

Avian Diversity of Gogabeel Lake in Katihar, Bihar

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Gogabeel Lake (25° 21.737' N, 87° 41.195' E) is situated 33 km south east from Katihar in Amdabad block and is one of the most beautiful birding site of Bihar, including its surrounding wetlands namely Baghar Beel, Baldia Chaur which are connected to the main lake and Kanchira wetland close to it. Area of the Gogabeel lake is about 88 ha. of which about two third belongs to the Government of Bihar and rest is the private land. The water spread area which includes Baghar Beel and Baldia Chaur in a stretch of nearly 5 km. is about 400 ha. The lake is linked to the Ganga and Mahananda rivers. In the periphery of Gogabeel, there is Neema village in north, Sura par tal in south, Muzbar in east and Madua village in the west. Baldiya chaur remains almost a marshy land and cultivated in the dry season (Fig. 1).

During the peak rainy season and floods, the lake recharges by the rivers Ganga and Mahananda through channels and tributaries. The site is a potential virgin area, much suitable to serve as a sanctuary for varieties of terrestrial and aquatic animals, birds and plants. The wetlands are rich in flora and fauna and have enormous potential for the development of an important eco tourism destination.

Varieties of migratory birds visit in and around the lake during winter every year. But since long time this important lake is not having any status of protected area even in the form of a Community Reserve. However, the site enjoys the designation of an Important Bird Area (IBA) since more than a decade. Therefore, there is an urgent need to declare this lake as a Community Reserve under the protected areas of Bihar to preserve the flora and fauna of the lake for future.

Recently 32 species of zooplankton and 19 species of Molluscs with 71 genera 91 species of avian fauna comprising 37 families (dominating family Anatidae) were studied exclusively from this wetland. Leasing out the lake for fishing is a great disturbance to this small roosting and breeding area of birds. The local or migratory birds are facing a threat as they are entangled in the fine fishing nets which are used by the fishing community in the lake. The heavy eutrophication due to *Eichhornia* and use of pesticides and insecticides in and around the lake is also a

serious threat to the birds.

Ecology

The ecological condition of the lake is immensely suitable for the birds of family Anatidae, Ardeidae and Scolopacida as there are rich diversity of aquatic molluscs and Macrophytes on which they feed. The birds of family Anatidae are generally herbivorous, feeding on various water-plants, although some species also eat fish, molluscs, or aquatic arthropods. In a number of species, the young include a high proportion of invertebrates in their diet, but become purely herbivorous as adults. The open land of the lake is also very much suitable for the family Ardeidae (Hérons) medium-sized to large wading birds with long bill, neck and legs.

The lake provides a vast area of water line with semi

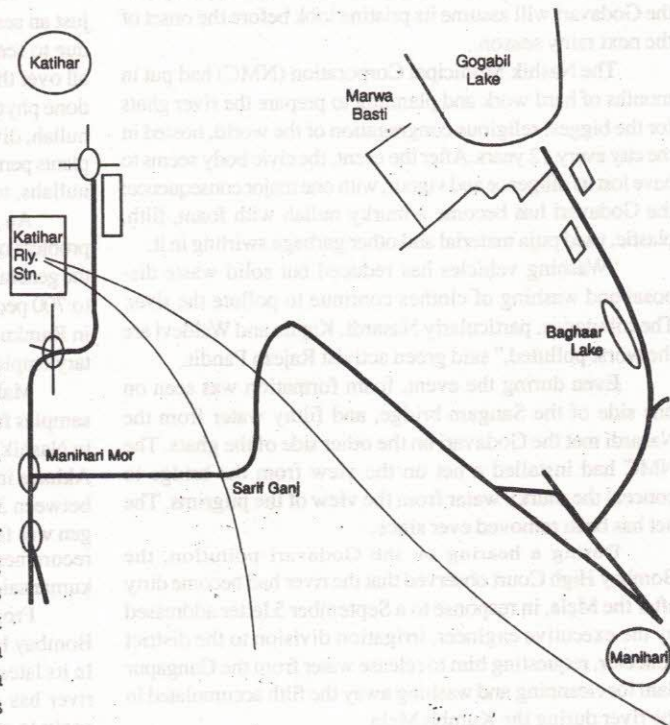


Fig. 1- Route map of Gogabeel Lake, Katihar.
Courtsey: Janlakshya, Gogabeel, Katihar.

Table 1. Avian diversity of Gogabeel Lake, Katihar, Bihar.

	Common Name	Scientific Name	Family	Order
1.	Western Marsh-Harrier	<i>Circus aeruginosus</i> (Linnaeus, 1758)	Accipitridae	Accipitriformes
2.	Black Kite	<i>Milvus migrans</i> (Boddaert, 1783)	Accipitridae	
3.	Pallas's Fish Eagle	<i>Haliaeetus leucoryphus</i> (Pallas, 1771)	Accipitridae	
4.	Red-crested Pochard	<i>Netta rufina</i> (Pallas, 1773)	Anatidae	Anseriformes
5.	Ruddy shell duck	<i>Tadorna ferruginea</i> (Pallas, 1764)	Anatidae	
6.	Garganey	<i>Anas querquedula</i> Linnaeus, 1758	Anatidae	
7.	Common teal	<i>Anas creca</i> Linnaeus, 1758	Anatidae	
8.	Gadwall	<i>Anas strepera</i> Linnaeus, 1758	Anatidae	
9.	Northern Pintail	<i>Anas acuta</i> Linnaeus, 1758	Anatidae	
10.	Bar Headed Goose	<i>Anser indicum</i> (Latham, 1790)	Anatidae	
11.	Spot bill duck	<i>Anus poecilorhyancha</i> Forster, 1781	Anatidae	
12.	Northern Shoveler	<i>Anas clypeata</i> Linnaeus, 1758	Anatidae	
13.	White-eyed Pochard	<i>Aythya nyroca</i> (Güldenstädt, 1770)	Anatidae	
14.	Lesser-Whistling Duck	<i>Dendrocygna javanica</i> (Horsfield, 1821)	Anatidae	
15.	Tufted Duck	<i>Aythya fuligula</i> (Linnaeus, 1758)	Anatidae	
16.	Common Pochard	<i>Aythya ferina</i> (Linnaeus, 1758)	Anatidae	
17.	Eurasian Wigeon	<i>Anas penelope</i> Linnaeus, 1758	Anatidae	
18.	Darter	<i>Anhinga melanogaster</i> (Pennant, 1769)	Anhingidae	Suliformes
19.	Cattle Egret	<i>Bubulcus ibis</i> (Linnaeus, 1758)	Ardeidae	Pelecaniformes
20.	Purple Heron	<i>Ardea purpurea</i> (Linnaeus, 1766)	Ardeidae	
21.	Pond heron	<i>Ardeola grayii</i> (Sykes, 1832)	Ardeidae	
22.	Little Egrets	<i>Egretta garzetta</i> (Linnaeus, 1766)	Ardeidae	
23.	Median egret	<i>Mesophox intermedia</i> (Wagler, 1827)	Ardeidae	
24.	Large egret	<i>Ardea alba</i> Linnaeus, 1758	Ardeidae	
25.	Grey Heron	<i>Ardea cinerea</i> Linnaeus, 1758	Ardeidae	
26.	Night Heron	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	Ardeidae	
27.	Ashy Wood Swallow	<i>Artamus fuscus</i> Vieillot, 1817	Artamidae	Passeriformes
28.	Pied kingfisher	<i>Ceryle rudis</i> (Linnaeus, 1758)	Cerylidae	Coraciiformes.
29.	Red-wattle lapwing	<i>Vanellus indicus</i> (Boddaert, 1783)	Charadriidae	Charadriiformes
30.	Grey-headed lapwing	<i>Vanellus cinereus</i> (Blyth, 1842)	Charadriidae	
31.	Northern Lapwing	<i>Vanellus vanellus</i> (Linnaeus, 1758)	Charadriidae	
32.	Little ringed plover	<i>Charadrius dubius</i> Scopoli, 1786	Charadriidae	
33.	Open-Bill Stork	<i>Anastomus oscitans</i> Boddaert, 1783	Ciconiidae	Ciconiiformes
34.	Lesser Adjutant	<i>Leptoptilos javanicus</i> Horsfield, 1821	Ciconiidae	
35.	Black-necked Stork	<i>Ephippiorhynchus asiaticus</i> (Latham, 1790)	Ciconiidae	
36.	Woolly-necked stork	<i>Ciconia episcopus</i> Boddaert, 1783	Ciconiidae	
37.	Painted stork	<i>Mycteria leucocephala</i> (Pennant, 1769)	Ciconiidae	
38.	Spotted Dove	<i>Spilopelia chinensis</i> (Scopoli, 1768)	Columbidae	Columbiformes
39.	Collared Dove	<i>Streptopelia decaocto</i> (Frisvaldszky, 1838)	Columbidae	
40.	House Crow	<i>Corvus splendens</i> Vieillot, 1817	Corvidae	Passeriformes
41.	Jungle Crow	<i>Corvus macrorhynchos</i> Wagler, 1827	Corvidae	
42.	Rufous Treepie	<i>Dendrocitta vagabunda</i> (Latham, 1790)	Corvidae	
43.	Greater coucal	<i>Centropus sinensis</i> (Stephens, 1815)	Cuculidae	Cuculiformes
44.	Black Drongo	<i>Dicrurus macrocercus</i> (Vieillot, 1817)	Dicruridae	Passeriformes

45.	Red Avadavat	<i>Amandava amandava</i> (Linnaeus, 1758)	Estrildidae	Passeriformes
46.	Common Kestrel	<i>Falco tinnunculus</i> Linnaeus, 1758	Falconidae	Falconiformes
47.	White-breasted kingfisher	<i>Halcyon smyrnensis</i> (Linnaeus, 1758)	Halcyonidae	Coraciiformes.
48.	Stork-Billed Kingfisher	<i>Pelargopsis capensis</i> (Linnaeus, 1766)	Halcyonidae	
49.	Common Swallow	<i>Hirundo rustica</i> (Linnaeus, 1758)	Hirundinidae	Passeriformes
50.	Pheasant tail Jacana	<i>Hydrophasianus chirurgus</i> (Scopoli, 1786)	Jacanidae	Charadriiformes
51.	Brown-winged Jacana	<i>Metopidius indicus</i> (Latham, 1790)	Jacanidae	
52.	Brown Shrike	<i>Lanius cristatus</i> Linnaeus, 1758	Laniidae	Passeriformes
53.	Brown-headed gull	<i>Larus brunicephalus</i> Jerdon, 1840	Laridae	Charadriiformes
54.	Black-headed gull	<i>Chroicocephalus ridibundus</i> (Lin. 1766)	Laridae	
55.	Jungle Babbler	<i>Turdoides striata</i> (Dumont, 1823)	Leiotherichidae	Passeriformes
56.	Green Bee eater	<i>Merops orientalis</i> Latham, 1802	Meropidae	Coraciiformes
57.	Black-napped monarch	<i>Hypothymis azurea</i> (Boddaert, 1783)	Monarchidae	Passeriformes
58.	White Wagtail	<i>Motacilla alba</i> Linnaeus, 1758	Motacillidae	Passeriformes
59.	Yellow-headed wagtail	<i>Motacilla flava lutea</i> Gmelin, 1774	Motacillidae	
60.	Yellow Wagtail	<i>Motacilla flava</i> Linnaeus, 1758	Motacillidae	
61.	White-browed Wagtail	<i>Motacilla maderaspatensis</i> Gmelin, 1789	Motacillidae	
62.	Rosy Pipit	<i>Anthus roseatus</i> Blyth, 1847	Motacillidae	
63.	Paddy field pipit	<i>Anthus rufulus</i> (Vieillot, 1818)	Motacillidae	
64.	Bluethroat	<i>Luscinia svecica</i> (Linnaeus, 1758)	Muscicapidae	Passeriformes
65.	Osprey	<i>Pandion haliaetus</i> (Linnaeus, 1758)	Pandionidae	Accipitriformes
66.	Little Cormorant	<i>Microcarbo niger</i> (Vieillot, 1817)	Phalacrocoracidae	Suliformes
67.	Large Cormorant	<i>Phalacrocorax carbo</i> (Linnaeus, 1758)	Phalacrocoracidae	
68.	Black-rumped flameback	<i>Dinopium benghalense</i> (Linnaeus, 1758)	Picidae	Piciformes
69.	Little Grebe (Dabchick)	<i>Tachybaptus ruficollis</i> (Pallas, 1764)	Podicipedidae	Podicipediformes
70.	Red-vented Bulbul	<i>Pycnonotus cafer</i> (Linnaeus, 1766)	Pycnonotidae	Passeriformes
71.	Coot	<i>Fulica atra</i> Linnaeus, 1758	Rallidae	Gruiformes
72.	Indian Moorhen	<i>Gallinula chloropus</i> (Linnaeus, 1758)	Rallidae	
73.	White-Breasted Waterhen	<i>Amaurornis phoenicurus</i> Pennant, 1769	Rallidae	
74.	Black-winged stilt	<i>Himantopus himantopus</i> (Lin., 1758)	Recurvirostridae	Charadriiformes
75.	White-Throated Fantail	<i>Rhipidura albicollis</i> (Vieillot, 1818)	Rhipiduridae	Charadriiformes
76.	Common Sand Piper	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	Scolopacidae	Charadriiformes
77.	Fan tailed common Snipe	<i>Gallinago gallinago</i> (Linnaeus, 1758)	Scolopacidae	
78.	Wood Sandpiper	<i>Tringa glareola</i> (Linnaeus, 1758)	Scolopacidae	
79.	Temmink's Stint	<i>Calidris temminckii</i> (Leisler, 1812)	Scolopacidae	
80.	Green sandpiper	<i>Tringa ochropus</i> Linnaeus, 1758	Scolopacidae	
81.	River Tern	<i>Sterna aurantia</i> (Gray, J. E., 1831)	Sternidae	Charadriiformes
82.	Common Tern	<i>Sterna hirundo</i> Linnaeus, 1758	Sternidae	
83.	Indian-whiskered Tern	<i>Chlidonias hybrid</i> (Pallas, 1811)	Sternidae	
84.	Spotted Owlet	<i>Athene brama</i> (Temminck, 1821)	Strigidae	Strigiformes
85.	Bank Myna	<i>Acridotheres ginginianus</i> (Latham, 1790)	Sturnidae	Passeriformes
86.	Asian Pied Starling	<i>Gracupica contra</i> (Linnaeus, 1758)	Sturnidae	
87.	Common Myna	<i>Acridotheres tristis</i> (Linnaeus, 1766)	Sturnidae	
88.	Red-napped (Black) Ibis	<i>Pseudibis papillosa</i> (Temminck, 1824)	Threskiornithidae	Pelecaniformes
89.	Black headed ibis	<i>Threskiornis melanocephalus</i> Lin., 1758	Threskiornithidae	
90.	Glossy Ibis	<i>Plegadis falcinellus</i> Linnaeus, 1766	Threskiornithidae	
91.	Hoopoe (Hudhud)	<i>Upupa epops</i> Linnaeus, 1758	Upupidae	Bucerotiformes

dry and wet mud and low vegetation for those birds of the family Scolopacidae having narrow heads, small eyes and long, slim neck related to their feeding behaviour by tactile methods. Since the whole water body and dry area of the lake is free from big trees, allow these birds (having long narrow pointed wings) in rapid and direct flight action. The birds of family Scolopacidae fly in flocks, and they turn in unison with speed and precision.

Threats to avifauna

The presence of terrestrial as well as aquatic birds is affected by certain anthropogenic factors such as destruction of habitat, illegal hunting and poaching. Various threats are observed that are responsible for decreasing avian diversity in the Gogabeel Lake. Some of the plausible major threats confronted by the birds are:

- i. Agricultural expansion, pollution due to heavy use of chemicals in the form of pesticides, weedicides and fertilizers in the cultivated areas.
- ii. Dumping of domestic and commercial garbage and dead animals in open areas, especially in the areas nearby human habitation.
- iii. Due to less rain prolonged dry periods leading to scarcity of food and shelter for the migratory avi fauna.
- iv. Illegal hunting and poaching of birds for various purposes is another major threat to avifauna of the Gogabeel Lake.
- vi. Unavailability of proper nesting and roosting trees nearby lake is one of the major threat to big birds.

Discussion

Altogether 71 genera, 91 species comprising 37 families of avian fauna (Fig. 2) were studied from the Gogabeel Lake. This is an exclusive avian fauna study for the first time of this lake. Awareness programmes, campaigns concerning local water bodies other than main lake, bird observations as a hobby etc should be launched and sustained by the State Forest Department for the bird watchers.

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