

Diversity of Wetland Birds around the Koshi Barrage Area

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Abstract

Koshi Barrage area comprises of a large reservoir, marshlands channels, floodplain, reed beds etc. which support fascinating birdlife. The present paper deals with the studies of wetland birds diversity of the Koshi Barrage area. Altogether 98 species of wetland birds belonging to 60 genera and 18 families were recorded.

Key words: Koshi Barrage, Wetland birds

Introduction

Koshi Barrage was constructed in between 1958 and 1962 across Nepal's largest river, the Sapta Koshi. The catchment area of the Sapta Koshi river is drained by seven major rivers, namely the Indrawati, Bhote Koshi, Tama Koshi, Dudh Koshi, Liku, Arun and Tamor. The Koshi Barrage was constructed by Indian government to control floods and to irrigate fields. It is located seven kilometers south of the Koshi Tappu Wildlife Reserve close to the Indo – Nepal border. Before the construction of Barrage, the Koshi River was referred to as the "Sorrow of Bihar", in India, because the Koshi River used to change its direction frequently depositing huge quantities of silt, and displacing and drowning many people every year. A reservoir has been formed over a large area near the Koshi Barrage, and the pits created after the construction of the Barrage and the embankment has provided a good habitat for residential and migratory birds. A total of 841 species of birds have been recorded in Nepal (Inskipp and Inskipp, 1991). As many as 193 species are dependent on wetlands, and among them 187 species are dependent on the terai

wetlands of Nepal (Bhandari, 1998). The birds of this area have been studied by many ornithologists and naturalists (Inskipp and Inskipp, 1985; Heinen, 1986, 1987; Scott, 1989; Suwal, 1993; Baral, 2000).

Materials and methods

The population of birds was estimated from July 2002 - June 2004, every month at a regular interval simply by direct counting method. Binocular and Zoom camera were used during the study period. For identification of birds, books of Ali and Ripley (1986), Ali (1989), Ali (1990), Inskipp and Inskipp (1991), Fleming *et al.* (2000) and Shrestha (2000) were consulted.

Results and discussion

A total of 98 species of wetland birds belonging to 60 genera and 18 families were recorded. It comprises 41 winter visitors, 4 summer visitors, 14 occasional visitors and 39 residents (Table 1). The resident birds were observed throughout the year. Comparatively, the Koshi Barrage area is highly rich in bird diversity due to the availability of suitable habitat and food. The

Table 1. Wetland birds around Koshi Barrage area.

S.No.	Family / Scientific name	Common name	Local status
	Family - Anatidae		
1	<i>Anas crecca</i> (Linnaeus)	Common Teal	Winter visitor
2	<i>Anas acuta</i> (Linnaeus)	Pintail	"
3	<i>Anas penelope</i> (Linnaeus)	Eurasian Wigeon	"
4	<i>Anas platyrhynchos</i> (Linnaeus)	Mallard	"
5	<i>Anas poecilorhyncha</i> (Linnaeus)	Spot billed Duck	"
6	<i>Anas strepera</i> (Linnaeus)	Gadwall	"
7	<i>Anas falcata</i> (Georgi)	Falcated Teal	"
8	<i>Anas querquedula</i> (Linnaeus)	Garganey	"
9	<i>Anas clypeata</i> (Linnaeus)	Shoveler	"
10	<i>Sarkidiornis melanotos</i> (Pennat)	Comb Duck	Resident
11	<i>Dendrocygna javanica</i> (Horsfield)	Lesser whistling Teal	"
12	<i>Nettapus coromandelianus</i> (Gmelin)	Cotton Teal	"
13	<i>Anser indicus</i> (Latham)	Bar headed Goose	"
14	<i>Anser anser</i> (Linnaeus)	Greylag Goose	"
15	<i>Tadorna tadorna</i> (Linnaeus)	Common Shelduck (Eurasian Shelduck)	Occasional
16	<i>Tadorna ferruginea</i> (Pallas)	Ruddy Shelduck (Brahminy Duck)	Winter visitor
17	<i>Clangula hyemalis</i> (Linnaeus)	Long tailed Duck	Occasional
18	<i>Aythya ferina</i> (Linnaeus)	Common Pochard	Winter visitor
19	<i>Aythya nyroca</i> (Guldenstadt)	White-eyed Pochards (Ferruginous duck)	"
20	<i>Aythya fuligula</i> (Linnaeus)	Tuft Pochard	"
21	<i>Netta rufina</i> (Pallas)	Red crested Pochard	"
22	<i>Mergus merganser</i> (Linnaeus)	Common Merganser or Goosander	"
23	<i>Mergus albellus</i> (Linnaeus)	Smew	Occasional
	Family - Podicipedidae		
24	<i>Podiceps ruficollis</i> (Pallas)	Little Grebe	Winter visitor
25	<i>Podiceps cristatus</i> (Linnaeus)	Great-Crested Grebe	"
26	<i>Podiceps caspicus</i> (Brehm)	Black-necked Grebe	"
	Family - Ciconiidae		
27	<i>Xenorhynchus asiaticus</i> (Latham)	Black-necked Stork	Resident
28	<i>Leptoptilos Javanicus</i> (Horsfield)	Lesser Adjutant Stork	"
29	<i>Ciconia nigra</i> (Linnaeus)	Black Stork	Winter visitor
30	<i>Ciconia episcopus</i> (Boddaert)	White-necked Stork (Woolly necked Stork)	Resident
31	<i>Anastomus oscitans</i> (Boddaert)	Open-billed Stork	"
	Family - Laridae		
32	<i>Larus brunnicephalus</i> (Jerdon)	Brown headed Gull	Winter visitor
33	<i>Larus ichthyæetus</i> (Pallas)	Great Black-headed Gull	"
34	<i>Sterna acuticauda</i> (Gray)	Black-bellied Tern	Resident
35	<i>Sterna aurantia</i> (J.E. Gray)	River Tern	"
36	<i>Sterna albifrons</i> (Pallas)	Little Tern	Summer visitor
37	<i>Sterna hirundo</i> (Linnaeus)	Common Tern	Winter visitor
38	<i>Chlidonias hybrida</i> (Pallas)	Whiskered Tern	"

	Family -Ardeidae		
39	<i>Egretta garzetta</i> (Linnaeus)	Little egret	Resident
40	<i>Egretta intermedia</i> (Wagler)	Intermediate Egret	"
41	<i>Egretta alba</i> (Linnaeus)	Large Egret	"
42	<i>Bubulcus ibis</i> (Linnaeus)	Cattle Egret	"
43	<i>Nycticorax nycticorax</i> (Linnaeus)	Night Heron	"
44	<i>Ardeola grayii</i> (Sykes)	Pond Heron	"
45	<i>Ardea purpurea</i> (Linnaeus)	Purple Heron	"
46	<i>Ardea cinerea</i> (Linnaeus)	Grey Heron	"
47	<i>Ixobrychus cinnamomeus</i> (Gmelin)	Chestnut Bittern	Summer visitor
	Family - Rallidae		
48	<i>Gallinula chloropus</i> (Linnaeus)	Indian Gallinule (Indian Morehen)	Winter visitor
49	<i>Porphyrio porphyrio</i> (Linnaeus)	Purple Gallinule or Purple Moorehen	"
50	<i>Fulica atra</i> (Linnaeus)	Coot	"
51	<i>Amaurornis phoenicurus</i> (Pennant)	White breasted Waterhen	Resident
52	<i>Rallus aquaticus</i> (Blyth)	Water Rail	Winter visitor
	Family -Threskiornithidae		
53	<i>Threskiornis melanocephala</i> (Latham)	White Ibis	Resident
54	<i>Pseudibis papillosa</i> (Temminck)	Black Ibis	"
55	<i>Plegadis falcinellus</i> (Linnaeus)	Glossy Ibis	Occasional
56	<i>Platalea leucorodia</i> (Linnaeus)	Eurasian Spoonbill	Winter visitor
	Family -Phalacrocoracidae		
57	<i>Phalacrocorax niger</i> (Vieillot)	Little Cormorant	Resident
58	<i>Phalacrocorax carbo</i> (Linnaeus)	Large Cormorant	Winter visitor
59	<i>Anhinga rufa</i> (Daudan)	Darter	Resident
	Family -Pelecanidae		
60	<i>Pelicanus philippensis</i> (Gmelin)	Spot-billed Pelican	Occasional
	Family - Jacanidae		
61	<i>Metopidius indicus</i> (Latham)	Bronze-winged Jacana	Resident
62	<i>Hydrophasianus chirurgus</i> (Scopoli)	Pheasant-tailed Jacana	Summer visitor
	Family -Charadriidae		
63	<i>Tringa tetanus</i> (Linnaeus)	Common Redshank	Winter visitor
64	<i>Tringa ochropus</i> (Linnaeus)	Green Sandpiper	"
65	<i>Tringa stagnatilis</i> (Bechstein)	Marsh Sandpiper	Occasional
66	<i>Numenius arquata</i> (Linnaeus)	Curlew	"
67	<i>Calidris alpinus</i> (Linnaeus)	Dunlin	Winter visitor
68	<i>Calidris temminckii</i> (Leisler)	Temminck's Stint	"
69	<i>Calidris minuta</i> (Leisler)	Little Stint	"
70	<i>Philomachus pugnax</i> (Linnaeus)	Ruff and Reeve	Occasional
71	<i>Gallinago gallinago</i> (Linnaeus)	Common Snipe	Winter visitor
72	<i>Pluvialis squatarola</i> (Linnaeus)	Grey Plover	Occasional
73	<i>Pluvialis dominica</i> (P.L.S.Muller)	Pacific Golden Plover	Winter visitor
74	<i>Charadrius alexandrinus</i> (Linnaeus)	Kentish Plover (Snowy plover)	"
75	<i>Charadrius dubius</i> (Scopoli)	Little ringed Plover	"
76	<i>Vanellus cinereus</i> (Blyth)	Grey-headed Lapwing	"

77	<i>Vanellus vanellus</i> (Linnaeus)	Eurasian Lapwing or Northern Lapwing	Winter visitor
78	<i>Vanellus indicus</i> (Boddaert)	Red wattled Lapwing	''
	Family -Recurvirostridae		
79	<i>Recurvirostra avosetta</i> (Linnaeus)	Avocet	Occasional
	Family -Burhinidae		
80	<i>Esacus magnirostris</i> (Vieillot)	Great Thick Knee or Stone Plover	Resident
81	<i>Burhinus oedipnemus</i> (Linnaeus)	Eurasian Thick Knee (Stone Curlew)	''
	Family -Glareolidae		
82	<i>Glareola lactea</i> (Temminck)	Small Pratincole	Summer visitor
83	<i>Cursorius coromandelicus</i> (Gmelin)	Indian Courser	Occasional
	Family -Gruidae		
84	<i>Grus grus</i> (Linnaeus)	Common Crane	Occasional
85	<i>Grus antigone</i> (Linnaeus)	Sarus Crane	''
86	<i>Anthropoides virgo</i> (Linnaeus)	Demoiselle Crane	''
	Family -Alcedinidae		
87	<i>Ceryle rudis</i> (Linnaeus)	Small Pied Kingfisher	Resident
88	<i>Ceryle lugubris</i> (Temminck)	Large Pied Kingfisher or Crested Kingfisher	''
89	<i>Alcedo meninting</i> (Horsfield)	Blue eared Kingfisher	''
90	<i>Alcedo atthis</i> (Linnaeus)	Eurasian Kingfisher	''
91	<i>Halcyon coromanda</i> (Latham)	Ruddy Kingfisher	''
92	<i>Halcyon smyrnensis</i> (Linnaeus)	White breasted Kingfisher	''
93	<i>Pelargopsis capensis</i> (Linnaeus)	Stork-billed Kingfisher	''
	Family-Rostratulidae		
94	<i>Rostratula benghalensis</i> (Linnaeus)	Painted Snipe	Resident
	Family - Motacillidae		
95	<i>Motacilla flava</i> (Linnaeus)	Yellow Wagtail	''
96	<i>Motacilla alba</i> (Linnaeus)	Pied Wagtail(White Wagtail)	''
97	<i>Motacilla citreola</i> (Pallas)	Yellow-headed Wagtail	''
98	<i>Motacilla maderaspatensis</i> (Gmelin)	Large Pied Wagtail	Resident

present study recorded 11.65%, 50.77%, and 52.41% species of total birds of Nepal, total wetlands' birds of Nepal and total terai wetlands' birds of Nepal respectively. The winter visitor species were recorded maximum during the study period and summer visitors were minimum. Some species like Common Crane, Long tailed Duck, Spot-billed Pelican etc. were observed occasionally. The maximum winter visitor species occurred in January

followed by February and March. The pintail was most abundant followed by the Common Teal, Lesser Whistling Teal, Gadwall and Cotton Teals respectively. The number of birds recorded during this study period was compared with earlier records (Scott, 1989), and it was found in decreasing trend in the abundance of Pintail, Garganey, Lesser Whistling Teal, Ruddy Shelduck etc. There may be several reasons for the decrement of abundance of birds species,

one of them may be that birds have changed their migration route, although this reason unlikely. The other reasons are hunting, poaching, trapping in the migration route, and in the breeding areas. Besides these, possible reasons nowadays the human disturbances, increased food shortage and deposition of silt around the Koshi Barrage area are main.

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