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# Envis-Jharkhand News

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## Preface

Everything comes from biodiversity but issues arise threatening this vital part of nature. Threats on endangered species, receding wetlands, denuded forest trees and other harmful effects of human activities are just some of these many issues.

Keeping this in mind, in simple and lucid manner this newsletter brings to the readers valuable information on Birds census in major wetland of Jharkhand, Ancient trees, Gurmar; A RET species conservation, Ethnobotany of Kadam tree, Different success stories of plantation, Workshop on climate change and Plant rituals and mythology of Jharkhand is also included.

I hope that the newsletter will be immense theoretical / practical significance to researchers / forest officials and others by serving a guide for biodiversity, conservation of biological diversity by subsequent reduction of pressure on natural forest.

In future many research activities / information issue will be published and compiled by this centre.

Dinesh Kumar, IFS

C.F. Plantation  
Research & Evaluation  
-cum-  
Envis Coordinator  
Jharkhand, Ranchi





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# Report on Asian Waterbird Census (AWC 2015), Jharkhand

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## Introduction

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 2015 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 Delhi, Mumbai, Jharkhand and Bihar and with the support of Forest and Environment Department, Govt. of Jharkhand.

The avifauna of India includes around 1313 species of birds (Grimmett *et al.*, 2011). 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 (Kumar *et al.*, 2006). This census was undertaken to identify the wetland species of birds and their estimated numbers in Jharkhand at the selected wetlands.

## Study Site and Methodology

The census was conducted as per guidelines of AWC, Wetlands International. Asian Waterbird Census 2015 was conducted in twenty five selected water bodies in different districts of Jharkhand (Table-1, Graph-1). The census was conducted from 22<sup>nd</sup> January to 11<sup>th</sup> February 2015. Both small and large water bodies were selected for the census. Among these, eleven water bodies were major wetlands according to National Wetland Atlas: Jharkhand (2010) and the rest were selected randomly for census. Among these IBA (Important Birds Areas) sites of Jharkhand, Wildlife Sanctuaries and the sole National Park (Betla) of Jharkhand were also selected for census.

The census of birds was done by 'direct sighting method' and species were identified with the help of guides (Ali and Ripley 1987, Manakadan *et al* 2011; Grimmett *et al.*, 1999; 2011; Ali, 2002). Counting of waterbirds was made following the method of Javed and Kaul (2002). Most of the observations were made during day time in the morning from 6.30 hrs. to 17.00 hrs in the evening. Listing of birds was done as per the checklist provided by Kumar *et al.*, (2003). Residential status of the birds has been described as per Ali (2002). The status of Threatened birds was identified as per IUCN Red list and Schedule birds were from The Wildlife (Protection)

Act 1972. The checklist was prepared using common English and scientific names, their residential status, IUCN status, The Wildlife (Protection) Act, 1972 status and their counts.

## Results and Discussion

During the survey a total of 78 species of wetland bird species (Table 4) were recorded belonging to 19 families. Out of these 62 were water birds and 16 were wetland dependent birds. Out of 78 species, 26 species were resident birds while 23 were resident migrants and the rest 29 were migratory birds (Table-3). During the census an estimated total of 71,170 birds were observed. Among these 37168 were migratory birds (Table-3).

The maximum number of species of birds was sighted at Udhuwa Lake Bird Sanctuary (51) followed by Tilaya Dam (43), Masanjore (39), Garga Dam (29) and the minimum number was seen at Tapkara Dam (9).

Maximum total count of different wetland bird species was observed at Masanjore Dam (9564) followed by Chandil Dam (7896) and Udhuwa Lake Bird Sanctuary (7823) and the least was observed at Tapkara Dam (57). The details of other water bodies are provided in Table 1.

The highest count of bird species observed was Lesser Whistling-Duck (12809) which were observed in maximum number at Tenughat Dam (5000) followed by Red-crested Pochard (10370) observed in maximum number at Tilaya Dam (2500) and Patratu Dam (2500); Common Coot (8985) seen in maximum number at Tilaya Dam (2500) and Chandil Dam (2500); Bar-headed Goose (7008) found maximum at Khandoli Dam (2000) and Patratu Dam (1500); Tufted Duck (5559) seen maximum at Masanjore Dam (3000) followed by Chandil Dam (1000) and Konar Dam (500); Northern Pintail (2776) seen in maximum at Hatia (1200) followed by Maithon Dam (600) and Northern Shoveller (1748) seen maximum at Getalshud Dam (1500). The details of other species are provided in Table-4.

It was interesting to note that a single White-capped Redstart (*Chaimarrornis leucocephalus*) that is resident and also breeds in Himalayas and North East Indian Hills, winters south to Baluchistan and Bangladesh was sighted at Masanjore Dam (Dumka).





### Sighting of Tagged Bar-headed Goose

During the survey at Konar Dam (Hazaribag) and Hatia Dam (Ranchi), a green collared tagged Bar-headed Goose was sighted. It is interesting to report that the bird was photographed and the green collar contained the code F 40. Similarly, another green collared tagged Bar-headed Goose was also sighted at Hatia Dam but unfortunately we were unable to take good photograph of it. However the collar bore a code that started with letter K. The details of the collared bird species were sent to Bombay Natural History Society (BNHS) for getting information of tagged Bar headed Goose observed in Jharkhand. Subsequently the BNHS and Head, Laboratory of Ornithology, Institute of Biology, MAS, Wildlife Science and conservation Center, Mongolia confirmed that the tagging was done in Mongolia. Further the Bar-headed Goose with the code F40, sighted at Konar Dam was tagged on 15 July 2013 at the Northwest bay of the Terkhiin Tsagaan Lake in province Arkhangai of the Central Mongolia (capture location N 48.161426, E 99.596579 ) and the other bird from Hatia Dam with code-K was also tagged in Mongolia. These information ascertain that the migratory Bar-headed Goose come from Mongolia in Jharkhand.



Tagged Bar Headed Goose at Konar Dam

### Threatened Bird Species

Eleven threatened bird species were recorded at different places in Jharkhand during the census. Among these Darter (*Anhinga melanogaster*), Oriental White Ibis (*Threskiornis melanocephalus*), Ferruginous Pochard (*Aythya nyroca*), Eurasian Curlew (*Numenius arquata*), River Tern (*Sterna aurantia*) were near threatened (NT); White-necked Stork (*Ciconia episcopus*), Lesser Adjutant-Stork (*Leptoptilos javanicus*) were Vulnerable (Vu) and Black-bellied Tern (*Sterna acuticauda*) was endangered (EN) as per IUCN Red list. The other three species, Western Marsh Harrier (*Circus aeruginosus*), Osprey

(*Pandion haliaetus*) and Fulvous/Large Whistling Duck (*Dendrocygna bicolor*) were listed as Schedule I as per The Wildlife (Protection) Act, 1972 (Table - 2).



White Necked Stork at Tilaya Dam

Resident birds, Lesser Adjutant (Vu) and Darter (NT) were recorded only at Udhuwa Lake Bird Sanctuary. White-necked Stork (Vu) also a resident species was recorded at Tilaya Dam, Udhuwa Lake Bird Sanctuary, Tenugaht Dam and Malay Dam (Latehar). Oriental White Ibis (NT) was sighted at Tilaya Dam, Udhuwa Lake Bird Sanctuary (maximum number 800), Khandoli Dam (Giridih), Sitarampur Dam (Saraikela) and Malay Dam.



Oriental White Ibis at Malay Dam

### Acknowledgements

We are greatly indebted to PCCF-cum-Chief Wildlife Warden, Jharkhand, Shri B.C.Nigam for taking initiative to carry out AWC 2015 in Jharkhand successfully. We are highly thankful to Arvind Mishra, Mridula Sapru, Prabhat Thakur, Kevin Paul, Murari Singh, Indrajeet Samanta, Amit Sinha, Dinesh Kumar, Conservator of forest, Plantation Research and Evaluation, Ranchi and all Divisional Forest Officers, Forest and Environment Department, Jharkhand of different divisions for their support and encouragement during the census. Special thanks are due to the Range





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

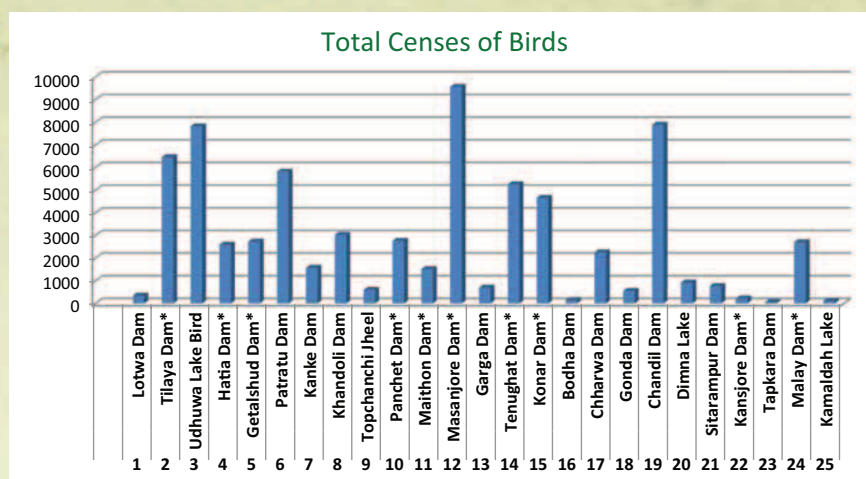
Sl. No.	Study Site	Status (Sanctuary, IBA)	District	Total Censes of Birds
1	Lotwa Dam	Hazaribag Wildlife Sanctuary/IBA	Hazaribag	348
2	Tilaya Dam*	IBA	Koderma	6460
3	Udhuwa Lake Bird Sanctuary*	Udhuwa Lake Bird Sanctuary/IBA	Sahibganj	7823
4	Hatia Dam*		Ranchi	2598
5	Getalshud Dam*		Ranchi	2737
6	Patratu Dam		Ramgarh	5821
7	Kanke Dam		Ranchi	1575
8	Khandoli Dam		Giridih	3028
9	Topchanchi Jheel	Topchanchi Wildlife Sanctuary/IBA	Dhanbad	604
10	Panchet Dam*		Dhanbad	2765
11	Maithon Dam*	IBA	Dhanbad	1518
12	Masanjore Dam*		Dumka	9564
13	Garga Dam		Bokaro	700
14	Tenughat Dam*		Bokaro	5264
15	Konar Dam*		Hazaribag	4665
16	Bodha Dam		Hazaribag	149
17	Chharwa Dam		Hazaribag	2260
18	Gonda Dam		Hazaribag	561
19	Chandil Dam		Seraikela	7896
20	Dimna Lake	Dalma Wildlife Sanctuary/IBA	Jamshedpur	929
21	Sitarampur Dam		Sarikela	770
22	Kansjore Dam*		Simdega	223
23	Tapkara Dam	Palkot Wildlife Sanctuary	Palkot	57
24	Malay Dam*		Latehar	2707
25	Kamaldah Lake	Palamau Tiger Reserve / IBA	Palamau	112
<b>Total :</b>				<b>71170</b>

Abbreviation :-

\* Major wetlands of Jharkhand according to National Wetland Atlas: Jharkhand (2010)

IBA - Important Bird Areas

We select 25 study sites out of which 11 sites are major wetlands of Jharkhand according to National Wetland Atlas Jharkhand, 2010. (Graph-1)



Graph-1 : Showing Site wise bird censuses in Jharkhand

**Table 2 : Threatened Birds Sighted during Asian Waterbird Census (AWC) Jharkhand - 2015**

Sl. No.	Common Name	Scientific Name	Habitat	Residential Status	WPA 1972	IUCN Status	Total Count
1	Darter	<i>Anhinga melanogaster</i>	WB	RM	IV	NT	1
2	White-necked Stork	<i>Ciconia episcopus</i>	WB	R	IV	Vu	10
3	Lesser Adjutant-Stork	<i>Leptoptilos javanicus</i>	WB	RM	IV	Vu	5
4	Oriental White Ibis	<i>Threskiornis melanocephalus</i>	WB	R	IV	NT	818
5	Fulvous Whistling Duck	<i>Dendrocygna bicolor</i>	WB	RM	I	LC	250
6	Ferruginous Pochard	<i>Aythya nyroca</i>	WB	M	IV	NT	1
7	Western Marsh Harrier	<i>Circus aeruginosus</i>	WDB	M	I	LC	2
8	Osprey	<i>Pandion haliaetus</i>	WDB	M	I	LC	2
9	Eurasian Curlew	<i>Numenius arquata</i>	WB	M	IV	NT	1
10	River Tern	<i>Sterna aurantia</i>	WB	R	IV	NT	11
11	Black-bellied Tern	<i>Sterna acuticauda</i>	WB	R	IV	EN	7

**Table 3 : Migratory Birds Sighted during the AWC Jharkhand 2015**

Sl. No.	Common Name	Scientific Name	Habitat	Residential Status	WPA 1972	IUCN Status	Total count
1	Great Crested Grebe	<i>Podiceps cristatus</i>	WB	M	IV	LC	975
2	Great Cormorant	<i>Phalacrocorax carbo</i>	WB	M	IV	LC	276
3	Gadwall	<i>Anas strepera</i>	WB	M	IV	LC	4786
4	Northern Shoveller	<i>Anas clypeata</i>	WB	M	IV	LC	1748
5	Bar-headed Goose	<i>Anser indicus</i>	WB	M	IV	LC	7008
6	Red-crested Pochard	<i>Rhodonessa rufina</i>	WB	M	IV	LC	10370
7	Ferruginous Pochard	<i>Aythya nyroca</i>	WB	M	IV	NT	1
8	Common Pochard	<i>Aythya ferina</i>	WB	M	IV	LC	1560
9	Northern Pintail	<i>Anas acuta</i>	WB	M	IV	LC	2776
10	Tufted Duck	<i>Aythya fuligula</i>	WB	M	IV	LC	5549
11	Brahminy Shelduck	<i>Tadorna ferruginea</i>	WB	M	IV	LC	451
12	Eurasian Wigeon	<i>Anas penelope</i>	WB	M	IV	LC	145
13	Common Teal	<i>Anas crecca</i>	WB	M	IV	LC	89
14	Mallard	<i>Anas platyrhynchos</i>	WB	M	IV	LC	2
15	Common Merganser	<i>Mergus merganser</i>	WB	M	IV	LC	4
16	Western Marsh Harrier	<i>Circus aeruginosus</i>	WDB	M	I	LC	2





Sl. No.	Common Name	Scientific Name	Habitat	Residential Status	WPA 1972	IUCN Status	Total count
17	Osprey	<i>Pandion haliaetus</i>	WDB	M	I	LC	2
18	Grey-headed Lapwing	<i>Vanellus cinereus</i>	WB	M	IV	LC	300
19	Green Sandpiper	<i>Tringa ochropus</i>	WB	M	IV	LC	4
20	Wood Sandpiper	<i>Tringa glareola</i>	WB	M	IV	LC	273
21	Little Stint	<i>Calidris minuta</i>	WB	M	IV	LC	20
22	Temminck's Stint	<i>Calidris temminckii</i>	WB	M	IV	LC	101
23	Eurasian Curlew	<i>Numenius arquata</i>	WB	M	IV	NT	1
24	Common Greenshank	<i>Tringa nebularia</i>	WB	M	IV	LC	7
25	Black-headed Gull	<i>Larus ridibundus</i>	WB	M	IV	LC	687
26	Pallas's Gull	<i>Larus ichthyaetus</i>	WB	M	IV	LC	1
27	Grey Wagtail	<i>Motacilla cinerea</i>	WDB	M	IV	LC	14
28	Rosy Pipit	<i>Anthus roseatus</i>	WDB	M	IV	LC	15
29	White-capped Redstart	<i>Chaimarrornis leucocephalus</i>	WDB	R/M	IV	LC	1
<b>TOTAL :</b>							<b>37168</b>

**Table : 4 Total Bird Species Diversity in All 25 Study Sites at Jharkhand**

Sl. No.	Common Name	Scientific Name	Total
1	Little Grebe	<i>Tachybaptus ruficollis</i>	1167
2	Great Crested Grebe	<i>Podiceps cristatus</i>	1085
3	Little Cormorant	<i>Phalacrocorax niger</i>	1685
4	Great Cormorant	<i>Phalacrocorax carbo</i>	276
5	Indian Shag/Cormorant	<i>Phalacrocorax fuscicollis</i>	468
6	Darter	<i>Anhinga melanogaster</i>	1
7	Little Egret	<i>Egretta garzetta</i>	848
8	Grey Heron	<i>Ardea cinerea</i>	17
9	Purple Heron	<i>Ardea purpurea</i>	13
10	Large Egret	<i>Casmerodius albus</i>	224
11	Median Egret	<i>Mesophoyx intermedia</i>	453
12	Cattle Egret	<i>Bubulcus ibis</i>	714
13	Indian Pond Heron	<i>Ardeola grayii</i>	574
14	Little Green Heron	<i>Butorides striatus</i>	1
15	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	2
16	Chestnut Bittern	<i>Lxobrychus cinnamomeus</i>	1
17	Asian Openbill-Stork	<i>Anastomus oscitans</i>	1803
18	White-necked Stork	<i>Ciconia episcopus</i>	10
19	Lesser Adjutant-Stork	<i>Leptoptilos javanicus</i>	5
20	Oriental White Ibis	<i>Threskiornis melanocephalus</i>	818
21	Black Ibis	<i>Pseudibis papillosa</i>	91
22	Lesser Whistling-Duck	<i>Dendrocygna javanica</i>	12809
23	Fulvous Whistling Duck	<i>Dendrocygna bicolor</i>	250
24	Cotton Teal	<i>Nettapus coromandelianus</i>	260
25	Gadwall	<i>Anas strepera</i>	4786
26	Northern Shoveller	<i>Anas clypeata</i>	1748
27	Bar-headed Goose	<i>Anser indicus</i>	7008
28	Red-crested Pochard	<i>Rhodonessa rufina</i>	10370
29	Ferruginous Pochard	<i>Aythya nyroca</i>	1
30	Common Pochard	<i>Aythya ferina</i>	1560



Sl. No.	Common Name	Scientific Name	Total
31	Northern Pintail	<i>Anas acuta</i>	2776
32	Tufted Duck	<i>Aythya fuligula</i>	5559
33	Brahminy Shelduck	<i>Tadorna ferruginea</i>	354
34	Eurasian Wigeon	<i>Anas penelope</i>	145
35	Common Teal	<i>Anas crecca</i>	89
36	Comb Duck	<i>Sarkidiornis melanotos</i>	4
37	Mallard	<i>Anas platyrhynchos</i>	2
38	Common Merganser	<i>Mergus merganser</i>	4
39	Western Marsh Harrier	<i>Circus aeruginosus</i>	2
40	Osprey	<i>Pandion haliaetus</i>	2
41	Common Moorhen	<i>Gallinula chloropus</i>	162
42	Purple Moorhen	<i>Porphyrio porphyrio</i>	604
43	Common Coot	<i>Fulica atra</i>	8985
44	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	6
45	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	300
46	Bronze-winged Jacana	<i>Metopidius indicus</i>	138
47	Grey-headed Lapwing	<i>Vanellus cinereus</i>	300
48	Red-wattled lapwing	<i>Vanellus indicus</i>	115
49	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	3
50	Little Ringed Plover	<i>Charadrius dubius</i>	43
51	Common Snipe	<i>Gallinago gallinago</i>	13
52	Green Sandpiper	<i>Tringa ochropus</i>	4
53	Wood Sandpiper	<i>Tringa glareola</i>	273
54	Common Sandpiper	<i>Actitis hypoleucos</i>	86
55	Little Stint	<i>Calidris minuta</i>	20
56	Temminck's Stint	<i>Calidris temminckii</i>	101
57	Eurasian Curlew	<i>Numenius arquata</i>	1
58	Common Greenshank	<i>Tringa nebularia</i>	7
59	Black-winged Stilt	<i>Himantopus himantopus</i>	12
60	Brown-headed Gull	<i>Larus brunnicephalus</i>	220
61	Black-headed Gull	<i>Larus ridibundus</i>	687
62	Pallas's Gull	<i>Larus ichthyaetus</i>	1
63	River Tern	<i>Sterna aurantia</i>	11
64	Black-bellied Tern	<i>Sterna acuticauda</i>	7
65	Small Blue Kingfisher	<i>Alcedo atthis</i>	23
66	White-breasted Kingfisher	<i>Halcyon smyrnensis</i>	64
67	Lesser Pied Kingfisher	<i>Ceryle rudis</i>	9
68	Common Swallow	<i>Hirundo rustica</i>	193
69	Wire-tailed Swallow	<i>Hirundo smithii</i>	31
70	Red-rumped Swallow	<i>Hirundo daurica</i>	92
71	White Wagtail	<i>Motacilla alba</i>	148
72	Citrine Wagtail	<i>Motacilla citreola</i>	400
73	Yellow Wagtail	<i>Motacilla flava</i>	72
74	Grey Wagtail	<i>Motacilla cinerea</i>	14
75	Large Pied Wagtail	<i>Motacilla maderaspatensis</i>	22
76	Rosy Pipit	<i>Anthus roseatus</i>	15
77	White-capped Redstart	<i>Chaimarrornis leucocephalus</i>	1
78	White-tailed Stonechat	<i>Saxicola leucura</i>	2
<b>TOTAL :</b>			<b>71170</b>