# SPECIES RICHNESS AND DIVERSITY OF AVIFAUNA IN WASHIM REGION, MAHARASHTRA, INDIA

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**Abstract**
*The Washim region of Maharashtra lies at the junction of agricultural mosaics, scrub, and small wetland systems, creating a heterogeneous landscape for birds. To document avifaunal richness and diversity, we surveyed representative habitats using fixed-radius point counts, line transects, and opportunistic records across dry and wet seasons. Species were identified visually and acoustically. We recorded a rich assemblage spanning resident, wintering, and passage migrants, with insectivores and omnivores dominating trophic guilds. Wetlands and riparian edges consistently supported the highest diversity, followed by fallow fields and scrub; monoculture blocks showed the lowest values. Seasonal turnover was evident, with distinct winter guilds (larks, pipits, wagtails, and waterfowl/shorebirds) augmenting post-monsoon communities. Several habitat-sensitive and culturally important species were encountered (e.g., weavers, kingfishers, storks, and doves), underlining the role of small waterbodies and hedgerow structure in sustaining birdlife within a working landscape. The study provides a baseline to guide local conservation, agro-ecological planning, and future research on population trends.*

## Introduction:

Birds are one of the most diverse and ecologically significant groups of vertebrates, playing a vital role in ecosystem functioning as pollinators, seed dispersers, scavengers, and bioindicators of environmental health. The study of avifaunal diversity provides valuable insights into the ecological status of a region, as bird communities respond sensitively to habitat alterations, climatic conditions, and anthropogenic pressures.

India, with its varied topography and climatic conditions, supports more than 1,300 species of birds, making it one of the richest countries in avian diversity. Maharashtra, owing to its diverse habitats such as forests, grasslands, wetlands, and agricultural landscapes, harbors a wide variety of bird species. Within Maharashtra, the Washim district, located in the Vidarbha region, is characterized by a mosaic of agricultural fields, wetlands, scrublands, and small forest patches, which provide suitable habitats for both resident and migratory bird species.

Despite being ecologically important, systematic studies on avian diversity in Washim are limited. Understanding the species richness and diversity of birds in this region is essential not only for documenting the existing biodiversity but also for framing effective conservation strategies. Such studies can also highlight the seasonal variation in bird populations, the influence of habitat heterogeneity, and the potential threats posed by urbanization, agricultural intensification, and habitat fragmentation.

Therefore, the present study aims to investigate the species richness and diversity of avifauna in Washim region, Maharashtra, India, providing baseline data that can contribute to biodiversity assessment, ecological monitoring, and conservation planning.

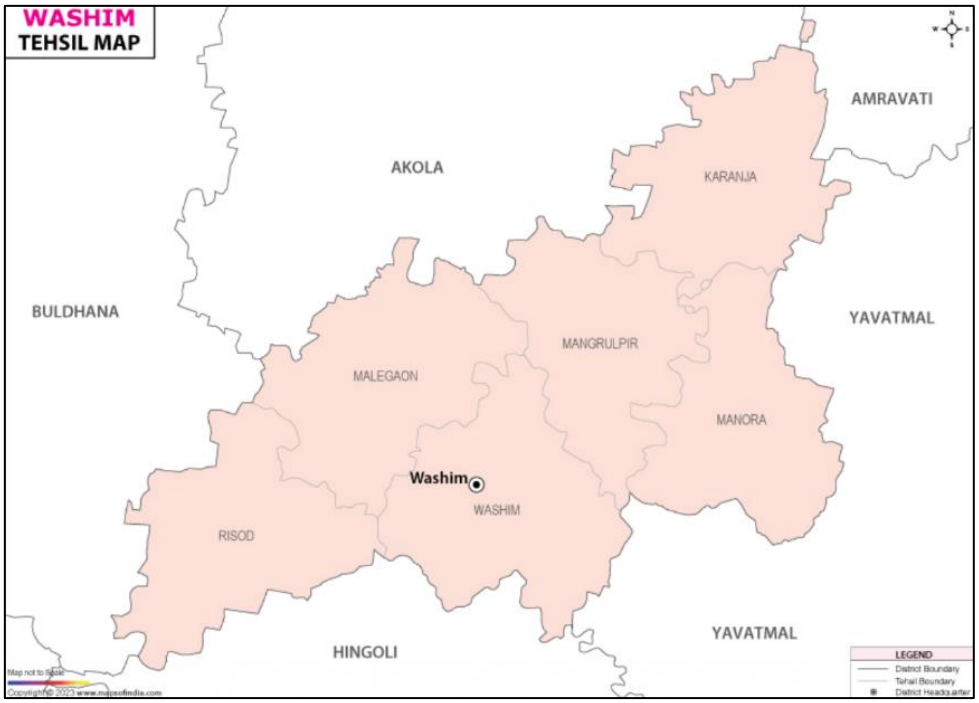
## Material and Method:

### Study Area: Washim District

Washim district is located in the Vidarbha region of Maharashtra, India, lying between latitude 19°15′ to 20°15′ N and longitude 76°15′ to 77°40′ E. The district covers an area of about 5,150 km² and is bounded by Akola and Amravati districts in the north, Hingoli in the south, Yavatmal in the east, and Parbhani in the west. Washim is a landlocked district and forms a part of the Deccan plateau. The region has a tropical climate characterized by hot summers, moderate rainfall, and cool winters. The average annual rainfall ranges between 750–1,000 mm, mainly received during the southwest monsoon (June–September). The temperature varies from 12°C in winter to 45°C in peak summer, creating seasonal variation that influences vegetation and bird populations. Topographically, Washim is marked by undulating plains, agricultural fields, small hill ranges, rivers, and wetlands. Important rivers include the Penganga,

Kas, Arunavati, and Katepurna, which support riparian habitats and seasonal wetlands. Several reservoirs and tanks formed by irrigation projects further enhance wetland diversity in the district. These aquatic habitats act as feeding and breeding grounds for resident as well as migratory birds.

Vegetation in Washim mainly comprises dry deciduous forests, scrublands, and cultivated fields, interspersed with patches of grasslands. Crops such as soybean, cotton, wheat, and sorghum dominate the landscape, providing food and shelter to various bird species. Such habitat heterogeneity supports a rich assemblage of avifauna, including forest-dwelling species, farmland birds, and wetland-dependent migratory species. Also, the photographic collection of different birds was done in the various parts of Washim city like, Nalanda Nagar, R. A. College Campus, Ekburji Reservoir, Kanergaon Naka. Also, there are some village areas like Sukali, Malegaon, Tondgaon and also some agricultural fields coming under these villages.




**Result:**

**Table 1. Checklist of birds recorded from Washim region**

| Sr. No. | Scientific Name | Order | Family | Common Name | Habitat Type |
|---|---|---|---|---|---|
| 1 | ***Ploceus philippinus*** | Passeriformes | Ploceidae | Baya Weaver | Grassland/Farmland |
| 2 | ***Pycnonotus cafer*** | Passeriformes | Pycnonotidae | Red-Vented Bulbul | Urban/Garden |
| 3 | ***Sturnia pagodarum*** | Passeriformes | Sturnidae | Brahminy starling | Agricultural/Open land |
| 4 | ***Leptocoma aspasia*** | Passeriformes | Nectariniidae | Black sunbird | Garden/Edge habitat |
| 5 | ***Copsychus saularis*** | Passeriformes | Muscicapidae | Oriental magpie-robin | Urban/Rural |
| 6 | ***Euodice malabarica*** | Passeriformes | Estrildidae | Indian siliverbill | Farmland/Grassland |
| 7 | ***Prinia familiaris*** | Passeriformes | Cisticolidae | Bar-winged prinia | Scrubland/Grassland |
| 8 | ***Mycteria leucocephala*** | Ciconiiformes | Ciconiidae | Painted stork | Wetland |
| 9 | ***Halcyon smyrnensis*** | Coraciiformes | Alcedindidae | White-throated kingfisher | Wetland/Urban edges |
| 10 | ***Spilopelia senegalensis*** | Columbiformes | Columbidae | Laughing dove | Farmland/Gardens |

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|---|---|---|---|---|---|
| 11 | ***Spilopelia chinensis*** | Columbiformes | Columbidae | Spotted dove | Agricultural land |
| 12 | ***Merops orientalis*** | Coraciiformes | Meropidae | Asian green bee-eater | Farmland/Open scrub |
| 13 | ***Amandava amandava*** | Passeriformes | Estrildidae | Red avadavat | Grassland |
| 14 | ***Argya malcolmi*** | Passeriformes | Leiothrichidae | Large gray babbler | Scrubland |
| 15 | ***Hypsipetes leucocephalus*** | Passeriformes | Pyconotidae | Black bulbul | Woodland/Edges |
| 16 | ***Egretta garzetta*** | Pelecaniformes | Ardeidae | Little egret | Wetland |
| 17 | ***Ciconia episcopus*** | Ciconiiformes | Ciconiidae | Asian woll-yneck stork | Wetland |
| 18 | ***Psittacula krameri*** | Psittaciformes | Psittaculidae | Rose-ringed parakeet | Grassland/ wetland |

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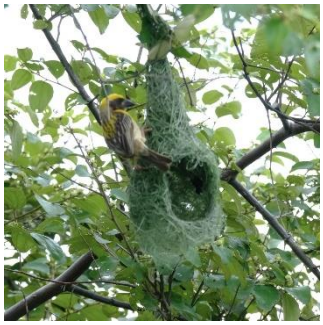
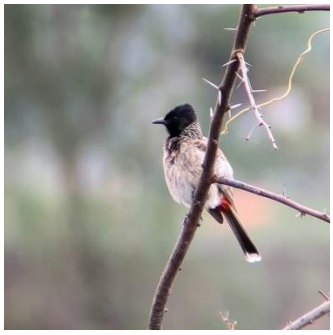
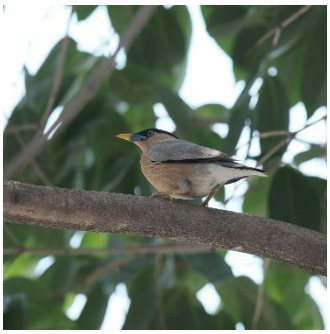
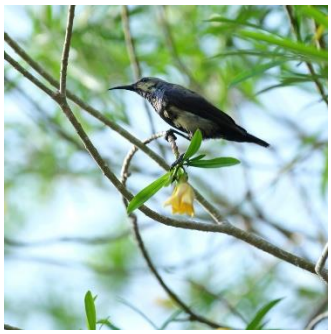
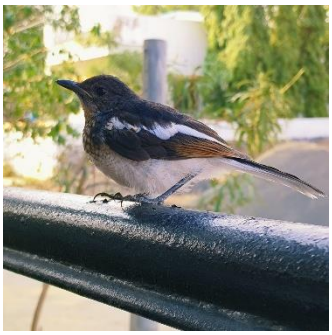
|  |  |
| *Ploceus philippinus* | *Pycnonotus cafer* |
|  |  |
| *Sturnia pagodarum* | *Leptocoma aspasia* |
|  |  |
| *Copsychus saularis* | *Euodice malabarica* |

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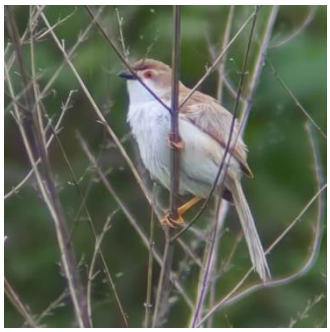
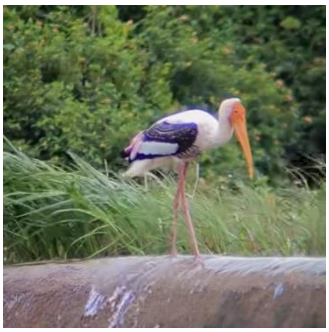
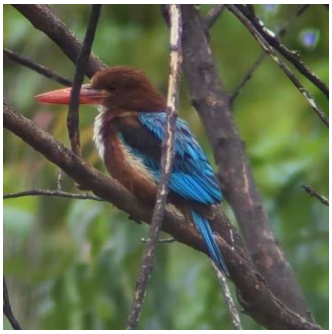
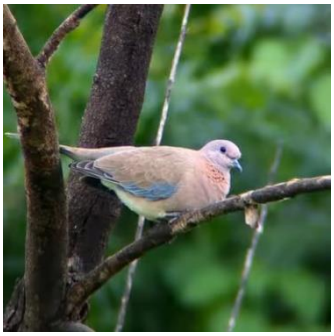
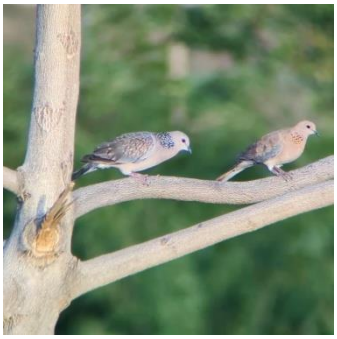
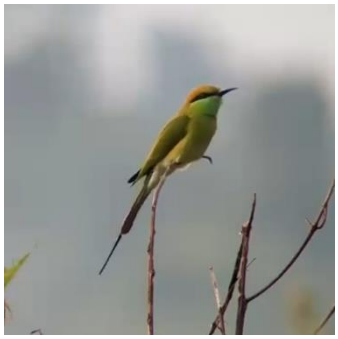
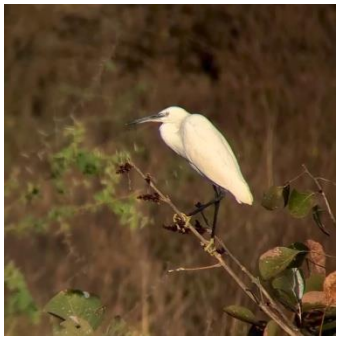
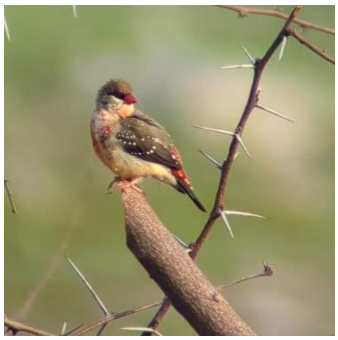
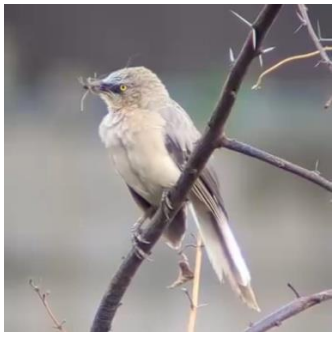
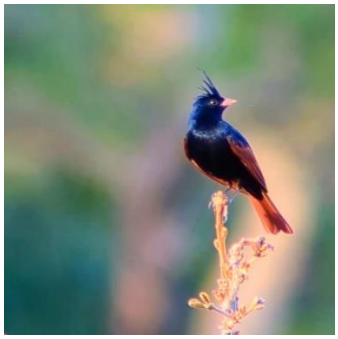
|  |  |
| *Prinia familiaris* | *Mycteria leucocephala* |
|  |  |
| *Halcyon smyrnensis* | *Spilopelia senegalensis* |
|  |  |
| *Spilopelia chinensis* | *Merops orientalis* |
|  |  |
| *Egretta garzetta* | *Amandava amandava* |
|  |  |
| *Argya malcolmi* | *Hypsipetes leucocephalus* |

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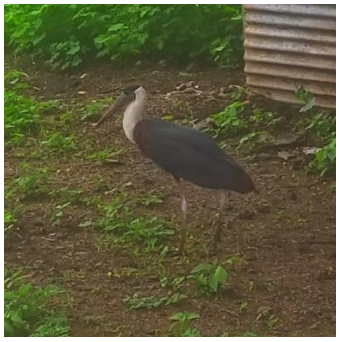
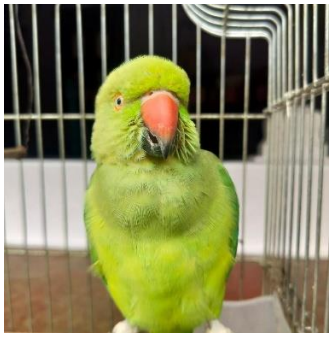
|  |  |
| *Ciconia episcopus* | *Psittacula krameri* |

The overall checklist confirms that 18 different bird species utilize the Washim region for feeding, roosting, and breeding activities. The diversity includes residential breeders, local migrants, as well as seasonal migrants from the northern hemisphere.

Out of the 18 species recorded wetland-associated birds are Painted Stork, Little Egret, White-throated Kingfisher, Farmland/grassland birds are Baya Weaver, Indian Silverbill, Red Avadavat, Asian Green Bee-eater, Brahminy Starling, Urban/garden-associated birds: Red-vented Bulbul, Oriental Magpie Robin, Laughing Dove, Spotted Dove, Scrubland/woodland species: Large Grey Babbler, Bar-winged Prinia, Black Bulbul, Black Sunbird. This indicates that the Washim region supports a heterogeneous bird community influenced by wetlands, agricultural lands, and scrub habitats.

The findings suggest that the Washim region, though a human-dominated landscape, still harbors a considerable diversity of avifauna. This highlights the ecological value of agricultural-wetland mosaics for sustaining both resident and migratory bird populations.

**Discussion:**

The present study highlights the occurrence of 18 bird species in Washim, representing a moderate level of avifaunal diversity compared to other districts of Vidarbha. The presence of both wetland-dependent species (Painted Stork, Little Egret) and terrestrial species (doves, babblers, bulbuls) suggests that the mosaic of habitats in Washim provides suitable ecological niches.

Species such as Baya Weaver and Red Avadavat are indicators of healthy grassland and agricultural ecosystems, while the occurrence of Painted Stork and Little Egret emphasizes the ecological importance of wetlands in the district. Birds like Red-vented Bulbul, Oriental Magpie Robin, and Laughing Dove reflect adaptation to human-modified landscapes, indicating that avifaunal diversity is maintained even in peri-urban habitats.

The dominance of Passeriformes (perching birds) in the species list is consistent with general patterns of bird diversity in India, as this order is globally the largest and most widespread. The presence of migratory or partially migratory birds such as Painted Stork also highlights the role of Washim wetlands as stopover or breeding grounds for seasonal visitors.

However, the diversity recorded in this study is relatively limited compared to the potential richness of the region. Factors such as habitat loss due to agricultural expansion, deforestation, wetland degradation, and urbanization may be responsible for reduced species richness. Thus, conservation of wetland habitats and maintenance of green cover are crucial for sustaining and enhancing avian diversity in Washim.

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