

# Report on Asian Waterbird Census (AWC 2024) of Hazaribagh East Forest Division, Jharkhand

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**Abstract:** During the census a total of 55 species of wetland birds were sighted belonging to 18 families. Out of these 42 species were water birds (WB) and 13 species were wetland dependent birds (WDB). Out of 55 species, 19 species were resident birds (R) while 15 species were resident migrants (RM) and rest 21 species were migratory (M) birds. During the census a total number of 6515 birds were observed. Out of 6515 birds 2600 were migratory birds. The maximum number of birds was observed at Pawapur dam, Saria (1868) followed by Konar dam (1384), Khamra dam (926), Meru camp (780), Chidri Khurd (656), Urgi dam (583), Jamunia dam (191) and the minimum number was seen at Bodha dam (127). The highest count of bird species observed was Lesser Whistling-Duck (3568), followed by Bar-headed Goose (613), Gadwall (415), Red-crested Pochard (340), Little Cormorant (191), Green-Winged Teal (190), Tufted Pochard (175), and the lowest count of bird species observed was Osprey (1), and Western Marsh Harrier (1). The maximum number of species of birds was sighted at Konar Dam (28) followed by Bodha dam (18), Chidri Khurd (15), Pawapur dam, Saria (14), Urgi dam, Bisungarh (11), Jamunia dam (10), Meru camp (6) and Khamra dam, Bagodar (5). A total of 6 threatened bird species were sighted. Among threatened 3 species were listed in Schedule I of the Wildlife (protection) Act, 1972. 3 species were listed in IUCN Red list. The rest species were in Schedule IV of the Wild Life (Protection) Act, 1972 and Least Concern as per IUCN Red List.

**Keywords:** Hazaribagh East, Asian Waterbird Census, Jharkhand.

## 1. Introduction

Wetlands are highly complex land, most productive and fertile ecosystems in the world, constituting a capital of biodiversity [1]. Monitoring of the wetland birds provides rich information about the ecological health and status of wetland, and this information can be used as a vital tool for developing awareness regarding the conservation value of the wetland. Wetland avifauna acts as an indicator of wetland quality, parameters for assessing revamp success and regional biodiversity [2]. Wetlands are very fragile ecosystems; now days this type of ecosystems are facing major threats of decline due to industrialization, urbanization and agricultural development. Wetland and water birds are inseparable elements and they support a rich array of water bird communities [3].

The Asian Waterbird Census (AWC) forms a part of the International Waterbird Census (IWC), a global programme coordinated by Wetlands International since 1967. In India it is coordinated by Bombay Natural History Society (BNHS). The AWC 2016 in Jharkhand was conducted on large scale with the support of bird watchers, ornithologists, IBCN members, BNHS members, IBCN and AWC State Coordinators (Jharkhand and Bihar), from Mumbai, Jharkhand and Bihar. The census was conducted by Jharkhand Hazaribagh East Forest Division and supported by Forest

Environment and Climate Change Department, Govt. of Jharkhand.

There are around 9702 bird species recorded throughout the world [4], after 2014 world's 9,993 recognized bird species [5], out of which Indian subcontinent harbours 1313 (Over 13%) [6]. India has a total of 310 wetland species of birds of which 130 species are migrants and 173 residents while the status of seven species is not known [7]. In the year 2015 AWC Jharkhand a total of 78 wetland species of birds including 11 threatened bird species were recorded during the census. Out of 78 species, 26 species were resident birds while 23 were resident migrants and the rest 29 were migratory birds [8]. In the year 2016 AWC Jharkhand a total of 71 wetland species of birds belonging to 18 families were recorded during the census Out of these 54 species were water birds (WB) and 17 species were wetland dependent birds (WDB). Out of 71 species, 25 species were resident birds (R) while 21 species were resident migrants (RM) and rest 25 species were migratory (M) birds [9]. In a study done in 2023 from Gumla Forest Division records a total of 41 wetland species of birds belonging to 13 families. Out of these 33 species were waterbirds (WB) and 8 species were wetland dependent birds (WDB). Out of 41 species, 17 species were resident birds (R) while 9 species were resident migrants (RM) and rest 15 species were migratory (M) birds [10]. In another similar study done in Lohardaga Forest Division a total of 45 wetland

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species of birds belonging to 12 families were recorded. Out of these 20 species were waterbirds (WB) and 25 species were wetland dependent birds (WDB). Out of 45 species, 20 species were resident birds (R) while 1 species was resident migrants (RM) and rest 24 species were migratory (M) birds [11].

This year a letter was issued from office of the PCCF Wildlife Ranchi, Jharkhand to all DFOs to undertake annual Asian Waterbird Census (AWC 2024) vide letter no.: 1584 dated:

15/12/2013. The census was conducted on the second week of January between 8/01/2024 to 13/01/2024 in Hazaribagh East Forest Division with the help of local voluntaries and bird enthusiast. Jharkhand Ban Bachao Samiti, Bokaro participated as local voluntaries during the entire period of census.

## 2. Methodology

### 2.1 Study Sites

The census was conducted as per guidelines of AWC, Wetlands International. The Asian Waterbird Census 2024 was conducted from 8th January 2024 to 13th January 2024. Total 8 wetlands including small and large water bodies were selected for the census. Among these, 2 water bodies were major wetlands according to National Wetland Atlas Jharkhand [12] and the rest were selected randomly for the census. The 8 wetlands selected are Konar dam, Konar dam Chidri Khurd, Bodha dam, Jamunia dam, Pawapur dam,

Khamra dam, Urgi dam and some wetlands inside Meru camp located in Hazaribagh district, in the state of Jharkhand. All the wetlands are man-made reservoirs. During the months of winter, they attract a large number of migratory birds.

### 2.2 Research Design

The census of birds was done by ‘direct sighting method’ and species were identified with the help of field guides [13], [14], [15], [9], [16]. Counting of water birds was made following the method of Javed and Kaul [17]. Most of the observations were made during daytime between 6.30 hrs. to 17.00 hrs. The total count method was used for noting the species and number of birds observed. Large bird congregations were approached to the closest possible distance without causing disturbance for counting. Conspicuous species present in relatively small numbers or dispersed widely were counted singly. Birds were sighted with the aid of binoculars Nikon 8245 ACULON A211 10 X 50 and all photographs were taken with camera Cannon EOS R7 and Nikon P1000. Listing of birds was done as per the checklist provided by Kumar et al. [18]. Residential status of the birds has been described as per Ali [16]. The status of threatened birds was identified as per IUCN [19] Red list and Schedule birds were from the Wildlife (Protection) Act [20]. The checklist was prepared using common English and Zoological names, their residential status, IUCN status, the Wildlife (Protection) Act, status and their counts. In addition to the waterbirds, other terrestrial birds sighted and noted during the survey, but were not included in the list.

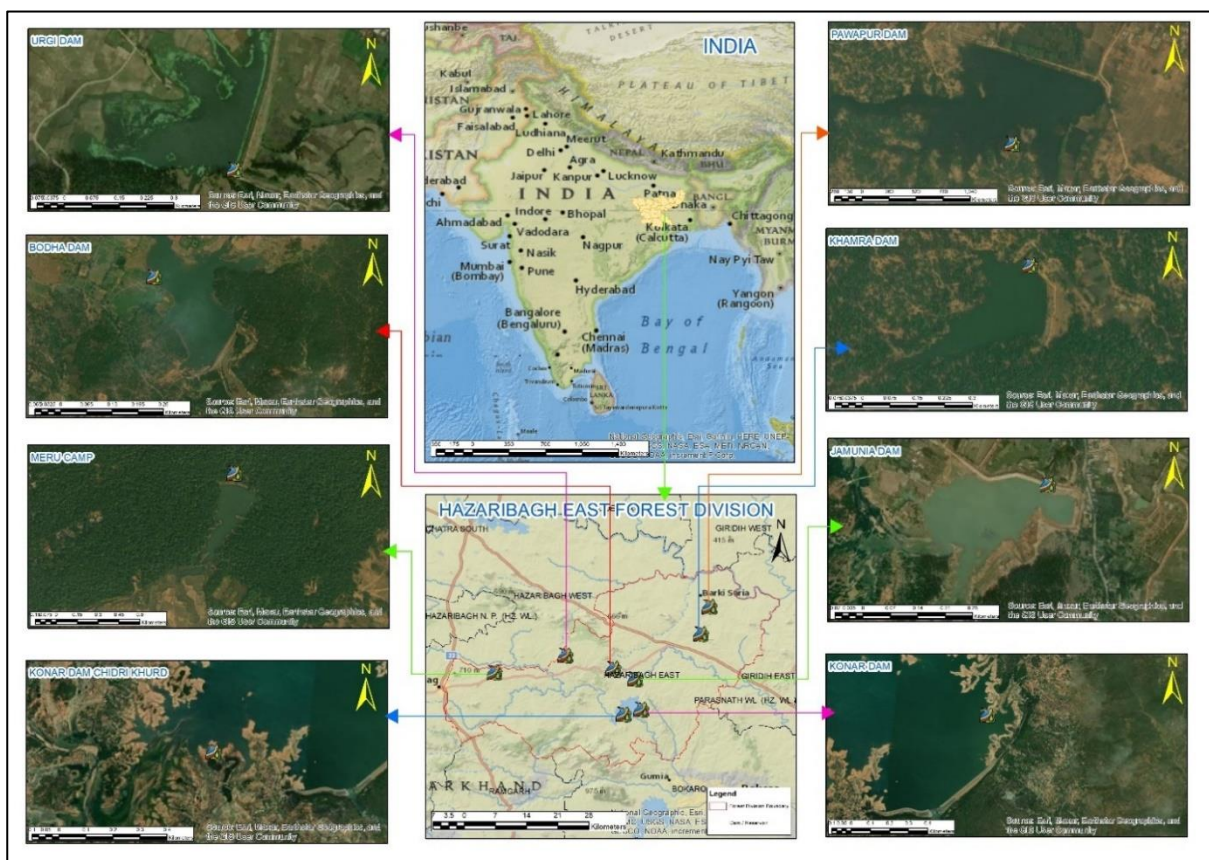


Figure 1: Map of the study area showing all eight wetlands studied (Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community)

**Table 1:** Study (Census) sites

Study Sites	Name of the Study Site	Latitude	Longitude	Status (Sanctuary, IBA)	Total Count
1	Bodha dam	24.05432	85.61721	Potential IBA	127
2	Jamunia dam	24.00698	85.75883	Potential IBA	191
3	Konar dam	23.94523	85.77114	Potential IBA	1384
4	Konar dam Chidri Khurd	23.93552	85.73490	Potential IBA	656
5	Pawapur dam, Saria	24.15301	85.90941	Potential IBA	1868
6	Khamra dam, Bagodar	24.09795	85.89146	Potential IBA	926
7	Urgi dam, Bisungarh	24.02779	85.71436	Potential IBA	583
8	Meru camp	24.02028	85.47292	Potential IBA	780
	<b>Total count</b>				<b>6515</b>

### 3. Result and Discussion

During the census a total of 55 species of wetland birds (Table 2) were sighted belonging to 18 families. Out of these 42 species were water birds (WB) and 13 species were wetland dependent birds (WDB). Out of 55 species, 19 species were resident birds (R) while 15 species were resident migrants (RM) and rest 21 species were migratory (M) birds. During the census a total number of 6515 birds were observed. Out of 6515 birds 2600 were migratory (Table 2). The maximum number of birds was observed at Pawapur dam, Saria (1868) followed by Konar dam (1384), Khamra dam (926), Meru camp (780), Chitri Khurd (656), Urgi dam (583), Jamunia dam (191) and the minimum number was seen at Bodha dam (127). (Table 1)

#### 3.1 Bodha dam

During the study, estimated number of 127 waterbirds and wetland dependent birds belonging to 18 species and 10 families were recorded. Out of these 11 species were waterbirds (WB) and 7 species were wetland dependent birds (WDB). Out of 18 species, 6 species were resident birds (R) while 9 species were resident migrants (RM), and rest 3 species were migratory (M) birds. The highest count of bird species observed was Brahminy Shelduck (50), followed by Little cormorant (16), Little Egret (10), Little Ringed Plover (8), Common Sandpiper (6) and Common Greenshank (4). Details of other species are provided in (Table-2). No threatened bird species were recorded here. All birds recorded are categorized under Least Concern as per IUCN red list and Scheduled IV of the Wildlife (Protection) Act, 1972.

#### 3.2 Jamunia Dam

During the study, estimated number of 191 waterbirds and wetland dependent birds belonging to 10 species and 6 families were recorded. Out of 10 species 7 were waterbirds (WB) and 3 species were wetland dependent birds (WDB). Out of 10 species, 4 species were resident birds (R) while 2 species were resident migrants (RM), and rest 4 species were migratory (M) birds. The highest count of bird species observed was Gadwall (70), followed by Lesser Whistling-Duck (40), Tufted Pochard (25), Little Cormorant (18), Great cormorant (10), Little Grebe (6), and. Details of other species are provided in (Table-2). 1 threatened bird species were recorded here. All birds recorded are categorized under Least Concern as per IUCN red list and 1 species of Scheduled-I species was observed as per the Wildlife (Protection) Act, 1972.

#### 3.3 Konar Dam wetland

During the study, estimated number of 1384 waterbirds and wetland dependent birds belonging to 28 species and 12 families were recorded. Out of 28 species 23 were waterbirds (WB) and 5 species were wetland dependent birds (WDB). Out of 28 species, 8 species were resident birds (R) while 7 species were resident migrants (RM), and rest 13 species were migratory (M) birds. The highest count of bird species observed was Gadwall (300), followed by Green-Winged Teal (190) Bar-headed Goose (177), Little Cormorant (140), Brown-headed Gull (110), Tufted Pochard (80) and Cotton Teal (60). Details of other species are provided in (Table-2). 3 threatened bird species was observed at Konar dam. 2 species were listed as Near Threatened (NT) in IUCN red list and 1 species was listed as Schedule-I of the Wildlife (Protection) Act, 1972 (Table 3).

#### 3.4 Chidri Khurd wetland

During the study, estimated number of 656 waterbirds and wetland dependent birds belonging to 15 species and 9 families were recorded. Out of these 15 species 14 were waterbirds (WB) and 1 species was wetland dependent birds (WDB). Out of 15 species, 5 species were resident birds (R) while 3 species was resident migrants (RM), and rest 7 species were migratory (M) birds. The highest count of bird species observed was Red-crested Pochard (300), followed by Bar-headed Goose (125), Tufted Pochard (70) Asian Openbill-Stork (50), Brown-headed Gull (28), Little Grebe (28) and Common Pochard (12). Details of other species are provided in (Table-2). No threatened bird species were recorded here. All birds recorded are categorized under Least Concern as per IUCN red list and 1 species observed was listed as Schedule-I of the Wildlife (Protection) Act, 1972 (Table 3).

#### 3.5 Pawapur Dam

During the study, estimated number of 1868 waterbirds and wetland dependent birds belonging to 14 species and 8 families were recorded. Out of these 14 species 11 were waterbirds (WB) and 3 species was wetland dependent birds (WDB). Out of 14 species, 7 species were resident birds (R) while 4 species was resident migrants (RM), and rest 3 species were migratory (M) birds. The highest count of bird species observed was Lesser Whistling-Duck (1785), followed by Common Coot (30), Cattle Egret (8), Grey-headed swamphen (8) and Little Cormorant (5). Details of other species are provided in (Table-2). No threatened bird species were recorded here. All birds recorded are categorized under Least Concern as per IUCN red list and Scheduled IV of the Wildlife (Protection) Act, 1972.

**3.6 Khamra Dam**

During the study, estimated number of 926 waterbirds and wetland dependent birds belonging to 5 species and 2 families were recorded. Out of these 3 species were waterbirds (WB) and 2 species were wetland dependent birds (WDB). Out of 5 species, 2 species were resident birds (R) while 1 species was resident migrants (RM), and 2 species were migratory (M) birds. The highest count of bird species observed was Lesser Whistling-Duck (900), followed by Gadwall (16), and Brahminy Shelduck (4). Details of other species are provided in (Table-2). No threatened bird species were recorded here. All birds recorded are categorized under Least Concern as per IUCN red list and Scheduled IV of the Wildlife (Protection) Act, 1972.

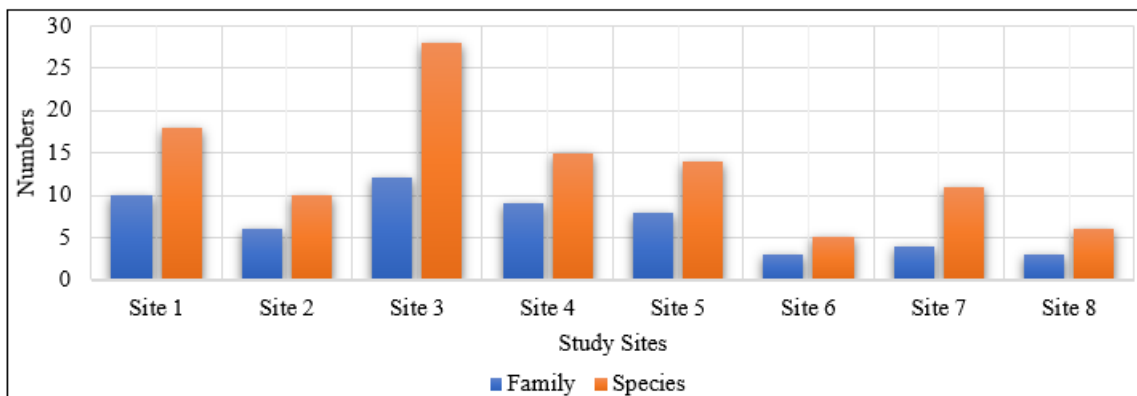
**3.7 Urgi Dam**

During the study, estimated number of 583 waterbirds and wetland dependent birds belonging to 11 species and 4 families were recorded. All species were waterbirds (WB). Out of 11 species, 4 species were resident birds (R) while 2 species was resident migrants (RM), and rest 5 species were migratory (M) birds. The highest count of bird species

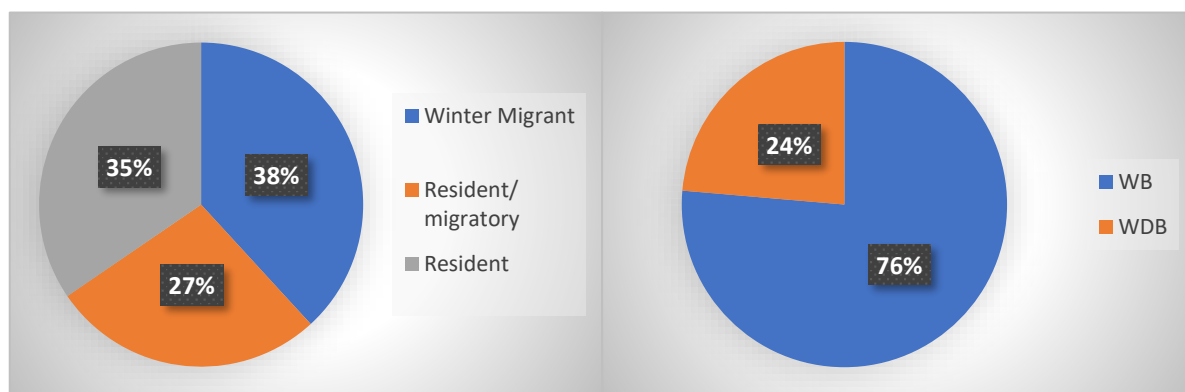
observed was Bar-headed Goose (311), followed by Lesser Whistling-Duck (112), Red-crested Pochard (40) Common Moorhen (32), Cattle Egret (28) and Common Coot (18). Details of other species are provided in (Table-2). 1 near threatened (NT) bird species was recorded here as per IUCN red list. All species recorded falls in Scheduled IV category of the Wildlife (Protection) Act, 1972.

**3.8 Meru camp wetlands**

During the study, estimated number of 780 waterbirds and wetland dependent birds belonging to 6 species and 3 families were recorded. All species recorded were waterbirds (WB). Out of 6 species, 3 species were resident birds (R) and rest 3 species were migratory (M) birds. The highest count of bird species observed was Lesser Whistling-Duck (731), followed by Gadwall (12), Brahminy Shelduck (11), Cotton Teal (10) and Little Grebe (8), Details of other species are provided in (Table-2). No threatened bird species were recorded here. All birds recorded are categorized under Least Concern as per IUCN red list and Scheduled IV of the Wildlife (Protection) Act, 1972.



**Figure 3:** Site wise Family and Species Richness



WD: Waterbirds, Wetland Dependent Birds.

**Figure 4:** Residential status and habit of waterbirds

**3.9 Threatened bird species**

A total of 6 threatened bird species were sighted. Among threatened 3 species were listed in Schedule I of the Wildlife (protection) Act, 1972. 3 species were listed in IUCN Red list (Table - 3). The rest species were in Schedule IV of the Wild Life (Protection) Act, 1972 and Least Concern as per IUCN Red List. Among six threatened bird species Oriental White

Ibis (*Threskiornis melanocephalus*), Ferruginous Pochard (*Aythya nyroca*), and River Tern (*Sterna aurantia*) were near threatened (NT); as per IUCN Red list. The other three species, Western Marsh Harrier (*Circus aeruginosus*), Osprey (*Pandion haliaetus*) and Fulvous Whistling Duck (*Dendrocygna bicolor*) were listed as Schedule I of the Wildlife (Protection) Act, 1972.

Table 2: Data on Asian Waterbird Census (AWC 2024) in Hazaribagh East Forest Division

Sl. No.	Common Name	Family	Scientific Name	Habitat	Residential Status	WPA, 1972	IUCN Status	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8
								Bodha dam	Jamunia dam	Konar dam	Chidri Khurd	Pawapur dam	Khamra dam	Urgi dam,	Meru camp
1	Asian Openbill-Stork	Ciconiidae	<i>Anastomus oscitans</i>	WB	R	IV	LC			25	50				
2	Bar-headed Goose	Anatidae	<i>Anser indicus</i>	WB	M	IV	LC			177	125			311	
3	Black Ibis	Threskiornithidae	<i>Pseudibis papillosa</i>	WB	R	IV	LC	4		14	8				
4	Black Kite	Accipitridae	<i>Milvus migrans</i>	WDB	R	IV	LC		8						
5	Black-winged Stilt	Recurvirostridae	<i>Himantopus himantopus</i>	WB	R	IV	LC	2		12	4				
6	Brahminy Shelduck	Anatidae	<i>Tadorna ferruginea</i>	WB	M	IV	LC	50		15		2	4		11
7	Bronze winged Jacana	Jacanidae	<i>Metopidius indicus</i>	WB	R	IV	LC					3			
8	Brown-headed Gull	Laridae	<i>Larus brunnicephalus</i>	WB	RM	IV	LC			110	28				
9	Cattle Egret	Ardeidae	<i>Bubulcus ibis</i>	WB	R	IV	LC	6	12			8		28	
10	Common Coot	Rallidae	<i>Fulica atra</i>	WB	RM	IV	LC					30		18	
11	Common Greenshank	Scolopacidae	<i>Tringa nebularia</i>	WB	M	IV	LC	4							
12	Common kestrel	Falconidae	<i>Falco tinnunculus</i>	WDB	M	IV	LC					2			
13	Common Moorhen	Rallidae	<i>Gallinula chloropus</i>	WB	R	IV	LC							32	
14	Common Pochard	Anatidae	<i>Aythya ferina</i>	WB	M	IV	LC			28	12				
15	Common Sandpiper	Scolopacidae	<i>Actitis hypoleucos</i>	WB	RM	IV	LC	6							
16	Common Snipe	Scolopacidae	<i>Gallinago gallinago</i>	WB	RM	IV	LC			8					
17	Common Swallow	Hirundinidae	<i>Hirundo rustica</i>	WDB	RM	IV	LC			18					
18	Cotton Teal	Anatidae	<i>Nettapus coromandelianus</i>	WB	M	IV	LC			60				12	10
19	Eurasian Wigeon	Anatidae	<i>Anas penelope</i>	WB	M	IV	LC			8					
20	Ferruginous Pochard	Anatidae	<i>Aythya nyroca</i>	WB	M	IV	NT							8	
21	Fulvous Whistling Duck	Anatidae	<i>Dendrocygna bicolor</i>	WB	RM	I	LC			21					
22	Gadwall	Anatidae	<i>Anas strepera</i>	WB	M	IV	LC		70	300		2	16	15	12
23	Great Cormorant	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	WB	M	IV	LC		10		6				
24	Great Crested Grebe	Podicipedidae	<i>Podiceps cristatus</i>	WB	M	IV	LC			14	9				
25	Green-Winged Teal	Anatidae	<i>Anas crecca</i>	WB	M	IV	LC			190					
26	Grey-headed Lapwing	Charadriidae	<i>Vanellus cinereus</i>	WB	M	IV	LC			32					
27	Grey-headed swamphen	Rallidae	<i>Porphyrio poliocephalus</i>	WB	R	IV	LC					8			
28	Greylag Goose	Anatidae	<i>Anser anser</i>	WB	M	IV	LC			43					
29	Large Egret	Ardeidae	<i>Casmerodius albus</i>	WB	RM	IV	LC	5							
30	Large Pied Wagtail	Motacillidae	<i>Motacilla maderaspatensis</i>	WDB	R	IV	LC	1		4		6	4		
31	Lesser Pied Kingfisher	Alcedinidae	<i>Ceryle rudis</i>	WDB	R	IV	LC	1		3					
32	Lesser Whistling-Duck	Anatidae	<i>Dendrocygna javanica</i>	WB	R	IV	LC		40			1785	900	112	731
33	Little Cormorant	Phalacrocoracidae	<i>Phalacrocorax niger</i>	WB	RM	IV	LC	16	18	140	12	5			
34	Little Egret	Ardeidae	<i>Egretta garzetta</i>	WB	RM	IV	LC	10							
35	Little Grebe	Podicipedidae	<i>Tachybaptus ruficollis</i>	WB	R	IV	LC		6		21	5			8
36	Little Ringed Plover	Charadriidae	<i>Charadrius dubius</i>	WB	RM	IV	LC	8		4	6			2	
37	Little Stint	Scolopacidae	<i>Calidris minuta</i>	WB	M	IV	LC	2							
38	Median Egret	Ardeidae	<i>Mesophoyx intermedia</i>	WB	RM	IV	LC					3			
39	Northern Pintail	Anatidae	<i>Anas acuta</i>	WB	M	IV	LC			32					
40	Oriental White Ibis	Threskiornithidae	<i>Threskiornis melanocephalus</i>	WB	R	IV	NT			4					

41	Osprey	Pandionidae	<i>Pandion haliaetus</i>	WDB	M	I	LC				1					
42	Pheasant-tailed Jacana	Jacanidae	<i>Hydrophasianus chirurgus</i>	WB	R	IV	LC					4				
43	Red-crested Pochard	Anatidae	<i>Rhodonessa ru* na</i>	WB	M	IV	LC				300			40		
44	Red-wattled lapwing	Charadriidae	<i>Vanellus indicus</i>	WB	R	IV	LC				4				8	
45	River Tern	Laridae	<i>Sterna aurantia</i>	WB	R	IV	NT			4						
46	Small Blue Kingfisher	Alcedinidae	<i>Alcedo atthis</i>	WDB	RM	IV	LC	2								
47	Tufted Pochard	Anatidae	<i>Aythya fuligula</i>	WB	M	IV	LC		25	80	70					
48	Western Marsh Harrier	Accipitridae	<i>Circus aeruginosus</i>	WDB	M	I	LC		1							
49	White Wagtail	Motacillidae	<i>Motacilla alba</i>	WDB	RM	IV	LC	3								
50	White-breasted Kingfisher	Alcedinidae	<i>Halcyon smyrnensis</i>	WDB	R	IV	LC	3								
51	White-breasted Waterhen	Rallidae	<i>Amaurornis phoenicurus</i>	WB	R	IV	LC							5		
52	White-capped Redstart	Prunellidae	<i>Chaimarrornis leucocephalus</i>	WDB	R/M	IV	LC	2								
53	Wire-tailed Swallow	Hirundinidae	<i>Hirundo smithii</i>	WDB	R	IV	LC			32						
54	Wood Sandpiper	Scolopacidae	<i>Tringa glareola</i>	WB	M	IV	LC			2						
55	Yellow Wagtail	Motacillidae	<i>Motacilla fava</i>	WDB	RM	IV	LC	2	1	4		5	2			
<b>Total Count</b>									<b>127</b>	<b>191</b>	<b>1384</b>	<b>656</b>	<b>1868</b>	<b>926</b>	<b>583</b>	<b>780</b>

**\*Note: - WB-** Wetland Bird, **WDB-** Wetland Dependent Bird, **M-**Migratory, **RM-** Resident Migratory, **R-** Resident, **VN-** Vulnerable, **NT-**Near Threatened, **LC-** Least Concern, **WPA-** Wildlife Protection Act, **IUCN-** International Union for Conservation of Nature

**Table 3:** Threatened birds sited during AWC 2024 in Hazaribagh East Forest Division

Sl. No.	Common Name	Family	Scientific Name	Habitat	Residential Status	WPA, 1972	IUCN Status	Total Count	Place
1	Oriental White Ibis	Threskiornithidae	<i>Threskiornis melanocephalus</i>	WB	R	IV	NT	4	Konar dam
2	Ferruginous Pochard	Anatidae	<i>Aythya nyroca</i>	WB	M	IV	NT	8	Urgi dam
3	River Tern	Laridae	<i>Sterna aurantia</i>	WB	R	IV	NT	4	Konar dam
4	Western Marsh Harrier	Accipitridae	<i>Circus aeruginosus</i>	WDB	M	I	LC	1	Jamunia dam
5	Osprey	Pandionidae	<i>Pandion haliaetus</i>	WDB	M	I	LC	1	Chidri Khurd
6	Fulvous Whistling Duck	Anatidae	<i>Dendrocygna bicolor</i>	WB	RM	I	LC	21	Konar dam

**\*Note: - WB-** Wetland Bird, **WDB-** Wetland Dependent Bird, **M-**Migratory, **RM-** Resident Migratory, **R-** Resident, **VN-** Vulnerable, **NT-**Near Threatened, **LC-** Least Concern, **WPA-** Wildlife Protection Act, **IUCN-** International Union for Conservation of Nature

**4. Conclusion**

In spite of its small size wetlands like Urgi, Khamra, Bodha, Meru camp, Hazaribagh East Forest Division supports a good number of avifaunal diversities almost 40% of water bird species of Hazaribagh district, owing to its diverse habitats. The different wetlands harbor many resident and migratory bird species, out of which some are globally threatened. Moreover, it is an important area for the members of Anatidae, Ardeidae and Scolopacidae Families. In addition, the varied diversities of habitats such as Wetland, Forests, Scrubland and Human habitat or Cropland supports a diverse group of other birds. Being very important area for a variety of water bird diversity its wetlands should receive immediate attention for conservation. The findings of the present study will help in understanding local diversity, distribution, and conservation status of water birds in this landscape which, will help in drawing sustainable conservation strategies by balancing human demand and ecological services provided by these flying creatures. Further, future studies can be conducted to enhance the checklist on avian fauna diversity of entire Hazaribagh East Forest Division.

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## Author Profile



**Mr. Sanjay Xaxa** is Consultant & Functional Area Expert (Ecology & Biodiversity) in CMPDI, Ranchi. He received his education in Zoology with specialization in Ecology. He has brilliant academic record being distinction in M.Phil. along with B.Sc. and M.Sc. Zoology. He is having more than 15 years of experience in Wildlife studies and research. He has published more than ten articles and research paper along with participation in 10 National and International Seminar/Workshop. He has sharp Knowledge about landscape conservation related to Species and Biodiversity. He is

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**Mr. Sourav Chandra** is an Indian Forest Service (IFS) officer of the 2012 batch, known for his dedicated service in various capacities. Presently he is serving as the Divisional Forest Officer (DFO) in Hazaribagh East Forest Division since 2021. In this role, he is responsible for overseeing and managing the forest resources and wildlife conservation efforts in the region. He has likely demonstrated a strong commitment to environmental conservation, sustainable forest management, and wildlife protection, contributing significantly to the preservation of India's natural heritage.



**Mr. Chandra Sharma** is Scientist- C in Environment Division, ICFRE, Dehradun. He received his education in Restoration Ecology and Botany. He has brilliant academic record being distinction in M.Sc. along with B.Sc. Botany. He is having more than 15 years of experience in Eco restoration and Wildlife research. He has published more than 13 articles and research paper along with participation in 15 National and International Seminar/Workshop. He has sharp Knowledge about Environmental Impact Assessment and Environmental Audit of coal mines. He is excellent in collection of information related to physical environment in mining areas (soil, water, noise, etc.), impacts of mining on environment, collection of socio-economic data and livelihood dependency of fringe communities, analysis and report writing.



**Mr. Avinash Kumar** is a distinguished GIS (Geographic Information System) expert known for his profound knowledge and innovative applications in the field. He is a multifaceted individual, excelling not only as a GIS expert but also as a bird watcher. He has published more than five articles and research paper along with participation in 10 National and International Seminar/Workshop. For the past nine years, he has been an integral part of the Indian Council of Forestry Research and Education (ICFRE) as a GIS domain expert. He has played a crucial part in leveraging geographic information systems to address various challenges in forestry research and environmental management.



**Mr. Dashrath Thakur**, is the Director of Ban Bachao Samiti, Bokaro. He has a profound dedication in safeguarding wildlife, forests, and the environment while also has a deep passion for bird watching. As a good bird watcher, he actively monitors bird populations, records sightings, and advocates for the protection of critical bird habitats. In addition to conservation efforts, Mr. Thakur has been actively involved in conducting livelihood training programs for local villagers. By empowering communities with alternative sustainable livelihood options such as agroforestry, eco-tourism, and non-timber forest product cultivation, he has helped alleviate dependency on forest resources while providing economic opportunities that align with conservation goals. These initiatives not only contribute to poverty alleviation but also foster a sense of stewardship among local residents, incentivizing their active participation in forest protection efforts.

Photo Plate: 1 (Birds observed during AWC 2024 in Hazaribagh East Forest Division)



**Description of the Photographs:** - 1. Ruddy shelduck (*Tadorna ferruginea*) 2. Common pochard (*Aythya ferina*) 3. Greylag goose (*Anser anser*) 4. Bar-headed goose (*Anser indicus*) 5. Grey-headed lapwing (*Vanellus cinereus*) 6. Brown-headed gull (*Chroicocephalus brunnicephalus*) 7. Great crested grebe (*Podiceps cristatus*) 8. Lesser whistling duck (*Dendrocygna javanica*) 9. Cotton pygmy goose (*Nettapus coromandelianus*) 10. Tufted duck (*Aythya fuligula*) 11. Little grebe (*Tachybaptus ruficollis*) 12. Pheasant-tailed jacana (*Hydrophasianus chirurgus*) 13. Red-crested pochard (*Netta rufina*) 14. Gadwall (*Mareca strepera*) 15. White-throated kingfisher (*Halcyon smyrnensis*) 16. Black-headed ibis (*Threskiornis melanocephalus*)