

**Alternative/Old Names** : White-necked Stork, Asian Woollyneck  
**Habitat** : Paddy fields, reservoir and backwaters  
**Status** : Resident  
**Distribution** : Breeds in Asia, from India to Indonesia, and across much of Western, Eastern and South-central Africa.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**132. *Ciconia ciconia* (Linnaeus, 1758) White Stork**

**Alternative/Old Names** : European White Stork  
**Habitat** : Dry wet grasslands and fallow fields  
**Status** : Winter visitor and passage migrant  
**Distribution** : The white stork is a long-distance migrant, wintering in Africa from tropical Sub-Saharan Africa to as far south as South Africa, or on the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I

**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

**133. *Mycteria leucocephala* (Pennant, 1769) Painted Stork**

**Habitat** : Freshwater marshes, large lakes, river banks, flooded fields  
**Status** : Resident  
**Distribution** : Widely distributed to India, Pakistan; Nepal; Bangladesh; Sri Lanka.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix-I  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**134. *Leptoptilos javanicus* (Horsfield, 1821) Lesser Adjutant**

**Habitat** : Freshwater marshes shallow lakes drying river banks flooded fields  
**Status** : Resident  
**Distribution** : It is found in India, Nepal, Sri Lanka, Bangladesh, Myanmar, Thailand, Vietnam, Malaysia, Laos, Singapore, Indonesia and Cambodia.  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Order: Suliformes**  
**Family: Anhingidae**

**135. *Anhinga melanogaster* Pennant, 1769 Oriental Darter**

**Alternative/Old Names** : Snake-bird  
**Habitat** : Near waterbodies  
**Status** : Resident  
**Distribution** : Widely distributed to tropical South Asia and Southeast Asia.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Phalacrocoracidae**

**136. *Microcarbo niger* (Vieillot, 1817) Little Cormorant**

**Habitat** : Near wetlands ranging from small ponds to larger rivers or reservoirs.  
**Status** : Resident  
**Distribution** : Found across India, Sri Lanka, Bangladesh, Pakistan, Nepal, Myanmar, Thailand, Laos, Cambodia and Indonesia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**137. *Phalacrocorax carbo* (Linnaeus, 1758) Great Cormorant**

**Alternative/Old Names** : Large Cormorant  
**Habitat** : Reservoirs, lakes and large rivers  
**Status** : Resident  
**Distribution** : Great cormorants are found throughout Europe, Asia, Africa, Australia, and in northeastern coastal North America.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

138. *Phalacrocorax fuscicollis* Stephens, 1826 **Indian Cormorant**

**Alternative/Old Names** : Indian Shag  
**Habitat** : Freshwater wetlands  
**Status** : Resident  
**Distribution** : Found mainly in peninsular India and northern part of Sri Lanka. They extend north-east to Assam and eastward into Thailand, Burma and Cambodia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Order: Pelecaniformes**  
**Family: Ardeidae**

139. *Ixobrychus sinensis* (J.F. Gmelin, 1789) **Yellow Bittern**

**Habitat** : Mangrove swamps, marshes, paddy fields  
**Status** : Resident  
**Distribution** : Most part of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake,

140. *Ixobrychus cinnamomeus* (J.F. Gmelin, 1789) **Cinnamon Bittern**

**Alternative/Old Names** : Chestnut Bittern  
**Habitat** : Reedy beds, along lakes and marshes, paddy fields, mangroves  
**Status** : Resident  
**Distribution** : The species has an extremely large range throughout Asia; there are breeding populations from India to Indonesia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS.

141. *Ardea purpurea* Linnaeus, 1766 **Purple Heron**

**Habitat** : Near water bodies  
**Status** : Resident  
**Distribution** : Widely distributed to India, Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS

142. *Ardea cinerea* Linnaeus, 1758 **Grey Heron**  
**Habitat** : Found in wide variety of freshwater and saline wetlands.  
**Status** : Resident  
**Distribution** : Widespread resident in mos part of Indian Subcontinent., Sri Lanka, Maldives.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
143. *Ardea alba* Linnaeus, 1758 **Great Egret**  
**Alternative/Old Names** : Large Egret  
**Habitat** : Tidal mud flats, banks of river, mangrove swamps, paddy fields  
**Status** : Resident  
**Distribution** : Widely distributed all along the Indian subcontinent to Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS
144. *Ardea intermedia* Wagler, 1829 **Intermediate Egret**  
**Alternative/Old Names** : Median Egret, Smaller Egret  
**Habitat** : Mangrove swamps, riverine wetlands, flooded paddy fields.  
**Status** : Resident  
**Distribution** : Widely distributed all along the Indian subcontinent to Southeast Asia, Africa and Australia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
145. *Egretta garzetta* (Linnaeus, 1766) **Little Egret**  
**Habitat** : Tidal mud flats, banks of river, mangrove swamps, paddy fields  
**Status** : Resident  
**Distribution** : Widely distributed to most parts of Asia, Africa, Europe and Australia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
146. *Egretta gularis* (Bosc, 1792) **Western Reef Egret**  
**Alternative/Old Names** : Western Reef Heron, Indian Reef Heron  
**Habitat** : Coastal area, mangrove swamps, shoreline and estuaries  
**Status** : Migrant  
**Distribution** : Mainly on North West and South East coasts of India, Pakistan; Sri Lanka; Maldives.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II



- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Navelim Wetlands, Netravali WLS
- 147. *Bubulcus ibis* (Linnaeus, 1758) Cattle Egret**  
**Alternative/Old Names** : Eastern Cattle Egret  
**Habitat** : Near waterbodies, damp islands and agricultural fields  
**Status** : Locally migratory  
**Distribution** : A common resident species throughout India, Pakistan; Nepal; Bhutan; Bangladesh; Sri Lanka; Maldives.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 148. *Ardeola grayii* (Sykes, 1832) Indian Pond Heron**  
**Alternative/Old Names** : Paddybird  
**Habitat** : Near water bodies  
**Status** : Resident  
**Distribution** : A widespread resident bird found in India Pakistan; Nepal; Bhutan; Bangladesh; Sri Lanka; Myanmar; Maldives; South West Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 149. *Butorides striata* (Linnaeus, 1758) Striated Heron**  
**Alternative/Old Names** : Little Green Heron, Little Heron  
**Habitat** : Near water bodies, mainly associated with mangrove swamps  
**Status** : Resident  
**Distribution** : Indian subcontinent, Sri Lanka, and east through Myanmar and Thailand to the Greater Sundas; also, the Mascarene Islands  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 150. *Nycticorax nycticorax* (Linnaeus, 1758) Black-crowned Night Heron**  
**Alternative/Old Names** : Night Heron  
**Habitat** : Mangrove thickets, edges of rivers, creeks and tanks.  
**Status** : Resident  
**Distribution** : Widely distributed to most parts of the subcontinent. Also, in Sri Lanka; Maldives  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands
- 151. *Gorsachius melanolophus* (Raffles, 1822) Malayan Night Heron**  
**Alternative/Old Names** : Malay Bittern, Tiger Bittern, Malaysian Night-Heron  
**Habitat** : Evergreen or semi-evergreen forests  
**Status** : Resident

- Distribution** : Found in India, Sri Lanka, Brunei, Nepal, Bangladesh, Myanmar, Cambodia, Laos, Vietnam, Thailand, Malaysia, Singapore, China, Indonesia, the Philippines, Taiwan and Japan.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Bondla WLS

**Family: Threskiornithidae**

152. *Threskiornis melanocephalus* (Latham, 1790) **Black-headed Ibis**
- Alternative/Old Names** : White Ibis, Oriental White Ibis
- Habitat** : Saline and freshwater marshes, large lakes, and flooded paddy fields
- Status** : Locally migratory
- Distribution** : Indian subcontinent and Southeast Asia.
- IUCN Category** : Near Threatened
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS
153. *Plegadis falcinellus* (Linnaeus, 1766) **Glossy Ibis**
- Habitat** : Freshwater marshes, large lakes and flooded paddy fields
- Status** : Resident with migratory population.
- Distribution** : Widely distributed to Indian subcontinent; Sri Lanka; Maldives; Central & South East Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands.
154. *Platalea leucorodia* Linnaeus, 1758 **Eurasian Spoonbill**
- Alternative/Old Names** : Spoonbill
- Habitat** : Large lakes, backwaters, reservoirs and rivers
- Status** : Local Migrant
- Distribution** : Distributed to the Indian subcontinent; Sri Lanka; Maldives. Central, South West & South Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-I
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**Order: Accipitriformes**

**Family: Pandionidae**

155. *Pandion haliaetus* (Linnaeus, 1758) **Osprey**
- Alternative/Old Names** : Western Osprey
- Habitat** : Lakes, rivers and reservoirs
- Status** : Winter visitor
- Distribution** : It is found in temperate and tropical regions of all continents, except Antarctica.

**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**Family: Accipitridae**

**156. *Elanus caeruleus* (Desfontaines, 1789) Black-winged Kite**

**Alternative/Old Names** : Black-shouldered Kite  
**Habitat** : Inhabits open grasslands, cultivated areas and scrublands from seashore to mountains  
**Status** : Resident.  
**Distribution** : Found in most part of the Indian Subcontinent east to Southern China, Indochina and Malay Peninsula  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**157. *Neophron percnopterus* (Linnaeus, 1758) Egyptian Vulture**

**Alternative/Old Names** : Scavenger Vulture  
**Habitat** : Open forests and countryside  
**Status** : Resident.  
**Distribution** : Widely distributed across the Old World with their breeding range from southern Europe to northern Africa east to western and southern Asia. They are rare vagrants in Sri Lanka  
**IUCN Category** : Critically Endangered  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS

**158. *Pernis ptilorhynchus* (Temminck, 1821) Oriental Honey Buzzard**

**Alternative/Old Names** : Crested Honey Buzzard  
**Habitat** : Lives in forested areas or well-wooded countrysides and plantations up to an elevation of 2000m  
**Status** : Resident.  
**Distribution** : The subspecies *P.p. ruficollis* is distributed to Pakistan, India and Sri Lanka E through Myanmar to SC China (Yunnan) and most of Indochina.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**159. *Aviceda leuphotes* (Dumont, 1820) Black Baza**

**Alternative/Old Names** : Black-crested Baza, Black-crested Lizard Hawk

- Habitat** : Inhabits forested or well-wooded countrysides or mangrove forests
- Status** : Resident.
- Distribution** : This species is found in Southeast Asia and parts of South Asia
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS.
- 160. *Gyps bengalensis* (J.F. Gmelin, 1788) **White-rumped Vulture****
- Alternative/Old Names** : White-backed Vulture
- Habitat** : Open forests and countryside up to 1500m.
- Status** : Resident.
- Distribution** : Widely distributed all along south and southeast Asia. Reported from India, Pakistan, Iran, Afghanistan Nepal to Myanmar, South China (Yunnan), Indochina and formerly Malay Peninsula
- IUCN Category** : Critically Endangered
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix I
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS
- 161. *Gyps indicus* (Scopoli, 1786) **Indian Vulture****
- Alternative/Old Names** : Long-billed Vulture (incl. *G. tenuirostris*)
- Habitat** : Inhabits open forests, plains near cultivated lands.
- Status** : Resident.
- Distribution** : Found in India, Pakistan and Nepal
- IUCN Category** : Critically Endangered
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix I
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Bondla WLS
- 162. *Spilornis cheela* (Latham, 1790) **Crested Serpent Eagle****
- Habitat** : Present in varying habitats like mangrove wetlands to forested tracts up to 3000m.
- Status** : Resident.
- Distribution** : Found throughout much of the Oriental region. In India, from the lower Himalayas to South India and the Andamans.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 163. *Circaetus gallicus* (J.F. Gmelin, 1788) **Short-toed Snake Eagle****
- Alternative/Old Names** : Short-toed Eagle
- Habitat** : Found in variety of habitat from open forest to dense forests and semi-deserts up to an elevation of 2000m.



- Status** : Resident.  
**Distribution** : A widely distributed species known from most of the areas of Indian Subcontinent. Also found in some of the south and south east Asia north west of Africa and south west Europe
- IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 164. *Nisaetus cirrhatus* (J.F. Gmelin, 1788) **Changeable Hawk Eagle****  
**Alternative/Old Names** : Crested Hawk Eagle  
**Habitat** : Inhabits Forest edges, plantations and cultivated lands up to 2200m.  
**Status** : Resident  
**Distribution** : Sri Lanka, Peninsular India North India to Indochina, Malaya, Greater Sundas and Philippines. Also, in Sumatra.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 165. *Nisaetus kelaarti* (Legge, 1878) **Legge's Hawk Eagle****  
**Alternative/Old Names** : Ceylon Mountain Hawk Eagle  
**Habitat** : A forest species found mainly in dense evergreen or moist deciduous forests up to an elevation of 4000m  
**Status** : Resident.  
**Distribution** : Restricted to Western Ghats and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Bondla WLS, Netravali WLS
- 166. *Lophotriorchis kienerii* (de Sparre, 1835) **Rufous-bellied Eagle****  
**Alternative/Old Names** : Rufous-bellied Hawk Eagle  
**Habitat** : Mainly a forest species found in moist or evergreen forests up to an elevation of 2750m.  
**Status** : Resident.  
**Distribution** : The nominate race is distributed to North India through Nepal and Bhutan to Assam; SW India (Western Ghats) and Sri Lanka.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

167. *Ictinaetus malaiensis* (Temminck, 1822) **Black Eagle**
- Habitat** : Found in forested tracts from 300-2000m elevation. Occasionally to the lower elevations.
- Status** : Resident.
- Distribution** : Widely distributed to tropical and subtropical South and Southeast Asia, as well as south-eastern China.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
168. *Clanga hastata* (Lesson, 1831) **Indian Spotted Eagle**
- Alternative/Old Names** : Lesser Spotted Eagle
- Habitat** : Found near forested tracts, adjacent plantations and cultivated lands.
- Status** : Migrant
- Distribution** : Found in India, Bangladesh, Pakistan, Myanmar and Nepal.
- IUCN Category** : Vulnerable
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
169. *Clanga clanga* (Pallas, 1811) **Greater Spotted Eagle**
- Habitat** : Mainly seen at forested tracts or well wooded country near water body. Also seen at mangrove forests or marshes.
- Status** : Migrant
- Distribution** : It breeds from northern Europe eastwards across Eurasia, and winters in south-eastern Europe, north-eastern Africa, the Middle East and the Indian Subcontinent.
- IUCN Category** : Vulnerable
- WPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix I
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
170. *Hieraaetus pennatus* (J.F. Gmelin, 1788) **Booted Eagle**
- Alternative/Old Names** : Booted Hawk Eagle
- Habitat** : Found in open forests up to an elevation of 3000m. Also occurs in small hillocks and mangrove wetlands.
- Status** : Migrant
- Distribution** : It breeds in southern Europe, North and South Africa and across Asia, the northern populations are migratory spending in Sub-Saharan Africa and South Asia (mostly Indian subcontinent) during winter season

- IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 171. *Aquila rapax* (Temminck, 1828) Tawny Eagle**  
**Habitat** : Inhabits open forests, well-wooded countrysides, semi-deserts, cultivated lands and arid grasslands, mainly in plains.  
**Status** : Migrant  
**Distribution** : Found in most of the Africa, the southwestern part of the Arabian Peninsula, Iran, eastern Pakistan and India, Nepal  
**IUCN Category** : Vulnerable  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake
- 172. *Aquila nipalensis* Hodgson, 1833 Steppe Eagle**  
**Habitat** : Lives in open grasslands and semi-desert shrublands up to an elevation of 4500m.  
**Status** : Migrant  
**Distribution** : The nominate race is distributed to Altai and Tibet East to North East China; winters mainly in South and South East Asia.  
**IUCN Category** : Endangered  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix I  
**IBA-wise Occurrence** : Bondla WLS, Navelim Wetlands
- 173. *Aquila fasciata* Vieillot, 1822 Bonelli's Eagle**  
**Alternative/Old Names** : Bonelli's Hawk Eagle/Crestless Hawk Eagle  
**Habitat** : Lives in hilly or mountainous habitats, with rocky walls or crags, from sea level to 1,500 m.  
**Status** : Resident.  
**Distribution** : The nominate race is distributed to North West Africa and Iberian Peninsula East through Mediterranean, Middle East and Arabia to Afghanistan, Pakistan and India, and on through N Indochina to South East China; winter visitor in North West Africa.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS,
- 174. *Butastur teesa* (Franklin, 1831) White-eyed Buzzard**  
**Alternative/Old Names** : White-eyed Buzzard Eagle  
**Habitat** : Inhabits wooded or dry open areas or cultivated lands up to 4000m in Himalayas.  
**Status** : Migrant

- Distribution** : Found in Iran, North East Afghanistan and Pakistan through India and Nepal to Myanmar
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 175. *Circus aeruginosus* (Linnaeus, 1758) **Western Marsh Harrier****
- Alternative/Old Names** : Eurasian Marsh Harrier (incl. *C. spilonotus*)
- Habitat** : A wetland-dependent species found in freshwater marshes, jheels, salt marshes, lagoons, estuarine areas and mangrove swamps.
- Status** : Winter visitor
- Distribution** : This species has a wide breeding range from Europe and northwestern Africa to Central Asia and the northern parts of the Middle East. Winters in southern and western Europe, some parts of Africa, or to Arabia, and to the Indian subcontinent.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 176. *Circus macrourus* (S.G. Gmelin, 1770) **Pallid Harrier****
- Alternative/Old Names** : Pale Harrier
- Habitat** : Inhabits Fallow land, paddy fields, open grasslands on the hills up to an elevation of 3000m
- Status** : Winter visitor
- Distribution** : It breeds in southern parts of eastern Europe and central Asia and Iran and winters mainly to Africa S of the Sahara, and to region from Pakistan, India, Maldives and Sri Lanka East to Myanmar.
- IUCN Category** : Near Threatened
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, WLS, Navelim Wetlands
- 177. *Circus pygargus* (Linnaeus, 1758) **Montagu's Harrier****
- Habitat** : Inhabits open country in the plains and hills up to an elevation of 4000m; also reported from scrub jungles and wetlands.
- Status** : Winter visitor
- Distribution** : Breeds in North West Africa and South & Central Europe East through Ukraine, West Russia and Caspian lowlands to Kazakhstan, and extreme North West China. Winters in Africa South of Sahara and Indian Subcontinent.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II



- CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
- 178. *Accipiter trivirgatus* (Temminck, 1824) Crested Goshawk**  
**Habitat** : Inhabits evergreen and moist deciduous biotopes from low lands to high lands. Some times to the well-wooded country sides and near cultivation.  
**Status** : Resident  
**Distribution** : The crested goshawk breeds in southern Asia, from India and Sri Lanka to southern China, Indonesia, Taiwan, and the Philippines.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 179. *Accipiter badius* (J.F. Gmelin, 1788) Shikra**  
**Alternative/Old Names** : Little Banded Goshawk  
**Habitat** : A species of open forest, well-wooded villages and towns.  
**Status** : Resident  
**Distribution** : Widely distributed to Asia and Africa.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 180. *Accipiter virgatus* (Temminck, 1822) Besra**  
**Alternative/Old Names** : Besra Sparrowhawk  
**Habitat** : Mostly found in forested tracts, plantations, mangrove forests and well-wooded country sides from lower elevation to up to 2000m.  
**Status** : Resident  
**Distribution** : A widespread species found in southern Asia, ranging from the Indian subcontinent eastwards across Southeast Asia and into East Asia  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 181. *Accipiter nisus* (Linnaeus, 1758) Eurasian Sparrowhawk**  
**Alternative/Old Names** : Northern Sparrowhawk  
**Habitat** : Inhabits various forest types from moist to deciduous biotopes. Also found near cultivation and well-wooded areas in villages and urban environments.  
**Status** : Winter visitor

- Distribution** : A widespread species throughout the temperate and subtropical parts of Asia, Europe and Africa.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Mhadei WLS, Bondla WLS, Netravali WLS
- 182. *Milvus migrans* (Boddaert, 1783) **Black Kite****
- Alternative/Old Names** : Pariah Kite, Black-eared Kite *M. [m.] lineatus*
- Habitat** : A raptor inseparable from human habitations. Found in various kind of habitats, but generally avoid dense forests and high altitudes.
- Status** : Resident
- Distribution** : A most widespread species, found in Europe, Asia, Africa and Australia.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-II
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 183. *Haliaeetus indus* (Boddaert, 1783) **Brahminy Kite****
- Alternative/Old Names** : Red-backed Sea Eagle
- Habitat** : A raptor of coastal and inland, in the neighbourhood of water, up to an elevation of 1800m.
- Status** : Resident
- Distribution** : They are found in the Indian subcontinent, Southeast Asia, and Australia.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 184. *Haliaeetus leucogaster* (J.F. Gmelin, 1788) **White-bellied Sea Eagle****
- Alternative/Old Names** : White-breasted Sea Eagle
- Habitat** : Inhabits sea coast, estuaries, rivers, backwaters and large water bodies.
- Status** : Resident
- Distribution** : India and Sri Lanka through most of the South East Asia and part of South China, Sunda Islands, Philippines, Wallacea, New Guinea and Bismarck to Australia and Tasmania.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**185. *Buteo buteo* (Linnaeus, 1758) Common Buzzard**

- Alternative/Old Names** : Eurasian Buzzard, Steppe Buzzard/Desert Buzzard  
**Habitat** : Open fields mainly near the forests up to an elevation of 2000m  
**Status** : Winter visitor.  
**Distribution** : Breeds across Europe, also in Central Asia. Migrates to Africa and some part of Southern Asia  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Bondla WLS, Netravali WLS

**Order: Strigiformes**

**Family: Tytonidae**

**186. *Tyto alba* (Scopoli, 1769) Common Barn Owl**

- Alternative/Old Names** : Barn Owl, Western Barn Owl  
**Habitat** : habitations and cultivations  
**Status** : Resident  
**Distribution** : Widely distributed species of owl in the world except for the polar and desert regions  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**187. *Phodilus assimilis* Hume, 1877 Sri Lanka Bay Owl**

- Habitat** : Tropical moist forests and montane grasslands.  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats and Sri Lanka  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS

**Family: Strigidae**

**188. *Otus bakkamoena* Pennant, 1769 Indian Scops Owl**

- Alternative/Old Names** : Collared Scops Owl  
**Habitat** : Forests and well wooded country sides  
**Status** : Resident  
**Distribution** : The species occurs from eastern Arabia through the Indian Subcontinent, except the far north.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**189. *Otus sunia* (Hodgson, 1836) Oriental Scops Owl**

- Alternative/Old Names** : Scops Owl

- Habitat** : Mainly found within the evergreen or semievergreen forest patches.
- Status** : Resident
- Distribution** : Found in North Pakistan East through Himalayas to Bangladesh and North East India, and South India to Odisha.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-II
- CITES Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS
190. *Ketupa zeylonensis* (J.F. Gmelin, 1788) **Brown Fish Owl**
- Habitat** : Forest and well-wooded areas near water
- Status** : Resident
- Distribution** : Resident throughout tropical and subtropical parts of the Indian Subcontinent to Southeast Asia and adjoining regions
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
191. *Ketupa nipalensis* Hodgson, 1836 **Spot-bellied Eagle Owl**
- Alternative /Old Names** : Forest Eagle Owl
- Habitat** : Dense broadleaved forest
- Status** : Resident
- Distribution** : They are found throughout the Indian subcontinent and peninsular Southeast Asia.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-I
- CITES Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS
192. *Glauclidium radiatum* (Tickell, 1833) **Jungle Owlet**
- Alternative/Old Names** : Barred Jungle Owlet
- Habitat** : tropical and subtropical forest
- Status** : Resident
- Distribution** : Widely distributed to most part of the Indian Subcontinent.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-II
- CITES Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
193. *Athene brama* (Temminck, 1821) **Spotted Owlet**
- Habitat** : Around habitation and cultivation
- Status** : Resident
- Distribution** : Breeds in tropical Asia from mainland India to Southeast Asia.
- IUCN Category** : Least Concern
- IWPA Schedule** : Schedule-II
- CITES Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands,

194. *Strix leptogrammica* Temminck, 1832 **Brown Wood Owl**  
**Habitat** : Semi evergreen or evergreen forests  
**Status** : Resident  
**Distribution** : Found in India, Bangladesh, Sri Lanka, Indonesia, Taiwan, and South China.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Netravali WLS

195. *Ninox scutulata* (Raffles, 1822) **Brown Hawk Owl**  
**Alternative/Old Names** : Brown Boobook  
**Habitat** : Tropical and subtropical forest with wooded areas  
**Status** : Resident  
**Distribution** : Resident breeder in south Asia from India, Sri Lanka, Bangladesh and Nepal East to Western Indonesia and south China.  
**IUCN Category** : Least Concern  
**IWPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Order: Trogoniformes**

**Family: Trogonidae**

196. *Harpactes fasciatus* (Pennant, 1769) **Malabar Trogon**  
**Habitat** : Forest and scrubby plains and mountain areas  
**Status** : Resident  
**Distribution** : Distributed to India and Sri Lanka. In India it is mainly found in the Western Ghats, hill forests of central India and in parts of the Eastern Ghats.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Order: Bucerotiformes**

**Family: Upupidae**

197. *Upupa epops* Linnaeus, 1758 **Eurasian Hoopoe**  
**Alternative/Old Names** : Common Hoopoe  
**Habitat** : Open country light woodland and cultivation  
**Status** : Resident  
**Distribution** : Widely distributed to Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS



**Family: Bucerotidae**

198. *Ocyrceros birostris* (Scopoli, 1786) **Indian Grey Hornbill**  
**Alternative/Old Names** : Common Grey Hornbill  
**Habitat** : Well-wooded open areas gardens and grooves  
**Status** : Resident  
**Distribution** : Found on the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
199. *Ocyrceros griseus* (Latham, 1790) **Malabar Grey Hornbill**  
**Habitat** : Evergreen forests and plantation  
**Status** : Resident  
**Distribution** : Endemic to the Western Ghats and associated hills of southern India  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
200. *Anthracoceros coronatus* (Boddaert, 1783) **Malabar Pied Hornbill**  
**Habitat** : Evergreen and deciduous forests, large fruit trees  
**Status** : Resident  
**Distribution** : It is distributed across Indian and Sri Lanka.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-I  
**CITES Appendix I** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
201. *Buceros bicornis* Linnaeus, 1758 **Great Hornbill**  
**Alternative/Old Names** : Great Indian Hornbill, Great Pied Hornbill  
**Habitat** : Evergreen and deciduous forests, large fruit trees  
**Status** : Resident  
**Distribution** : It is native to the forests of India, Bhutan, Nepal, mainland Southeast Asia and Sumatra  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS.

**Order: Coraciiformes**

**Family: Alcedinidae**

202. *Alcedo atthis* (Linnaeus, 1758) **Common Kingfisher**  
**Alternative/Old Names** : Small Blue Kingfisher  
**Habitat** : Inhabits clear, slow-flowing streams, lakes and rivers, estuaries, mangrove swamps and lakes with well-vegetated banks  
**Status** : Resident  
**Distribution** : Widespread throughout India; Pakistan; Nepal; Bhutan; Bangladesh and Sri Lanka.

- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 203. *Alcedo meninting* Horsfield, 1821 **Blue-eared Kingfisher****  
**Habitat** : Large rivers, hill streams and sandbanks  
**Status** : Resident  
**Distribution** : Widely distributed to most parts of the Indian subcontinent. Also, to Thailand, Cambodia, Vietnam and Malaysia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Bondla WLS, Netravali WLS
- 204. *Ceyx erithaca* Linnaeus, 1758 **Oriental Dwarf Kingfisher****  
**Alternative/Old Names** : Three-toed Kingfisher; Black-backed Dwarf Kingfisher  
**Habitat** : Large rivers, hill streams and sandbanks  
**Status** : Resident  
**Distribution** : Distributed too much of the Indian subcontinent and south east Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Netravali WLS
- 205. *Pelargopsis capensis* (Linnaeus, 1766) **Stork-billed Kingfisher****  
**Alternative/Old Names** : Brown-headed Stork-billed Kingfisher  
**Habitat** : Large water bodies with adequate shades and wooded countryside  
**Status** : Resident  
**Distribution** : Widely distributed in the tropical Indian subcontinent. Also, from Indonesia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 206. *Halcyon smyrnensis* (Linnaeus, 1758) **White-throated Kingfisher****  
**Habitat** : Almost everywhere from farmlands to forest  
**Status** : Resident  
**Distribution** : Widely distributed to Indian subcontinent; and part of South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 207. *Halcyon pileate* (Boddaert, 1783) **Black-capped Kingfisher****  
**Alternative/Old Names** :  
**Habitat** : Mostly in waterbodies along coasts  
**Status** : Resident

**Distribution** : Resident, shows local movement and locally common on coasts in India; Pakistan; Nepal; Bangladesh; Sri Lanka. East Asia.  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Carambolim Lake, Netravali WLS

**208. *Ceryle rudis* (Linnaeus, 1758) Pied Kingfisher**

**Alternative/Old Names** : Lesser Pied Kingfisher  
**Habitat** : Slow moving freshwater rivers, lakes, reservoirs and pools  
**Status** : Resident  
**Distribution** : Widely distributed to Indian subcontinent; and part of South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands.

**209. *Todiramphus chloris* (Boddaert, 1783) Collared Kingfisher**

**Alternative/Old Names** : White-collared Kingfisher, Mangrove Kingfisher  
**Habitat** : Coastal wetlands, mangrove swamps  
**Status** : Resident  
**Distribution** : Resident, locally common in Goa, West Bengal, Orissa, Andaman in India; Bangladesh, Myanmar.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

**Family: Meropidae**

**210. *Nyctyornis athertoni* (Jardine & Selby, 1828) Blue-bearded Bee-eater**

**Habitat** : Dense broadleaved forest clearings  
**Status** : Resident  
**Distribution** : Found in much of the Indian subcontinent and part of South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**211. *erops orientalis* Latham, 1801 Asian Green Bee eater**

**Alternative/Old Names** : Small Green Bee-eater, Little Green Bee-eater  
**Habitat** : Mainly seen near open country with bushes  
**Status** : Resident  
**Distribution** : Widely distributed to Asian countries  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**212. *Merops philippinus* Linnaeus, 1767 Blue-tailed Bee-eater**

**Habitat** : Lowlands and woodland area, mostly near water

**Status** : Winter visitor  
**Distribution** : Found in much of the Indian subcontinent and part of South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**213. *Merops leschenaultia* Vieillot 1817 Chestnut-headed Bee-eater**

**Habitat** : Frequents forest fringes or plantations.  
**Status** : Resident  
**Distribution** : Found in much of the Indian subcontinent and part of South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**214. *Merops persicus* Pallas, 1773 Blue-cheeked Bee-eater**

**Alternative/Old Names** :  
**Habitat** : Found in open country with bushes  
**Status** : Migrant  
**Distribution** : Breeds in Asia. Winters in east and southern Africa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

**Family: Coraciidae**

**215. *Coracias benghalensis* (Linnaeus, 1758) Indian Roller**

**Alternative/Old Names** : Blue Jay  
**Habitat** : Open country with suitable lookout perches and light woodland  
**Status** : Resident  
**Distribution** : It is distributed from Iraq and United Arab Emirates through the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**216. *Coracias garrulus* Linnaeus, 1758 European Roller**

**Alternative/Old Names** : Kashmir Roller  
**Habitat** : Open country with suitable lookout perches and light woodland  
**Status** : Winter Migrant  
**Distribution** : Found in Iraq and southern Iran east through Kashmir and southern Kazakhstan to Xinjiang in western China  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS,

**Order: Piciformes**  
**Family: Megalaimidae**

217. *Psilopogon haemacephalus* (Statius Muller, 1776) **Coppersmith Barbet**  
**Alternative/Old Names** : Crimson-breasted Barbet  
**Habitat** : Open woodland, parks and garden  
**Status** : Resident  
**Distribution** : Found in much of the Indian subcontinent and parts of South East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
218. *Psilopogon malabaricus* (Blyth, 1847) **Malabar Barbet**  
**Alternative/Old Names** : Crimson-throated Barbet  
**Habitat** : Moist evergreen or semi evergreen forests  
**Status** : Resident  
**Distribution** : Found in the Western Ghats from south of Goa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
219. *Psilopogon zeylanicus* (J.F. Gmelin, 1788) **Brown-headed Barbet**  
**Alternative/Old Names** : Large Green Barbet  
**Habitat** : Well wooded areas, parks, gardens  
**Status** : Resident  
**Distribution** : Most parts of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
220. *Psilopogon viridis* (Boddaert, 1783) **White-cheeked Barbet**  
**Alternative/Old Names** : Small Green Barbet  
**Habitat** : Forests as well as well wooded country side.  
**Status** : Resident  
**Distribution** : Mainly a species of south western India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Picidae**

221. *Jynx torquilla* Linnaeus, 1758 **Eurasian Wryneck**  
**Alternative/Old Names** : Wryneck, Northern Wryneck  
**Habitat** : Open country and woodlands  
**Status** : Winter Migrant



- Distribution** : Breeds in temperate regions of Europe and Asia. Wintering in tropical Africa and in southern Asia from Iran to the Indian subcontinent.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Bondla WLS
- 222. *Picumnus innominatus* Burton, E , 1836 **Speckled Piculet****
- Habitat** : Forested tracts interspersed with bamboo clumps
- Status** : Resident
- Distribution** : Most parts of the Indian subcontinent and southeast Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 223. *Hemicircus canente* (Lesson, 1832) **Heart-spotted Woodpecker****
- Habitat** : Lowland moist forests
- Status** : Resident
- Distribution** : Found in India, and extend into Bangladesh, Myanmar, Thailand, Laos, Cambodia and Vietnam
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-I
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 224. *Yungipicus nanus* (Vigors, 1832) **Brown-capped Pygmy Woodpecker****
- Alternative/Old Names** : Indian Pygmy Woodpecker
- Habitat** : lowland secondary growth, open woodland, garden, and forests
- Status** : Resident
- Distribution** : Found in Nepal, India and Sri Lanka
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 225. *Leiopicus mahrattensis* (Latham, 1801) **Yellow-crowned Woodpecker****
- Alternative/Old Names** : Yellow-fronted Pied Woodpecker, Mahratta Woodpecker, Yellow-fronted Woodpecker
- Habitat** : Lowland, dry open woodland and scrub
- Status** : Resident
- Distribution** : found in the Indian subcontinent
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Netravali WLS
- 226. *Chrysocolaptes guttacristatus* (Tickel, 1833) **Greater Flameback****
- Habitat** : Greater Golden-backed Woodpecker, Large Golden-backed Woodpecker; Malabar Flameback
- Status** : Open forest habitat. Resident

- Distribution** : It occurs widely in the northern Indian subcontinent, eastwards to southern China, the Malay Peninsula and Sumatra, western and central Java and northeast Borneo.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 227. *Chrysocolaptes festivus* (Boddaert, 1783) **White-naped Woodpecker****
- Alternative/Old Names** : Black-backed Woodpecker
- Habitat** : Open forests with some scrubs.
- Status** : Resident
- Distribution** : Widely distributed to most part of Indian subcontinent
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 228. *Micropternus brachyurus* (Vieillot, 1818) **Rufous Woodpecker****
- Habitat** : Foothills and lowland forest. Also, in well-wooded villages
- Status** : Resident
- Distribution** : Widely distributed to south and southeast Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 229. *Dinopium javanense* (Ljungh, 1797) **Common Flameback****
- Alternative/Old Names** : Common Golden-backed Woodpecker, Indian Golden-backed Three-toed Woodpecker
- Habitat** : Mostly seen in moist forests.
- Status** : Resident
- Distribution** : Found throughout south and southeast Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 230. *Dinopium benghalense* (Linnaeus, 1758) **Black-rumped Flameback****
- Alternative/Old Names** : Lesser Golden-backed Woodpecker
- Habitat** : Light forests. As well as near well-wooded villages
- Status** : Resident
- Distribution** : Widely distributed to most of the Indian subcontinent.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 231. *Picus chlorolophus* (Vieillot, 1818) **Lesser Yellownape****
- Alternative/Old Names** : Lesser Yellow-naped Woodpecker, Small Yellow-naped Woodpecker
- Habitat** : Light forests. As well as near well-wooded villages

**Status** : Resident  
**Distribution** : Widespread and often common breeder in tropical and sub-tropical Asia, primarily the Indian subcontinent and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**232. *Dryocopus javensis* (Horsfield, 1821) White-bellied Woodpecker**

**Alternative/Old Names** : Great Black Woodpecker  
**Habitat** : Found in Evergreen or semi evergreen forests.  
**Status** : Resident  
**Distribution** : Tropical Indian subcontinent and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Order: Falconiformes**  
**Family: Falconidae**

**233. *Falco tinnunculus* Linnaeus, 1758 Common Kestrel**

**Alternative/Old Names** : Eurasian Kestrel  
**Habitat** : Open grasslands and cultivation  
**Status** : Resident  
**Distribution** : It is widespread in Europe, Asia, and Africa, as well as occasionally reaching the east coast of North America  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CITES Appendix I** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS.

**234. *Falco amurensis* Radde, 1863 Amur Falcon**

**Habitat** : Open country, grasslands, near cultivated lands  
**Status** : Winter visitor  
**Distribution** : It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern and East Africa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CITES Appendix I** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS

**235. *Falco jugger* (Gray, JE, 1834) Lagger Falcon**

**Alternative/Old Names** : Lagger falcon, Jugger  
**Habitat** : Open country, grasslands, near cultivated lands

**Status** : Winter visitor  
**Distribution** : Occurs in the Indian subcontinent from extreme southeastern Iran, southeastern Afghanistan, Pakistan, through India, Nepal, Bhutan, Bangladesh and northwestern Myanmar.  
**IUCN Category** : Near Threatened  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

**236. *Falco peregrinus* Tunstall, 1771 **Peregrine Falcon****

**Alternative/Old Names** : Shaheen Falcon  
**Habitat** : Large lakes, rivers, marshes and mangrove backwaters  
**Status** : Resident and winter visitor  
**Distribution** : A widespread species. Many subspecies are known from the world. The *F.p. peregrinator* is distributed to south Asia from across the Indian subcontinent to Sri Lanka and southeastern China. While *F.p. calidus* is migrant.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix I  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**237. *Falco Subbuteo* Linnaeus, 1758 **Eurasian Hobby****

**Habitat** : Cultivated lands marshes and lateritic plains.  
**Status** : Winter visitor  
**Distribution** : Breeds across the Palearctic realm. Wintering in Africa and Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix I  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Cotigao WLS, Bondla WLS

**Order: Psittaculiformes**  
**Family: Psittaculidae**

**238. *Psittacula krameri* (Scopoli, 1769) **Rose-ringed Parakeet****

**Habitat** : Wooded habitats including vicinity of human and cultivation  
**Status** : Resident  
**Distribution** : native to central Africa and Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**239. *Psittacula cyanocephala* (Linnaeus, 1766) **Plum-headed Parakeet****

**Alternative/Old Names** : Blossom-headed Parakeet  
**Habitat** : Open broadleaved forest, orchards. Well wooded country side.  
**Status** : Resident  
**Distribution** : Widely distributed to Indian subcontinent

**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**240. *Psittacula eupatria* (Linnaeus, 1766) Alexandrine Parakeet**

**Alternative/Old Names** : Large Indian Parakeet  
**Habitat** : Deciduous forest, woodland, plantations and cultivation  
**Status** : Resident  
**Distribution** : Widespread in South and South-East Asia, and most part of Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**241. *Psittacula columboides* (Vigors, 1830) Malabar Parakeet**

**Alternative/Old Names** : Blue-winged Parakeet  
**Habitat** : Forested areas, and plantations near forests.  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**242. *Loriculus vernalis* (Sparrman, 1787) Vernal Hanging Parrot**

**Alternative/Old Names** : Indian Lorikeet  
**Habitat** : Forests and well-wooded countrysides  
**Status** : Resident  
**Distribution** : Distributed to most of the part of Indian subcontinent. Also in southwest China, Thailand, Cambodia, Laos and Vietnam  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CITES Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Order: Passeriformes**

**Family: Pittidae**

**243. *Pitta brachyura* (Linnaeus, 1766) Indian Pitta**

**Habitat** : Lowland scrub and undergrowth in dense forest  
**Status** : Winter Migrant  
**Distribution** : Bird native to the Indian subcontinent. It breeds in the forests of the Himalayas, hills of central and western India, and migrates to other parts of the peninsula in winter.  
**IUCN Category** : Least Concern



**WPA Schedule** : Schedule-II  
**CITES Appendix** :  
**CMS Appendix** :  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Campephagidae**

- 244. *Pericrocotus cinnamomeus* (Linnaeus, 1766) **Small Minivet****  
**Habitat** : Open forest. Well wooded country-side  
**Status** : Resident  
**Distribution** : Peninsular India and Sri Lanka. Also, from Himalayas and north India and Pakistan.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 245. *Pericrocotus flammeus* (Forster, 1781) **Orange Minivet****  
**Habitat** : Forests and well-wooded country side.  
**Status** : Resident  
**Distribution** : Found in southern India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 246. *Pericrocotus roseus* (Vieillot, 1818) **Rosy Minivet****  
**Habitat** : Forests and well-wooded country side.  
**Status** : Vagrant  
**Distribution** : Found in Afghanistan, Bangladesh, Bhutan, China, India, Laos, Myanmar, Nepal, Pakistan, Thailand, and Vietnam.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Cotigao WLS, Bondla WLS
- 247. *Coracina macei* (R. Lesson, 1831) \ **Large Cuckooshrike****  
**Alternative/Old Names** : Javan Cuckooshrike, Indian Cuckooshrike  
**Habitat** : Open country and scrub forest  
**Status** : Resident  
**Distribution** : Found in the Indian Subcontinent, southeast Asia, China, Taiwan  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 248. *Lalage melanoptera* (Rüppell, 1839) **Black-headed Cuckooshrike****  
**Habitat** : Open forests and secondary growths  
**Status** : Resident  
**Distribution** : India, Bangladesh, Sri Lanka  
**IUCN Category** : Least Concern

**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Oriolidae**

**249. *Oriolus kundoo* Sykes, 1832 **Indian Golden Oriole****  
**Habitat** : Open wooded country  
**Status** : Winter visitor  
**Distribution** : Found in the Indian subcontinent and Central Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**250. *Oriolus xanthornus* (Linnaeus, 1758) **Black-hooded Oriole****  
**Alternative/Old Names** : Black-headed Oriole  
**Habitat** : Open forest and well wooded areas  
**Status** : Resident  
**Distribution** : Widespread in tropical southern Asia from India and Sri Lanka east to Indonesia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**251. *Oriolus chinensis* Linnaeus, 1766 **Black-naped Oriole****  
**Alternative/Old Names** : Black-headed Oriole  
**Habitat** : Forests, plantations and gardens  
**Status** : Resident  
**Distribution** : Widely distributed in Asia. The subspecies *diffusus* is an uncommon migrant in many parts of South India and very rare migrant to Sri Lanka and are most regularly seen in the Western Ghats.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Artamidae**

**252. *Artamus fuscus* Vieillot, 1817 **Ashy Woodswallow****  
**Alternative/Old Names** : Ashy Swallow-shrike  
**Habitat** : Open wooded country  
**Status** : Resident  
**Distribution** : The species is widely distributed across Bangladesh, India, Nepal, Sri Lanka, Thailand, Myanmar, Laos, Malaysia and China.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II

**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Vangidae**

**253. *Tephrodoris pondicerianus* (J.F. Gmelin, 1789) Common Woodshrike**

**Habitat** : Thin forests and scrubland  
**Status** : Resident  
**Distribution** : India to Myanmar, Pakistan Cambodia and Vietnam.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**254. *Tephrodoris sylvicola* Jerdon, 1839 Malabar Woodshrik**

**Habitat** : Forests and nearby plantations.  
**Status** : Resident  
**Distribution** : Endemic to the Western Ghats.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, xNetravali WLS

**255. *Hemipus picatus* (Sykes, 1832) Bar-winged Flycatcher-shrike**

**Alternative/Old Names** : Pied Flycatcher-shrike  
**Habitat** : forests and forest clearings  
**Status** : Resident  
**Distribution** : Found in the Indian Subcontinent, southeast Asia, China, Taiwan  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Family: Aegithinidae**

**256. *Aegithina tiphia* (Linnaeus, 1758) Common Iora**

**Habitat** : gardens, woodlands and open forest  
**Status** : Resident  
**Distribution** : Most part of the Indian subcontinent  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Rhipiduridae**

**257. *Rhipidura albogularis* (Lesson, 1832) Spot-breasted Fantail**

**Alternative/Old Names** : White-spotted Fantail

- Habitat** : Well wooded areas and secondary forest  
**Status** : Resident  
**Distribution** : Peninsular India from Mt. Abu and the Vindhyas south to Nilgiris  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS.
258. *Rhipidura aureola* Lesson, 1831 **White-browed Fantail**  
**Alternative/Old Names** : White-browed Fantail Flycatcher  
**Habitat** : Forests and well wooded areas  
**Status** : Resident  
**Distribution** : Tropical regions of Indian Subcontinent and Southe East Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Mhadei WLS
- Family: Dicruridae**
259. *Dicrurus macrocercus* Vieillot, 1817 **Black Drongo**  
**Habitat** : Open country and cultivation around habitation  
**Status** : Resident  
**Distribution** : Found in tropical southern Asia from southwest Iran through India, Bangladesh and Sri Lanka east to southern China and Indonesia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
260. *Dicrurus leucophaeus* Vieillot, 1817 **Ashy Drongo**  
**Alternative/Old Names** : Grey Drongo  
**Habitat** : Forest and well-wooded country  
**Status** : Winter visitor  
**Distribution** : It is found widely distributed across South and Southeast Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
261. *Dicrurus caerulescens* (Linnaeus, 1758) **White-bellied Drongo**  
**Habitat** : Dry deciduous forests scrubland, and forest clearings  
**Status** : Resident  
**Distribution** : Mainly distributed to India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

262. *Dicrurus aeneus* Vieillot, 1817 **Bronzed Drongo**  
**Habitat** : Forest edges, well-wooded villages  
**Status** : Resident  
**Distribution** : Found in Indian Subcontinent and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
263. *Dicrurus hottentottus* Linnaeus, 1766 **Hair-crested Drongo**  
**Alternative/Old Names** : Spangled Drongo  
**Habitat** : Forest and well-wooded country  
**Status** : Winter visitor  
**Distribution** : It is native from India, Bangladesh and Bhutan through Indochina to China, Indonesia, and Brunei.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Bondla WLS, Cotigao WLS, Netravali WLS
264. *Dicrurus paradiseus* (Linnaeus, 1766) **Greater Racket-tailed Drongo**  
**Habitat** : Forest and secondary growth. Also, in well-wooded country side.  
**Status** : Resident  
**Distribution** : Widely distributed to most of Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Monarchidae**

265. *Hypothymis azurea* (Boddaert, 1783) **Black-naped Monarch**  
**Alternative/Old Names** : Black-naped Monarch Flycatcher, Black-naped Flycatcher  
**Habitat** : Forests and nearby plantations.  
**Status** : Resident  
**Distribution** : Breeds across tropical southern Asia from Iran and Sri Lanka east to Indonesia and the Philippines  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
266. *Terpsiphone paradisi* (Linnaeus, 1758) **Indian Paradise-flycatcher**  
**Alternative/Old Names** : Asian Paradise-flycatcher  
**Habitat** : Forests and well-wooded countrysides.  
**Status** : Winter visitor  
**Distribution** : In southern India and Sri Lanka, both locally breeding populations and visiting migrants occur in winter  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II



**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Laniidae**

**267. *Lanius cristatus* Linnaeus, 1758 **Brown Shrike****

**Habitat** : Open country and forest clearings  
**Status** : Winter visitor  
**Distribution** : Breeds in Central and East Siberia South to North Mongolia. Winter in India, Sri Lanka, Bangladesh, Myanmar and Malay Peninsula.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
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**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**268. *Lanius isabellinus* Hemprich and Ehrenberg, 1833 **Isabelline Shrike****

**Alternative/Old Names** : Pale Brown Shrike, Rufous-tailed Shrike  
**Habitat** : Open habitats and cultivation  
**Status** : Winter visitor  
**Distribution** : It breeds in Central and East Asia. Wintering to Western Asia Arabian Peninsula, Eastern Africa and Eastern parts of Indian Subcontinent  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**269. *Lanius vittatus* Valenciennes, 1826 **Bay-backed Shrike****

**Alternative/Old Names** : Rufous-backed Shrike  
**Habitat** : Open habitats and cultivation  
**Status** : Resident  
**Distribution** : It is a widespread resident in Afghanistan, Pakistan, Nepal India, and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands

**270. *Lanius schach* Linnaeus, 1758 **Long-tailed Shrike****

**Alternative/Old Names** : Rufous-backed Shrike  
**Habitat** : Open habitats and cultivation  
**Status** : Resident  
**Distribution** : Found widely distributed across Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Corvidae**

**271. *Dendrocitta vagabunda* (Latham, 1790) **Rufous Treepie****

**Alternative/Old Names** : Indian Treepie

- Habitat** : Well wooded country sides and open forests  
**Status** : Resident  
**Distribution** : Native to the Indian Subcontinent and adjoining parts of Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 272. *Dendrocitta leucogastra* Gould, 1833 **White-bellied Treepie****  
**Habitat** : Inhabits evergreen forest, adjacent plantations with large trees.  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats mainly south of Goa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Netravali WLS
- 273. *Corvus splendens* Vieillot, 1817 **House Crow****  
**Habitat** : Inhabits towns, large villages near human habitation  
**Status** : Resident  
**Distribution** : Native to the Indian subcontinent, including all of India, Pakistan, the Maldives and Sri Lanka, and also in Myanmar and Western Yunnan.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Not listed  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 274. *Corvus macrorhynchos* Wagler, 1827 **Large-billed Crow****  
**Alternative/Old Names** : Jungle Crow, Indian Jungle Crow, Eastern Jungle Crow  
**Habitat** : Mainly seen in forest or well-wooded areas  
**Status** : Resident  
**Distribution** : From north-eastern Asian seaboard to Afghanistan and eastern Iran in the west, through South and South east Asia to the lesser Sundas and Cambodia in the south east  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Stenostiridae**

- 275. *Culicicapa ceylonensis* (Swainson, 1820) **Grey-headed Canary-flycatcher****  
**Alternative/Old Names** : Grey-headed Flycatcher  
**Habitat** : Inhabits evergreen forests, montane sholas and in adjacent plantations  
**Status** : Resident  
**Distribution** : Found in temperate to tropical southern Asia, from Pakistan, Central India, Bangladesh and Sri Lanka east to Indonesia and southern China.  
**IUCN Category** : Least Concern

WPA Schedule : Schedule-II  
 CMS Appendix : Appendix II  
 IBA-wise : Bhagwan Mahavir WLS, Cotigao WLS  
 Occurrence

**Family: Paridae**

276. *Parus cinereus* Vieillot, 1818 **Cinereous Tit**  
**Alternative/Old Names** : Indian Great Tit, Grey Tit  
**Habitat** : Found in moist deciduous forest, dry scrub jungle, plantations, well-wooded area near forests  
**Status** : Resident  
**Distribution** : The distribution of this species extends from parts of West Asia across South Asia and into Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Cotigao WLS, Mhadei WLS, Bondla WLS
277. *Machlolophus aplonotus* (Blyth, 1847) **Indian Black-lored Tit**  
**Alternative/Old Names** : Indian Yellow Tit, Indian Tit  
**Habitat** : Inhabits evergreen and moist deciduous forests, plantations adjoining the forests.  
**Status** : Resident  
**Distribution** : Distributed to most parts of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands

**Family: Alaudidae**

278. *Ammomanes phoenicura* (Franklin, 1831) **Rufous-tailed Lark**  
**Alternative/Old Names** : Rufous-tailed Finch Lark  
**Habitat** : Grasslands, stony open lands and cultivated fields  
**Status** : Migrant  
**Distribution** : Found within India south of the Ganges. Also, in Pakistan and southern Nepal  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands
279. *Eremopterix griseus* (Scopoli, 1786) **Ashy-crowned Sparrow Lark**  
**Alternative/Old Names** : Ashy-crowned Finch Lark  
**Habitat** : Inhabits dry paddy fields, lateritic plains, fallow land  
**Status** : Resident/ Locally migratory  
**Distribution** : Widely distributed to India and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake
280. *Calandrella dukhunensis* (Sykes, 1832) **Mongolian Short-toed Lark**  
**Alternative/Old Names** : Eastern Short-toed Lark, Mongolian Short-toed Lark  
**Habitat** : Inhabits dry paddy fields, stony lateritic plains, fallow lands

- Status** : Winter Migrant  
**Distribution** : It breeds in China and Mongolia and winters in southern Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands
- 281. *Alauda gulgula* Franklin, 1831 **Oriental Skylark****  
**Alternative/Old Names** : Small Skylark  
**Habitat** : Open grassland, laterite plains and cultivation  
**Status** : Resident  
**Distribution** : Widely distributed to southern, eastern, central and palearctic countries.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake.
- 282. *Galerida malabarica* (Scopoli, 1786) **Malabar Lark****  
**Alternative/Old Names** : Malabar Crested la  
**Habitat** : Inhabits fallow paddy fields, grass and scrubby lateritic plains and grassy hillside  
**Status** : Resident  
**Distribution** : Endemic to Western India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- Family: Cisticolidae**
- 283. *Orthotomus sutorius* (Pennant, 1769) **Common Tailorbird****  
**Habitat** : Parks, gardens and forest edges  
**Status** : Resident  
**Distribution** : Found across tropical Asia Plains and foothills of Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 284. *Prinia hodgsonii* Blyth, 1844 **Grey-breasted Prinia****  
**Alternative/Old Names** : Franklin's Wren Warbler, Ashy-grey Wren Warbler  
**Habitat** : Forest edges, scrub jungles, cultivated lands  
**Status** : Resident  
**Distribution** : Widely distributed to Indian subcontinent, Sri Lanka and southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

285. *Prinia sylvatica* Jerdon, 1840 **Jungle Prinia**  
**Alternative/Old Names** : Jungle Wren Warbler  
**Habitat** : Frequents dry stone and scrub country.  
**Status** : Resident  
**Distribution** : Found in India, Bangladesh, Nepal and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS,
286. *Prinia socialis* Sykes, 1832 **Ashy Prinia**  
**Alternative/Old Names** : Ashy Wren Warbler  
**Habitat** : Found in Grass and reedbeds near water; Regularly seen in the mangrove swamps of the coastal area.  
**Status** : Resident  
**Distribution** : Widely distributed to Indian subcontinent; Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
287. *Prinia inornata* Sykes, 1832 **Plain Prinia**  
**Alternative/Old Names** : Plain Wren Warbler, White-browed Wren-warbler  
**Habitat** : Wet paddy fields, grassy shores of back waters, edges of mangroves and grassy hills  
**Status** : Resident  
**Distribution** : It is a resident breeder from Pakistan and India to south China and southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
288. *Cisticola juncidis* (Rafinesque, 1810) **Zitting Cisticola**  
**Alternative/Old Names** : Streaked Fantail Warbler  
**Habitat** : Wet paddy fields, grassy shores of back waters, edges of mangroves and grassy hills  
**Status** : Resident  
**Distribution** : Breeding range includes southern Europe, Africa, and southern Asia down to northern Australia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Navelim Wetlands, Netravali WLS

**Family: Acrocephalidae**

289. *Arundinax aedon* (Pallas, 1776) **Thick-billed Warbler**  
**Habitat** : Scrub and bushes riverine wetlands.



- Status** : Winter visitor  
**Distribution** : Breeds in the temperate east Palearctic, from south Siberia to west Mongolia. Wintering in tropical South Asia and South-east Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS.
- 290. *Iduna caligata* (M.H.C. Lichtenstein, 1823) **Booted Warbler****  
**Alternative/Old Names** : Siberian Booted Tree Warbler  
**Habitat** : Scrub and bushes  
**Status** : Winter visitor  
**Distribution** : Breeds from central Russia to western China, and migrates to winter in the Indian subcontinent as far south as Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 291. *Iduna rama* (Sykes, 1832) **Sykes's Warbler****  
**Alternative/Old Names** : Indian Booted Tree Warbler  
**Habitat** : Canopy trees, semidesert and reeds  
**Status** : Winter visitor  
**Distribution** : Breeding range is from northeast Arabia to Turkestan, west China and Afghanistan. Wintering to the Indian subcontinent as far south as Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Netravali WLS
- 292. *Acrocephalus dumetorum* Blyth, 1849 **Blyth's Reed Warbler****  
**Habitat** : Dense bushes and forest edges  
**Status** : Winter visitor  
**Distribution** : It breeds in the Palearctic and easternmost Europe. Wintering in Bangladesh, India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 293. *Acrocephalus agricola* (Jerdon, 1845) **Paddyfield Warbler****  
**Habitat** : Reeds, marsh vegetation and paddy fields  
**Status** : Winter visitor  
**Distribution** : It breeds in the temperate central Palearctic. It is migratory, wintering in Bangladesh, India and Pakistan.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II

**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands,

294. *Acrocephalus stentoreus* (Hemprich & Ehrenberg, 1833) **Clamorous Reed Warbler**  
**Alternative/Old Names** : Indian Reed Warbler, Indian Great Reed Warbler  
**Habitat** : Reedbeds, Mangroves and bushes near water  
**Status** : Resident  
**Distribution** : It breeds from Egypt eastwards through Pakistan, Afghanistan and northernmost India to south China and southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Locustellidae**

295. *Locustella naevia* (Boddaert, 1783) **Grasshopper Warbler**  
**Habitat** : Waterside grass, bushes and reedbeds.  
**Status** : Winter visitor  
**Distribution** : East European Russia to southwest, south central Siberia, east Kazakhstan, west Mongolia and northwest China; wintering in south Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

296. *Schoenicola striatus* (Jerdon, 1841) **Bristled Grassbird**  
**Alternative/Old Names** : Bristled Grass Warbler  
**Habitat** : Inhabit in tall grasslands with bushes and the edges of wetlands and paddy fields.  
**Status** : Winter visitor  
**Distribution** : Distributed to the northern part of Indian subcontinent.  
**IUCN Category** : Vulnerable  
**WPA Schedule** : Schedule-I  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake

**Family: Hirundinidae**

297. *Riparia chinensis* (J.E. Gray, 1830) **Grey-throated Martin**  
**Alternative/Old Names** : Grey-throated Sand Martin, Asian Plain Martin  
**Habitat** : Slow flowing rivers, reservoirs and lakes  
**Status** : Resident  
**Distribution** : Afghanistan and Pakistan to n India, Myanmar and South East Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake

298. *Ptyonoprogne rupestris* (Scopoli, 1769) **Eurasian Crag Martin**  
**Alternative/Old Names** : Crag Martin  
**Habitat** : Inhabits in rocky cliffs and valleys  
**Status** : Winter visitor  
**Distribution** : Breeds in Himalayas to southwestern and northeastern China. Wintering to southern China, the Indian subcontinent and the Middle East.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Mhadei WLS
299. *Ptyonoprogne concolor* (Sykes, 1832) **Dusky Crag Martin**  
**Habitat** : Hilly areas  
**Status** : Resident  
**Distribution** : Breeds in much of the Indian subcontinent. Also reported from China, and the northern parts of Thailand, Vietnam and Laos.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
300. *Hirundo rustica* Linnaeus, 1758 **Barn Swallow**  
**Alternative/Old Names** : Common Swallow  
**Habitat** : Open country, cultivation rivers and lakes  
**Status** : Winter Migrant  
**Distribution** : It is found in Europe, Asia, Africa and the America  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
301. *Hirundo smithii* Leach, 1818 **Wire-tailed Swallow**  
**Habitat** : Open country, near water and human habitation  
**Status** : Resident  
**Distribution** : Widely distributed to south and south east Asia and Africa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
302. *Cecropis daurica* (Laxmann, 1769) **Red-rumped Swallow**  
**Alternative/Old Names** : Striated Swallow  
**Habitat** : Open country, cultivation rivers and lakes  
**Status** : Resident  
**Distribution** : Widely distributed to temperate southern Europe and Asia from Portugal and Spain to Japan, India, Sri Lanka and tropical Africa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

303. *Petrochelidon fluvicola* (Blyth, 1855) **Streak-throated Swallow**  
**Alternative/Old Names** : Indian Cliff Swallow  
**Habitat** : Open country, cultivation, rivers or near large water bodies  
**Status** : Resident  
**Distribution** : Distributed to most of the countries of south Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

304. *Delichon urbicum* (Linnaeus, 1758) **Northern House Martin**  
**Alternative/Old Names** : Common House Martin, European House Martin  
**Habitat** : Wetlands, grassy slopes, and cliffs  
**Status** : Summer visitor  
**Distribution** : Breeds in Europe, north Africa and across the Palearctic; and winters in sub-Saharan Africa and tropical Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS

**Family: Pycnonotidae**

305. *Brachypodius priocephalus* (Jerdon, 1839) **Grey-headed Bulbul**  
**Habitat** : Moist broadleaved evergreen forest  
**Status** : Resident, SW India  
**Distribution** : It is endemic to the Western Ghats in south-western India, and found from Goa south to Tamil Nadu at altitudes up to 1200m.  
**IUCN Category** : Near threatened  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

306. *Rubigula gularis* (Gould, 1836) **Flame-throated Bulbul**  
**Alternative/Old Names** : Ruby-throated Bulbul  
**Habitat** : Forested tracts  
**Status** : Resident  
**Distribution** : It is endemic to the Western Ghats south of Maharashtra  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

307. *Pycnonotus cafer* (Linnaeus, 1766) **Red-vented Bulbul**  
**Habitat** : open scrub, parks, open deciduous and secondary growth  
**Status** : Resident  
**Distribution** : Widely distributed to Indian Subcontinent. It has been introduced in many other parts of the world and has established itself in New Zealand, Argentina, Tonga and Fiji, as well as parts of Samoa, Australia, USA and Cook Islands.  
**IUCN Category** : Least Concern

- WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 308. *Pycnonotus jocosus* (Linnaeus, 1758) Red-whiskered Bulbul**  
**Habitat** : open scrub, parks, gardens, secondary growth  
**Status** : Resident  
**Distribution** : Found mainly in tropical Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 309. *Pycnonotus luteolus* (Lesson, 1841) White-browed Bulbul**  
**Habitat** : dry scrub, gardens and forest edges  
**Status** : Resident in half of peninsular India  
**Distribution** : It is a resident breeder in Sri Lanka and peninsular India  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 310. *Acritillas indica* (Jerdon, 1831) Yellow-browed Bulbul**  
**Habitat** : dry scrub, gardens and forest edges  
**Status** : Inhabits forested tracts as well as well plantations.  
**Distribution** : South a resident breeder in Sri Lanka and south India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS.
- 311. *Hypsipetes ganeesa* Sykes, 1832 Square-tailed Bulbul**  
**Alternative/Old Names** : Square-tailed Black Bulbul  
**Habitat** : dry scrub, gardens and forest edges  
**Status** : Inhabits moist montane forests.  
**Distribution** : It is found in south-western India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- Family: Phylloscopidae**
- 312. *Phylloscopus griseolus* Blyth, 1847 Sulphur-bellied Warbler**  
**Alternative/Old Names** : Olivaceous Leaf Warbler  
**Habitat** : Rocky hills, scrub forests  
**Status** : winter visitor  
**Distribution** : Found in Palearctic region. Wintering to India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Mhadei WLS, Bondla WLS



313. *Phylloscopus inornatus* (Blyth, 1842) **Yellow-browed Warbler**  
**Alternative/Old Names** : Yellow-browed Leaf Warbler  
**Habitat** : Dense forest and well wooded areas  
**Status** : Winter visitor  
**Distribution** : Breeds in the east Palearctic. Winters mainly in tropical South Asia and South-east Asia, but also in small numbers in western Europe  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bondla WLS, Mhadei WLS, Netravali WLS
314. *Phylloscopus affinis* (Tickell, 1833) **Tickell's Leaf Warbler**  
**Habitat** : Dense forest in the mountains  
**Status** : Winter visitor  
**Distribution** : Widely distributed to Indian Subcontinent, China and Thailand.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS
315. *Phylloscopus nitidus* Blyth, 1843 **Green Warbler**  
**Alternative/Old Names** : Bright-green Leaf Warbler, Green Leaf Warbler  
**Habitat** : dense forest and well wooded areas  
**Status** : winter visitor  
**Distribution** : Caucasus to North Turkey, North Iran and North West Afghanistan; winters S India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
316. *Phylloscopus trochiloides* (Sundevall, 1837) **Greenish Warbler**  
**Alternative/Old Names** : Greenish Leaf Warbler  
**Habitat** : Mostly seen in well wooded areas.  
**Status** : Winter visitor  
**Distribution** : Breeding range in northeastern Europe, and temperate to subtropical continental Asia. This warbler is strongly migratory and winters in India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
317. *Phylloscopus occipitalis* (Blyth, 1845) **Western Crowned Warbler**  
**Alternative/Old Names** : Large Crowned Leaf Warbler, Western Crowned Leaf Warbler  
**Habitat** : Moist and evergreen forests  
**Status** : Winter visitor  
**Distribution** : It breeds in Central Asia. Winters in Peninsular India.

**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**318. *Phylloscopus magnirostris* Blyth, 1843 **Large-billed Leaf Warbler****

**Habitat** : Moist and evergreen forests  
**Status** : Winter visitor  
**Distribution** : Breeding in central China and the Himalayas, it winters in the Western Ghats and associated hill ranges  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**319. *Phylloscopus collybita* (Vieillot, 1817) **Common Chiffchaff****

**Alternative/Old Names** : Siberian Chiffchaff, Chiffchaff  
**Habitat** : Mostly seen in well-wooded areas.  
**Status** : Winter visitor  
**Distribution** : Breeds in northern and temperate Europe and the Palearctic. Winters in southern and western Europe, southern Asia, and north Africa.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Sylviidae**

**320. *Curruca curruca* (Linnaeus, 1758) **Lesser Whitethroat****

**Alternative/Old Names** : Hume's Whitethroat, Desert/Small Whitethroat  
**Habitat** : Dry scrub jungles, plantations  
**Status** : Winter visitor  
**Distribution** : It breeds in temperate Europe, and in the western and central Palearctic. Wintering in Africa just south of the Sahara, Arabia and India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II.  
**IBA-wise Occurrence** : Carambolim Lake

**Family: Paradoxornithidae**

**321. *Chrysomma sinense* (J.F. Gmelin, 1789) **Yellow-eyed Babbler****

**Habitat** : variety of scrubby and coarse grassy habitats  
**Status** : Resident  
**Distribution** : Found in Pakistan through India, Nepal, and Sri Lanka to Bangladesh, Myanmar, Thailand, Laos, Vietnam and China.  
**IUCN Category** : Least Concern

**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands

**Family: Zosteropidae**

**322. *Zosterops palpebrosus* (Temminck, 1824) Indian White-eye**

**Alternative/Old Names** : Oriental White-eye  
**Habitat** : Scrub to moist forests.  
**Status** : Resident  
**Distribution** : Found in most of the parts of Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Family: Timaliidae**

**323. *Dumetia hyperythra* (Franklin, 1831) Tawny-bellied Babbler**

**Alternative/Old Names** : Rufous-bellied Babbler *D.h. hyperythra*, White-throated Babbler  
**Habitat** : Scrub and tall grassland  
**Status** : Resident  
**Distribution** : It is found from north-central India to Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS

**324. *Dumetia atriceps* (Jerdon, 1839) Dark-fronted Babbler**

**Alternative/Old Names** : Black-headed Babbler  
**Habitat** : Undergrowth of forests, reed beds.  
**Status** : Resident  
**Distribution** : It is found from south India to Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**325. *Pomatorhinus horsfieldii* (Sykes, 1832) Indian Scimitar Babbler**

**Habitat** : Evergreen and semi evergreen forests.  
**Status** : Resident  
**Distribution** : It is found in Peninsular India  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Family: Pellorneidae**

**326. *Pellorneum ruficeps* Sykes, 1832 Puff-throated Babbler**

- Alternative/Old Names** : Spotted Babbler  
**Habitat** : Undergrowth of forests, bamboo thickets, well wooded countryside  
**Status** : Resident  
**Distribution** : Widely distributed to most of the Asian countries  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Leiothrichidae**

**327. *Alcippe poiocephala* (Jerdon, 1841) Brown-cheeked Fulvetta**

- Alternative/Old Names** : Quaker Tit Babbler, Quaker Babbler  
**Habitat** : undergrowth in moist forests and bamboo thickets  
**Status** : Resident in hills of peninsula and North East India.  
**Distribution** : Distributed to India, Bangladesh and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**328. *Argya striata* (Dumont, 1823) Jungle Babbler**

- Habitat** : Mainly cultivation, gardens, scrub deciduous forest  
**Status** : Resident  
**Distribution** : Found in most of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**329. *Argya affinis* (Jerdon, 1845) Yellow-billed Babbler**

- Alternative/Old Names** : White-headed Babbler  
**Habitat** : Mainly cultivation, gardens, scrub deciduous forest  
**Status** : Resident  
**Distribution** : Endemic to southern India and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS.

**330. *Argya subrufa* (Jerdon, 1839) Rufous Babbler**

- Alternative/Old Names** : Indian Rufous Babbler  
**Habitat** : Open forests, scrubs, edges of the plantations  
**Status** : Resident  
**Distribution** : Endemic to the Western Ghats.  
**IUCN Category** : Least Concern

**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

- 331. *Pterorhinus delesserti* (Jerdon, 1839) **Wayanad Laughingthrush****  
**Alternative/Old Names** : Wynaad Laughingthrush  
**Habitat** : Undergrowth in wet evergreen forests  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats south of Goa  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Netravali WLS

**Family: Sittidae**

- 332. *Sitta castanea* Lesson, 1830 **Indian Nuthatch****  
**Alternative/Old Names** : Chestnut-bellied Nuthatch  
**Habitat** : Mainly seen in the dry forests  
**Status** : Resident  
**Distribution** : It is found in Bangladesh, India and Nepal  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS.

- 333. *Sitta frontalis* Swainson, 1820 **Velvet-fronted Nuthatch****  
**Habitat** : Mainly seen in evergreen or semi evergreen forests.  
**Status** : Resident  
**Distribution** : found in southern Asia from Nepal, India, Sri Lanka and Bangladesh east to south China and Indonesia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Family: Sturnidae**

- 334. *Pastor roseus* (Linnaeus, 1758) **Rosy Starling****  
**Alternative/Old Names** : Rosy Pastor  
**Habitat** : Open agricultural land and garden  
**Status** : Resident  
**Distribution** : The breeding range of this bird is in Central Asia and Southeast Europe. Winters in India and tropical Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands, Netravali WLS

- 335. *Sturnia malabarica* (Gmelin, 17) **Chestnut-tailed Starling****  
**Alternative/Old Names** : Grey-headed Starling, Grey-headed Myna  
**Habitat** : Well wooded countryside and forests



- Status** : Winter Migrant  
**Distribution** : Most part of Indian Subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 336. *Sturnia blythii* (Jerdon, 1845) Malabar Starling**  
**Alternative/Old Names** : Malabar White-headed Starling, Blyth's Myna  
**Habitat** : forest edges, proximity to human habitation  
**Status** : Resident  
**Distribution** : Endemic to southwestern India  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 337. *Sturnia pagodarum* (Gmelin, 1789) Brahminy Starling**  
**Alternative/Old Names** : Black-headed Myna, Brahminy Myna  
**Habitat** : dry scrub jungles, near human habitation  
**Status** : Resident  
**Distribution** : Found in India, Nepal, Pakistan and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 338. *Acridotheres tristis* (Linnaeus, 1766) Common Myna**  
**Alternative/Old Names** : Indian Myna  
**Habitat** : Near human habitation and cultivation  
**Status** : Resident  
**Distribution** : Widely distributed to most of the Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 339. *Acridotheres fuscus* (Wagler, 1827) Jungle Myna**  
**Habitat** : Well-wooded areas and urban parks and gardens  
**Status** : Resident  
**Distribution** : Found in most of the Indian Subcontinent but absent in the arid zones of India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 340. *Gracula indica* (Cuvier, 1829) Southern Hill Myna**  
**Alternative/Old Names** : Lesser Hill Myna  
**Habitat** : Evergreen and semi evergreen forest patches.  
**Status** : Resident  
**Distribution** : Found in south India and Sri Lanka

**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Family: Turdidae**

**341. *Geokichla citrina* (Latham, 1790) Orange-headed Thrush**

**Alternative/Old Names** : Orange-headed Ground Thrush, White-throated Ground Thrush  
**Habitat** : Well wooded countryside and forested areas  
**Status** : Resident  
**Distribution** : Found in Indian Subcontinent and parts of Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**342. *Turdus simillimus* Jerdon, 1839 Indian Blackbird**

**Alternative/Old Names** : Common Blackbird  
**Habitat** : Foothill forest and wooded ravines  
**Status** : Resident  
**Distribution** : It is found only in India and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Muscicapidae**

**343. *Muscicapa dauurica* Pallas, 1811 Asian Brown Flycatcher**

**Alternative/Old Names** : Brown Flycatcher  
**Habitat** : Open forest groves, forest edges and plantation  
**Status** : Resident  
**Distribution** : Breeds in Japan, eastern Siberia and the Himalayas. Winters in tropical southern Asia from southern India and Sri Lanka east to Indonesia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**344. *Muscicapa muttui* (Layard, 1854) Brown-breasted Flycatcher**

**Alternative/Old Names** : Layard's Flycatcher  
**Habitat** : Open forest groves, forest edges and plantation  
**Status** : Winter visitor  
**Distribution** : Breeds in north eastern India, central and Southern China and northern Burma and Thailand, and migrates to southern India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II

- CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 345. *Muscicapa striata* (Pallas, 1764) **Spotted Flycatcher****  
**Habitat** : Open forest groves, forest edges and plantation  
**Status** : Winter visitor (Passage migrant)  
**Distribution** : It breeds in most of Europe and in the Palearctic to Siberia, and is migratory, wintering in Africa and south western Asia including part of Indian Subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Cotigao WLS
- 346. *Copsychus malabaricus* (Scopoli, 1786) **White-rumped Shama****  
**Alternative/Old Names** : Shama  
**Habitat** : Moist deciduous or evergreen forests. Bamboo thickets  
**Status** : Resident  
**Distribution** : It is widespread in the Indian subcontinent and ranges across South east Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**CITES Appendix** : Appendix I  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 347. *Copsychus fulicatus*(Linnaeus, 1766) **Indian Robin****  
**Alternative/Old Names** : Indian Black Robin  
**Habitat** : Open country forest edges and around human habitation  
**Status** : Resident  
**Distribution** : It is widespread in the Indian subcontinent and ranges across Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 348. *Copsychus saularis* (Linnaeus, 1758) **Oriental Magpie Robin****  
**Alternative/Old Names** : Magpie Robin  
**Habitat** : Parks, gardens, scrub and forest  
**Status** : Resident  
**Distribution** : Occurring across most of the Indian subcontinent and parts of Southeast Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

349. *Cyornis pallidipes* (Jerdon, 1840) **White-bellied Blue Flycatcher**  
**Habitat** : Dense evergreen or moist deciduous forests  
**Status** : Resident  
**Distribution** : Endemic to Western Ghats, south of Maharashtra  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
350. *Cyornis rubeculoides* (Vigors, 1831) **Blue-throated Flycatcher**  
**Habitat** : Dense evergreen or moist deciduous forests  
**Status** : Winter visitor  
**Distribution** : Distributed too much of the parts of Indian Subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
351. *Cyornis tickelliae* Blyth, 1843 **Tickell's Blue Flycatcher**  
**Alternative/Old Names** : Tickell's Red-breasted Blue Flycatcher  
**Habitat** : Open dry forest and wooded area  
**Status** : Resident  
**Distribution** : Breeds in tropical Asia, from the Indian Subcontinent eastwards to Bangladesh and western Myanmar  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
352. *Eumyias thalassinus* (Swainson, 1838) **Verditer Flycatcher**  
**Habitat** : Open forests, plantations.  
**Status** : Resident  
**Distribution** : Widely find through India, southeast Asia to Sumatra.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
353. *Larvivera brunnea* Hodgson, 1837 **Indian Blue Robin**  
**Alternative/Old Names** : Indian Blue Chat  
**Habitat** : Dense forests with thick undergrowth.  
**Status** : Winter visitor  
**Distribution** : Widely distributed to the most parts of the Indian subcontinent. Wintering to southern India and Sri Lanka  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

354. *Luscinia svecica* (Linnaeus, 1758) **Bluethroat**  
**Habitat** : Undergrowth in swampy areas. Flooded Paddyfields.  
**Status** : Winter visitor  
**Distribution** : It breeds in Europe and palearctic countries. Winters to Africa and Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bondla WLS, Navelim Wetlands
355. *Myophonus horsfieldii* Vigors, 1831 **Malabar Whistling Thrush**  
**Habitat** : Rocky streams, smaller rivers and well wooded areas  
**Status** : Resident  
**Distribution** : The species is a resident in the Western Ghats and associated hills of peninsular India including central India and parts of the Eastern Ghats  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
356. *Ficedula ruficauda* (Swainson, 1838) **Rusty-tailed Flycatcher**  
**Habitat** : Dense forests with thickets.  
**Status** : Winter visitor  
**Distribution** : Central Asian populations migrates to India during winter season.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Mhadei WLS, Bondla WLS, Netravali WLS
357. *Ficedula albicilla* (Pallas, 1811) **Taiga Flycatcher**  
**Alternative/Old Names** : Red-throated Flycatcher  
**Habitat** : Open forest, plantations and forest edges  
**Status** : Winter visitor  
**Distribution** : It breeds in northern Eurasia from eastern Russia to Siberia and Mongolia. It is a winter visitor to South and Southeast Asia including much of the Indian subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
358. *Ficedula parva* (Bechstein, 1792) **Red-breasted Flycatcher**  
**Habitat** : Dense forests with thick undergrowth.  
**Status** : Winter visitor  
**Distribution** : It breeds in eastern Europe and across Central Asia and is migratory, wintering in south Asia.



- IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 359. *Ficedula superciliaris* (Jerdon, 1840) **Ultramarine Flycatcher****  
**Alternative/Old Names** : White-browed Blue Flycatcher, Little Blue-and-white Flycatcher  
**Habitat** : Dense forests with thick undergrowth.  
**Status** : Winter visitor  
**Distribution** : Breeds in the foothills of the Himalayas and winters in southern India  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bondla WLS, Mhadei WLS
- 360. *Phoenicurus ochruros* (Gmelin, 1774) **Black Redstart****  
**Habitat** : Open lands, gardens and laterite plains  
**Status** : Winter visitor  
**Distribution** : It is a widespread breeder in south and central Europe and Asia and north-west Africa. Wintering to some part of Indian subcontinent  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bondla WLS
- 361. *Monticola cinclorhyncha* (Vigors, 1831) **Blue-capped Rock Thrush****  
**Alternative/Old Names** : Blue-headed Rock Thrush  
**Habitat** : Forested hills and plantations.  
**Status** : Winter Migrant  
**Distribution** : Breeds in the Himalayas and winters to southern part of India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 362. *Monticola solitarius* (Linnaeus, 1758) **Blue Rock Thrush****  
**Habitat** : Rocky outcrops, forested areas, lateritic plains.  
**Status** : Winter Migrant  
**Distribution** : Widely distributed to Europe, Africa and Asia. Wintering to most of the parts of India  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bondla WLS, Netravali WLS
- 363. *Saxicola caprata* (Linnaeus, 1766) **Pied Bushchat****  
**Habitat** : Open lands, rocky lateritic plains, fringes of grasslands.  
**Status** : Resident

- Distribution** : Found ranging from West Asia and Central Asia to the Indian subcontinent and Southeast Asia
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 364. *Saxicola maurus* (Pallas, 1773) **Siberian Stonechat****
- Alternative/Old Names** : Eastern Stonechat; Collared Bushchat, Common Stonechat
- Habitat** : Thickets near agricultural lands or swampy areas.
- Status** : Winter migrant
- Distribution** : It breeds in the East Palearctic including in easternmost Europe and winters to most part of Indian subcontinent.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Navelim Wetlands
- 365. *Oenanthe isabelline* (Temminck, 1829) **Isabelline Wheatear****
- Alternative/Old Names** : Isabelline Chat
- Habitat** : Open stony laterite plains, dry cultivated lands
- Status** : Winter migrant
- Distribution** : It breeds in southern Russia and Central Asia to northern Pakistan, wintering in Africa and most part of India.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake
- Family: Dicaeidae**
- 366. *Dicaeum agile* (Tickell, 1833) **Thick-billed Flowerpecker****
- Habitat** : Fruiting and flowering trees and shrubs
- Status** : Resident
- Distribution** : Distributed across tropical southern Asia from India east to Indonesia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 367. *Dicaeum erythrorhynchos* (Latham, 1790) **Pale-billed Flowerpecker****
- Alternative/Old Names** : Tickell's Flowerpecker
- Habitat** : Forest and well wooded areas
- Status** : Resident
- Distribution** : Found in India, Sri Lanka, Bangladesh and western Myanmar.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

368. *Dicaeum concolor* Jerdon, 1840 **Nilgiri Flowerpecker**  
**Habitat** : Forests and well wooded areas  
**Status** : Resident  
**Distribution** : Endemic to the Western Ghats  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Nectariniidae**

369. *Leptocoma zeylonica* (Linnaeus, 1766) **Purple-rumped Sunbird**  
**Habitat** : Well wooded areas, garden, a fores edges.  
**Status** : Resident  
**Distribution** : Endemic to the Indian Subcontinent. Common resident breeder in southern India, Sri Lanka and Bangladesh.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

370. *Leptocoma minima* (Sykes, 1832) **Crimson-backed Sunbird**  
**Alternative/Old Names** : Small Sunbird  
**Habitat** : Forests and cultivation  
**Status** : Resident  
**Distribution** : Endemic to the Western Ghats  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

371. *Cinnyris asiaticus* (Latham, 1790) **Purple Sunbird**  
**Habitat** : Forests and forest edges. Well wooded coutryside  
**Status** : Resident  
**Distribution** : The species is distributed widely from West Asia through the Indian subcontinent and into Southeast Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

372. *Cinnyris lotenius* (Linnaeus, 1766) **Loten's Sunbird**  
**Alternative/Old Names** : Long-billed Sunbird, Maroon-breasted Sunbird  
**Habitat** : Well wooded areas and around human habitation  
**Status** : Resident  
**Distribution** : Endemic to peninsular India and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

- 373. *Aethopyga vigorsii* (Sykes, 1832) Vigors's Sunbird**  
**Alternative/Old Names** : Vigors's Yellow-backed Sunbird, Crimson Sunbird  
**Habitat** : Forest fringes, parks and gardens.  
**Status** : Resident  
**Distribution** : Endemic to the Western Ghats  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

- 374. *Arachnothera longirostra* (Latham, 1790) Little Spiderhunter**  
**Habitat** : Lowland forests, gardens, cultivated lands.  
**Status** : Resident  
**Distribution** : Widely distributed to south and southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Irenidae**

- 375. *Irena puella* (Latham, 1790) Asian Fairy-bluebird**  
**Habitat** : Moist deciduous, evergreen or semi evergreen forests.  
**Status** : Resident  
**Distribution** : It is found in forests across tropical southern Asia, Indochina and the Greater Sundas.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**Family: Chloropseidae**

- 376. *Chloropsis jerdoni* (Blyth, 1844) Jerdon's Leafbird**  
**Habitat** : Forests and well wooded countrysides.  
**Status** : Resident  
**Distribution** : Mainly distributed to India and Sri Lanka.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

- 377. *Chloropsis aurifrons* (Temminck, 1829) Golden-fronted Leafbird**  
**Habitat** : Forests and well wooded countrysides  
**Status** : Resident  
**Distribution** : It is found from the Indian subcontinent and south-western China, to south-east Asia and Sumatra  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Ploceidae**

**378. *Ploceus philippinus* (Linnaeus, 1766) **Baya Weaver****

- Alternative/Old Names** : Baya, Indian Baya  
**Habitat** : Open country with scattered trees, scrub and cultivation  
**Status** : Resident
- Distribution** : Found across the Indian Subcontinent and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**379. *Ploceus manyar* (Horsfield, 1821) **Streaked Weaver****

- Alternative/Old Names** : Streaked Weaver Bird  
**Habitat** : Cultivated lands, vegetation on the banks of rivers and streams.  
**Status** : Resident  
**Distribution** : Widely distributed to South and Southeast Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Carambolim Lake, Navelim Wetlands.

**Family: Estrildidae**

**380. *Lonchura punctulate* (Linnaeus, 1758) **Scaly-breasted Munia****

- Alternative/Old Names** : Spotted Munia  
**Habitat** : Open areas, scrubby hillsides, secondary growth, cultivation and gardens  
**Status** : Resident  
**Distribution** : The species is endemic to Asia and occurs from India and Sri Lanka east to Indonesia and the Philippines  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**381. *Lonchura striata* (Linnaeus, 1766) **White-rumped Munia****

- Alternative/Old Names** : White-backed Munia  
**Habitat** : Open country grassland and agricultural field  
**Status** : Resident  
**Distribution** : It is native to tropical continental Asia and some adjacent islands, and has been naturalized in some parts of Japan  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**382. *Lonchura malacca* (Linnaeus, 1766) **Tricoloured Munia****

- Alternative/Old Names** : Black-headed Munia  
**Habitat** : Tall grasses, cultivations and marshy areas  
**Status** : Resident



- Distribution** : Native to Bangladesh, India, Sri Lanka, Pakistan, and southern China.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 383. *Lonchura kelaarti* (Jerdon, 1863) **Black-throated Munia****
- Alternative/Old Names** : Rufous-bellied Munia
- Habitat** : Forest clearings and cultivated lands
- Status** : Resident
- Distribution** : Native to south west India and Sri Lanka.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS
- 384. *Euodice malabarica* (Linnaeus, 1758) **Indian Silverbill****
- Alternative/Old Names** : White-throated Munia
- Habitat** : Dry open scrub, fallow lands, cultivations.
- Status** : Resident /Locally Migratory
- Distribution** : It is native to drier regions of Middle East and Indian subcontinent. Introduced to many parts of the world.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Cotigao WLS
- 385. *Amandava amandava* (Linnaeus, 1758) **Red Munia****
- Alternative/Old Names** : Red Avadavat
- Habitat** : Agricultural fields or grasslands, often near water
- Status** : Resident
- Distribution** : Widely distributed to Indian subcontinent and parts of southeast Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Navelim Wetlands

**Family: Passeridae**

- 386. *Passer domesticus* (Linnaeus, 1758) **House Sparrow****
- Habitat** : Around human habitations and cultivation
- Status** : Resident
- Distribution** : A widespread species native to most of the Europe and Asia. Introduced to most of the other continents
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 387. *Gymnoris xanthocollis* (E. Burton, 1838) **Yellow-throated Sparrow****
- Alternative/Old Names** : Chestnut-shouldered Petronia
- Habitat** : Open dry deciduous and thorn forest

**Status** : Resident  
**Distribution** : Found in most of the Indian subcontinent, Sri Lanka Also in Turkey to Iran  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Motacillidae**

**388. *Dendronanthus indicus* (Gmelin, JF, 1789) Forest Wagtail**

**Habitat** : Stream beds or tracks within the evergreen or semi evergreen forests.  
**Status** : Winter migrant  
**Distribution** : It breeds in the temperate parts of East Asia and wintering across tropical Asia from India to Indonesia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-I  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Mhadei WLS, Bondla WLS, Netravali WLS

**389. *Motacilla cinerea* Tunstall, 177 Grey Wagtail**

**Habitat** : Undisturbed rocky mountain streams with rocky banks during summers, seeps in plains  
**Status** : Winter migrant  
**Distribution** : Breeds in NW Himalayas. Wintering to most of the parts of Indian subcontinent, Sri Lanka and Maldives.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**390. *Motacilla flava* Linnaeus, 1758 Western Yellow Wagtail**

**Alternative/Old Names** : Yellow Wagtail  
**Habitat** : Damp pastures, marshy areas with short vegetation, margins of rivers, lakes and jheels.  
**Status** : Winter Migrant  
**Distribution** : Breeds in North West Himalayas. Wintering to most of the parts of Indian subcontinent, Sri Lanka and Maldives.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**391. *Motacilla citreola* Pallas, 1776 Citrine Wagtail**

**Alternative/Old Names** : Yellow-headed Wagtail  
**Habitat** : Damp pastures, marshy areas with short vegetation, margins of rivers, lakes and paddy fields.  
**Status** : Winter Migrant

- Distribution** : Breeds in the Central Palearctic in wet meadows and tundra. Wintering to South Asia, often to highland areas
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Carambolim Lake, Bondla WLS, Netravali WLS
- 392. *Motacilla maderaspatensis* J.F. Gmelin, 1789 **White-browed Wagtail****
- Alternative/Old Names** : Large Pied Wagtail
- Habitat** : Banks of rivers, canals, lakes and reservoirs
- Status** : Resident
- Distribution** : Widely distributed to most parts of Indian Subcontinent, Sri Lanka.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 393. *Motacilla alba* Linnaeus, 1758 **White Wagtail****
- Habitat** : Inhabit stream and river in hill during summer, winter in open country near marshes, river, stream, canal, lake
- Status** : Winter Migrant
- Distribution** : Breeds in Himalaya (1500-5000 m); wide spread and common winter migrant to India, Pakistan; Nepal; Bhutan; Bangladesh; Sri Lanka.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Netravali WLS
- 394. *Anthus rufulus* Vieillot, 1818 **Paddy field Pipit****
- Habitat** : Open short grassland, fallow and wasteland
- Status** : Resident
- Distribution** : Indian subcontinent; Also, to China, Indochina.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II
- IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS
- 395. *Anthus richardi* Vieillot, 1818 **Richard's Pipit****
- Habitat** : Moist grassland and cultivation
- Status** : Winter visitor
- Distribution** : Breeds in open grasslands in the East Palearctic. It is a long-distance migrant moving to open lowlands in the Indian subcontinent and Southeast Asia.
- IUCN Category** : Least Concern
- WPA Schedule** : Schedule-II
- CMS Appendix** : Appendix II

- IBA-wise Occurrence** : Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands
- 396. *Anthus campestris* (Linnaeus, 1758) Tawny Pipit**  
**Habitat** : Stony hills, lateritic plains, fallow lands.  
**Status** : Winter Migrant  
**Distribution** : It breeds in much of the central Palearctic from northwest Africa and Portugal to Central Siberia and on to Inner Mongolia. Winter to tropical Africa and the Indian Subcontinent.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Carambolim Lake, Cotigao WLS
- 397. *Anthus trivialis* (Linnaeus, 1758) Tree Pipit**  
**Alternative/Old Names** : Eurasian Tree Pipit  
**Habitat** : Grassy slopes with scattered tree bushes  
**Status** : Winter Migrant  
**Distribution** : Breeds in North and West Europe; winters in sub-Saharan Africa and in India.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Cotigao WLS, Mhadei WLS, Bondla WLS, Navelim Wetlands
- 398. *Anthus hodgsoni* Richmond, 1907 Olive-backed Pipit**  
**Alternative/Old Names** : Indian Tree Pipit  
**Habitat** : Open grassy areas, clearings, scrub with scattered trees  
**Status** : Winter visitor  
**Distribution** : Breeds across southern, north central and eastern Asia, as well as in the north-eastern European Russia. Winter to southern Asia and Indonesia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Netravali WLS
- 399. *Anthus godlewskii* (Taczanowski, 1876) Blyth's Pipit**  
**Alternative/Old Names** :  
**Habitat** : Stony lateritic plains, fallow lands.  
**Status** : Winter visitor  
**Distribution** : It breeds in Mongolia and neighbouring areas of China, Tibet and India. Wintering to most parts of southern Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**CMS Appendix** : Appendix II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Cotigao WLS, Netravali WLS

**Family: Fringillidae**

**400. *Carpodacus erythrinus* (Pallas, 1770) Common Rosefinch**

- Alternative/Old Names** :  
**Habitat** : Open forests, plantations.  
**Status** : Winter visitor  
**Distribution** : It breeds in south-east Europe east to Iran and migrates in winter mainly to India, with some individuals moving further into south-east Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Mhadei WLS, Bondla WLS, Navelim Wetlands, Netravali WLS

**Family: Emberizidae**

**401. *Emberiza buchanani* Blyth, 1845 Grey-necked Bunting**

- Alternative/Old Names** : Grey-hooded Bunting  
**Habitat** : Dry grassy areas, stony lateritic plains  
**Status** : Winter visitor  
**Distribution** : It breeds along a wide distribution range from the Caspian Sea to the Altai Mountains in Central Asia and winters in parts of Southern Asia  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II.  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Bondla WLS,

**402. *Emberiza melanocephala* Scopoli, 1769 Black-headed Bunting**

- Habitat** : Dry grasslands, abandoned cultivated lands, scrub covered lateritic plains.  
**Status** : winter visitor  
**Distribution** : It breeds in south-east Europe east to Iran and migrates in winter mainly to India, with some individuals moving further into south-east Asia.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Navelim Wetlands

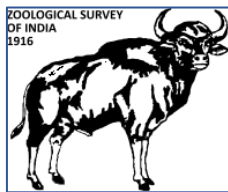
**403. *Emberiza bruniceps* von Brandt, 1841 Red-headed Bunting**

- Habitat** : Lateritic plains, agricultural fields, fallow lands.  
**Status** : winter visitor  
**Distribution** : It breeds in central Asia-Afghanistan, Iran, Kazakhstan, Kyrgyzstan, Mongolia; Russian Federation, Tajikistan, Turkmenistan, Uzbekistan, China. Wintering to India and Bangladesh.  
**IUCN Category** : Least Concern  
**WPA Schedule** : Schedule-II  
**IBA-wise Occurrence** : Bhagwan Mahavir WLS, Carambolim Lake, Bondla WLS, Netravali WLS

**404 *Emberiza aureola* Pallas, 1773 Yellow-breasted Bunting**



**Habitat** : Cultivated areas, rice fields and grasslands  
**Status** : winter visitor  
**Distribution** : It breeds from the Amur River to Manchuria, North Korea, Kamchatka and Kuril Islands. Wintering in south-east Asia, India, and southern China.  
**IUCN Category** : Critically Endangered  
**WPA Schedule** : Schedule-I  
**IBA-wise Occurrence** : Carambolim Lake



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