

# Biodiversity of Avian Fauna in and Around Baramati and Bhigwan Region

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## Abstract:

The present investigation was carried out to assess the avian biodiversity of the Baramati and Bhigwan region of the Pune district. The study area includes agricultural landscapes, grasslands, scrub habitats, and the wetland ecosystem associated with the backwaters of the Ujani Reservoir, which is recognized as an important habitat for resident and migratory birds.

Field surveys were conducted from July 2025 to March 2026. A total of 53 bird species were recorded during the study period. Among the recorded orders, Passeriformes dominated the species composition, followed by Charadriiformes and Pelecaniformes. The wetland habitats of Bhigwan showed comparatively higher species richness due to the presence of water birds and migratory species.

**Keywords:** Avian diversity, wetlands, migratory birds.

## Introduction:

Biodiversity refers to the variety of living organisms in a particular area and is essential for maintaining ecological balance (Gaston & Spicer, 2004). Birds are widely used as indicators of environmental health because they are sensitive to habitat changes and are easy to observe (Bibby, 1999; Fraixedas et al., 2020). Studying bird diversity helps in understanding ecosystem conditions and the impact of human activities such as urbanization and agriculture (Pereira & Cooper, 2006).

The Baramati–Bhigwan region of Maharashtra is known for its rich avian diversity due to the presence of wetlands, agricultural lands, and grasslands. The Ujani Dam provides an important habitat for many resident and migratory bird species, especially during the winter season (Grimmett et al., 2011; Newton, 2007).

Therefore, the present study aims to document and analyse the biodiversity of avian fauna in the Baramati–Bhigwan region.

## Material and methods:

The study on bird diversity in the Baramati–Bhigwan region was conducted over a period of ten months, from July 2025 to March 2026. Observations were carried out at selected study sites, with surveys conducted twice every week. Birds were recorded using a GPS-enabled device to accurately note their locations. Species identification was done through direct observation and by referring to the standard field guide, *The Book of Indian Birds* by Dr. Salim Ali, along with guidance from experienced ornithologists. Field observations were mainly conducted during peak activity hours of birds, i.e., early morning (6:00 AM to 8:00 AM) and evening (5:00 PM to 7:00 PM).

Photographic records of the observed species were captured using a mobile camera for documentation and verification. Each recorded species was classified based on its residential status as Resident (R), Migrant (M), or Resident Migrant (RM). Additionally, the conservation status of each species was determined according to the IUCN Red List categories.

### Result and Discussion:

**Table1. List of different species of Birds observed in Baramati and Bhigwan region.**

Sr No	Common name	Scientific Name	Family	Order	IUCN Status	Keys to abbreviations
1	Greater caucal	<i>Centropus sinensis</i>	Cuculidae	Cuculiformes	LC	R
2	Eurasian Collared dove	<i>Streptopelia decaocto</i>	Columbidae	Columbiformes	LC	R
3	Purple-rumped sunbird	<i>Leptocoma zeylonica</i>	Nectarinidae	Passeriformes	LC	R
4	Laughing dove	<i>Streptopelia senegalensis</i>	Columbidae	Columbiformes	LC	R
5	Blue Rock pigeon	<i>Columba livia</i>	Columbidae	Columbiformes	LC	R
6	Painted stork	<i>Mycteria leucocephala</i>	Ciconiidae	Ciconiiformes	LC	RM
7	Grey heron	<i>Ardea cinerea</i>	Ardeidae	Pelecaniformes	LC	RM
8	Spot billed duck	<i>Anas poeciloryhyncha</i>	Anatidae	Anseriformes	LC	RM
9	Indian peafowl	<i>Pavo cristatus</i>	Phasianidae	Galliformes	LC	R
10	Common coot	<i>Fulica atra Linnaeus</i>	Rallidae	Gruiformes	NT	RM
11	Red wattled lapwing	<i>Vanellus indicus</i>	Charadriidae	Charadriiformes	LC	R
12	Rose ringed parakeet	<i>Psittacula krameri</i>	Psittaculidae	Pssittaciformes	LC	R
13	Spotted owelet	<i>Athene brama</i>	Strigidae	Strigiformes	LC	R
14	Red vented bulbul	<i>Pycnonotus cafer</i>	Pynonotidae	Passeriformes	LC	R
15	Large grey babbler	<i>Turdoides malcolmi</i>	Leiothrichidae	Passeriformes	LC	R
16	House	<i>Passer domesticus</i>	Passeridae	Passeriformes	LC	R

	sparrow					
17	Indian baya weaver	<i>Ploceus philippinus</i>	Ploceidae	Passeriformes	LC	R
18	Black drongo	<i>Dicrurus macrocercus</i>	Dicruridae	Passeriformes	LC	R
19	House crow	<i>Corvus splendens</i>	Corvidae	Passeriformes	LC	R
20	White spotted fantail	<i>Rhipidura albogularis</i>	Rhipiduridae	Passeriformes	LC	R
21	Indian pond heron	<i>Ardeola grayii</i>	Ardeidae	Pelecaniformes	LC	R
22	Oriented magpie robin	<i>Copsychus saularis</i>	Muscicapidae	Passeriformes	LC	R
23	Blue tailed bee eater	<i>Merops philippinus</i>	Meropidae	Coraciiformes	LC	RM
25	Great black woodpecker	<i>Dryocopus javensis</i>	Picidae	Piciformes	LC	R
26	Common raven	<i>Corvus corax</i>	Corvidae	Passeriformes	LC	R
27	Cattle egret	<i>Bubulcus ibis</i>	Ardeidae	Pelecaniformes	LC	RM
28	Common tailorbird	<i>Orthotomus sutorius</i>	Cisticolidae	Passeriformes	LC	R
29	Rufous Backed shrike	<i>Lanius schach</i>	Laniidae	Passeriformes	LC	R
30	Indian robin	<i>Saxicoloides fulicatus</i>	Muscicapidae	Passeriformes	LC	R
31	Common myna	<i>Acridotheres tristis</i>	Sturnidae	Passeriformes	LC	R
32	White necked stork	<i>Ciconia episcopus</i>	Ciconiidae	Ciconiiformes	LC	R
33	Small blue kingfisher	<i>Alcedo atthis</i>	Alcedinidae	Coraciiformes	LC	RM
34	Median egret	<i>Mesophoyx intermedia</i>	Ardeidae	Pelecaniformes	LC	RM
35	Ashy prinia	<i>Prinia socialis</i>	Cisticolidae	Passeriformes	LC	R
36	Black – winged stilts	<i>Himantopus himantopus</i>	Recurvirostridae	Charadriiformes	LC	R
37	Lesser flamingo	<i>Phoenicopterus roseus</i>	Phoenicopteridae	Phoenicopteriformes	NT	RM
38	Black ibis	<i>Pseudibis</i>	Threskiornithidae	Pelecaniformes	LC	R

		<i>papillosa</i>				
39	Yellow legged gull	<i>Larus cachinnatus</i>	Laridae	Charadriiformes	LC	M
40	Purple moorhen	<i>Porphyrio porphyrio</i>	Rallidae	Gruiformes	LC	R
41	Glossy ibis	<i>Plegadis falcinellus</i>	Threskiornithidae	Pelecaniformes	LC	RM
42	Brahmy shelduck	<i>Tadorna ferruginea</i>	Anatidae	Anseriformes	LC	R
43	Little tern	<i>Sterna albifrons</i>	Laridae	Charadriiformes	LC	R
44	White wagtail	<i>Motacilla alba</i>	Motacillidae	Passeriformes	LC	RM
45	Oriental white ibis	<i>Threskiornis melanocephalus</i>	Threskiornithidae	Pelecaniformes	LC	R
46	Indian chat	<i>Cercomela fusca</i>	Muscicapidae	Passeriformes	LC	R
47	Bar headed goose	<i>Anser indicus</i>	Anatidae	Anseriformes	LC	RM
48	Female mallard duck	<i>Anas platyrhynchos</i>	Anatidae	Anseriformes	LC	RM
49	Indian chat	<i>Cercomela fusca</i>	Muscicapidae	Passeriformes	LC	R
50	Asian openbill stork	<i>Anastomus oscitans</i>	Ciconiidae	Ciconiiformes	LC	R
51	Loten sunbird	<i>Nectarinia lotenia</i>	Nectariniidae	Passeriformes	LC	R
52	Oriental white- eye	<i>Zosterops palpebrosus</i>	Zosteropidae	Passeriformes	LC	R
53	Indian grey hornbill	<i>Ocyrceros birostris</i>	Bucerotidae	Bucerotiformes	LC	R

**Keys to abbreviations: M – Migrant, R – Resident, RM – Resident Migrant**

**IUCN Status: LC – Least Concern, NT –Near Threatened**

The study revealed the presence of 53 species of birds belonging to families such as Columbidae (3), Anatidae (4), Sturnidae (1), Ardeidae (4), Ciconiidae (3), Cisticolidae(2), Laridae (1), Rallidae (2), Alcedinidae (1), Motacillidae (1), Threskiornithidae (3), Muscicapidae (4), Phoenicopteridae (1), Psittaculidae (1), Strigidae (1), Dicruridae (1), Corvidae (2), Leiothrichidae (1), Laridae (2), Passeridae (1), Pynonotidae (1), Charadriidae (1), Psittaculidae (1), Phasianidae (1), Nectarinidae (2), Cuculidae (1), Meropidae (1), Picidae (1), Rhipiduridae (1), Ploceidae, (1) Recurvirostridae (1), Zosteropidae(1), Bucerotidae (1). Out of these 53 species of birds observed during the study, 39 species were Resident, 13 species were Resident Migrant, and 1 species was Migrant. The present study shows a great diversity of birds in this area. Species richness is higher in winter, while decrease during monsoon and summer

according to availability of suitable habitat. From the above result, it can be concluded that the richness and abundance of birds in the Baramati–Bhigwan indicates that this region provides great habitats such as food, water, suitable places for nesting, breeding and roosting. This study will help in conservation and provide information about the birds in this area.

#### **IUCN conservation status:**

Out of the total 53 recorded bird species, 51 species (96%) were categorized under the Least Concern (LC) category of the IUCN Red List, while 2 species (4%) belonged to the Near Threatened (NT) category.

The dominance of LC species indicates relatively stable avian diversity in the study area, although the presence of NT species highlights the need for continued monitoring and conservation efforts.

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