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**HV Wanjari**

P.G. and Research Department

of Zoology, R. A. Arts, Shri M.

K. Commerce and Shri S. R.

Rathi Science College, Washim,

Maharashtra, India

## Diversity of aquatic birds of Ekburji reservoir, Washim, M.S. India

**HV Wanjari**

### Abstract

Aquatic Birds have large consequences for the ecosystems they inhabit, making them incredibly important in the overall functioning of aquatic ecosystem. By contributing an important way to the ecosystem health they can also provide large number of direct benefits to humans. They are helpful in nutrient cycling. 'Everything is connected to anything else' aquatic birds serve as a vector for nutrient cycling between aquatic and terrestrial habitat. The present investigation was carried out to document the aquatic avifauna in and around the Ekburji reservoir located near the Washim district of Maharashtra State from 2013 to 2015 in which 41 species of aquatic birds were recorded of 9 orders and 19 families during the study. Among the recorded species 15 were residential breeders, 17 were winter migratory and 9 were residential migratory species.

**Keywords:** Aquatic birds, Ekburji reservoir, Washim

### Introduction

Aquatic ecosystems are important one which provide livelihoods for the millions of people who live around them. Man depends ponds for most of his needs like fishing, agriculture, irrigation, and other domestic purposes. Ponds are playing a very good role in rain harvesting, storage of water and regulation of ground water level. So in order to maintain the ground water level we must conserve ponds and pond habitat. Birds are found throughout the world, at approximately all altitudes and nearly every climate. They are a natural way to control pests in gardens, on farms and in aquatic ecosystems.

Many species of birds respond to small changes in habitat structure and composition, therefore they serve as good indicators of changes in the environment. The presence of aquatic birds anywhere speaks volumes of the environment as to whether all is well or there is something amiss. It also shows the biological importance or going technical, the biodiversity significance of an area.

The earlier studies on birds were undertaken by investigators like Majumdar (1984) who studied birds from Bastar district, Newton *et al.* (1986) [22] and Ghosal (1995) [8] listed birds of Kanha tiger reserve, Osmatston (1922) [23] studied birds from Pachmarhi, Yardi *et al.* (2004) [28] reported birds from Salim Ali Lake, Aurangabad, Wadatkar and Kasambe (2002) [26] studied birds of Pohara-Malkhed forest reserve, while Kulkarni *et al.* (2005) [16] studied birds in and around Nanded, Malwadkar (2011) [18] from Raigad, Wanjari(2012) [27] studied birds from Nagpur city. Harney and Bhute (2014) [10] studied avian diversity in and around Chalbardi lake in Chandrapur City of Maharashtra.

It has been recorded that this region of Vidarbha is lagging behind the aquatic bird studies with respect to Ekburjii reservoirs. In this context, in order to assess biodiversity of Aquatic birds, the present investigation was undertaken to prepare a check list of aquatic bird diversity of Ekburjii reservoir.

### Materials and Methods

Ekburji Dam was constructed as part of irrigation projects by Government of Maharashtra in the year 1964. It is an earthenfill dam on Chandrabhaga River near Washim District in the state of Maharashtra. The height of the dam above the lowest foundation is 23.7m while the length is 830 m and total surface area o 218 Km<sup>2</sup>. The volume content is 566 Km<sup>3</sup> and the gross storage capacity is 14,100.00 Km<sup>3</sup>. It is used for the irrigation purpose and provides drinking water to the Washim City.

**Correspondence**

**HV Wanjari**

P.G. and Research Department

of Zoology, R. A. Arts, Shri M.

K. Commerce and Shri S. R.

Rathi Science College, Washim,

Maharashtra, India

It is also used for fishing activities Now a day's the reservoir make a good picnic spot and also a popular Tourist attraction for its scenic beauty.

Recording of the aquatic birds frequenting Ekburji dam has been carried out in different seasons for a period from 2013 to 2015 by selecting Different sites. Weekly visits to the sites was made for two years and an average of 4 weeks accounted for a month. Data on present bird species was collected by direct observation with the aid of binoculars (Olympus 8X40 and 10X50) by visiting in morning and evening time when birds are most active. Some visits were also made in afternoon to check the activities of aquatic birds in afternoon and identification was done using standered literature of Bikram and Grewal (1995) [6], Ali (1996, 2002) [4, 3], Ali and Ripley (1995) [5], Grimmett *et al.*, (2004) [9] and Woodcock (1986). The scientific and local names were ascertained based on the key of Manakadan and Resident status of each species is categorized as Resident(R), Migratory (M) and Resident migratory (RM) along with conservation status.

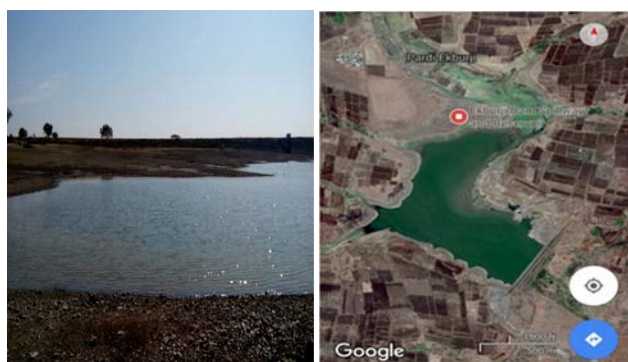


Fig 1: Ekburji Dam and its geographical location

## Results and Discussion

The results of the present surveys on aquatic birds inhabiting Ekburjii reservoir reported 41 of resident and migratory aquatic species particularly aquatic and shorebirds (Waders) belonging to 9 orders and 19 families, 41 genera were identified. Among the recorded species of birds 9 species belongs to Anatidae, 5 belongs to Ardeidae, 3 belongs to Rallidae, 3 belongs to Chardriidae, 3 belongs to Alcedinidae, 3 belongs to Passeridae, 2 belongs to Phalacrocoracidae, 2 belongs to Threskiornithidae, 1 belongs to Podiceptidae, 1 belongs to Ciconiidae, 1 belongs to Phoenicopteridae, Scolopacidae, Recurvirostridae, Burhinidae, Meropidae, Accipitridae, Ploceidae, hirundinidae and Gruidae.

The overall check list prepared shows that 41 different kinds of birds have visited the Ekburjii reservoir for feeding and breeding activities during the year, due to abundant food available in the reservoir water. Migrant (Species migrate from the northern hemisphere and were found in the study area during winter only) and Local Migrant (Species migrate locally within the country and were found in the study area). The reservoir area harbours a large number of fauna which attracts the migratory as well as non migratory birds which shows that the entire Ekburjii reservoir basin is highly productive and conducive to all kinds of birds as evident from present studies.

The result of the present study indicates 15 species as residential breeders, 9 species as local migrants, 17 species as winter migrants. Conservation status as per wild life (Protection) Act 1972 and birds listed in schedule I and IV refers to group many of which have several species.

Similar findings were recorded by Ali (1939) [2] published a list of 278 species of birds from central India, Newton *et al.*, (1986) [22] have listed the birds of Kanha Tiger Reserve (M.P.), Ghosal (1995) [8] have listed the birds of Kanha Tiger Reserve (M.P.), Wadatkar and Kasambe (2002) [26] reported 171 species of birds at Pohara-Malkhed forest reservoir of Amravati district(M.S.), Yardiet *et al.*, (2004) [28] reported 64 species of birds in Salim Ali lake, Aurangabad(M.S.), Kedar and Patil (2005) [13, 24] recorded 60 birds species from Rishi lake Karanja (Lad) of Washim district(M.S.), Pawar *et al.*,(2005) [24] reported 74 species of birds in and around Yedshi lake, Mangrulpir, Washim district(M.S.), Kulkarni *et al.*, (2005) [16] reported 151 species of birds in and around Nanded city(M.S.), Kulkarni and Kanwate (2006) [15, 17] reported 18 species of birds in Dongarkhed irrigation of Hingoli district. (M.S.), Kulkarni *et al.*, (2006) [15, 17] reported 93 species of birds from Shikhachwadi reservoir of Nanded district(M.S.), Kedaret *et al.*, (2008) [14] recorded 74 species of birds in Rishi and Zedshi lake of Washim district(M.S.), Kanwate and Jadhao (2010) [12] recorded 10 species of birds in Bhokartahsil of Nanded district (M.S.), Narwade and Fartade (2011) [21] recorded 165 species of birds of Osmanabad district(M.S.), Rasal and Chavan (2011) [25] reported 61 species of birds in local ecosystem of Aurangabad(M.S.), Harney, *et al.*, (2012) [11] recorded 37 species of birds from Kanhala pond of Bhadrawati, District Chandrapur (M.S.).

The birds present in and around the Ekburji reservoir are affected by many factors such as organic pollution, distribution by human activities and lack of maintenance, yet the avifauna of Ekburji reservoir are diverse. Keeping in view the varied avifauna recorded, steps should be taken to do proper maintenance and beautification of the reservoir.



1. View of Ekburji Reservoir



2. Aquatic Birds



3. Flamingo (*Phoenicopterus roseus*)



4. Painted Stork (*Mycteria leucocephala*)

**Table 1:** Checklist of Aquatic Bird Species recorded from Ekburgi Reservoir during 2013-2015

Sr. No.	Species	Common Name	Order	Family	Residential Status	Conservation Status
1	<i>Tachybaptus ruficollis</i>	Little Grebe	Podicipediformes	Podicipedidae	RB	IV
2	<i>Phalacrocorax niger</i>	Little Cormorant	Pelecaniformes	Phalacrocoracidae	LM	IV
3.	<i>Anhinga rufa</i>	Darter	Pelecaniformes	Phalacrocoracidae	WM	IV
4.	<i>Ardea cinerea</i>	Grey Heron	Ciconiiformes	Ardeidae	LM	IV
5.	<i>Ardeola grayii</i>	Pond Heron	Ciconiiformes	Ardeidae	RB	IV
6.	<i>Bubulcus ibis</i>	Cattle Egret	Ciconiiformes	Ardeidae	RB	IV
7.	<i>Ardea alba</i>	Large Egret	Ciconiiformes	Ardeidae	LM	IV
8.	<i>Egretta garzetta</i>	Little Egret	Ciconiiformes	Ardeidae	RB	IV
9.	<i>Mycteria leucocephala</i>	Painted Stork	Ciconiiformes	Ciconiidae	LM	IV
10.	<i>Pseudibis papillosa</i>	Black Ibis	Ciconiiformes	Threskiornithidae	LM	IV
11.	<i>Platalea leucorodia</i>	Spoonbill	Ciconiiformes	Threskiornithidae	WM	I
12.	<i>Phoenicopterus roseus</i>	Flamingo	Ciconiiformes	Phoenicopteridae	WM	IV
13.	<i>Anser indicus</i>	Barheaded Goose	Anseriformes	Anatidae	WM	IV
14.	<i>Dendrocygna javanica</i>	Lesser Whishing Teal	Anseriformes	Anatidae	LM	IV
15.	<i>Tadorna ferruginea</i>	Ruddy Shelduck	Anseriformes	Anatidae	WM	IV
16.	<i>Anas acuta</i>	Pintail	Anseriformes	Anatidae	WM	IV
17.	<i>Anas crecca</i>	Common Teal	Anseriformes	Anatidae	WM	IV
18.	<i>Anas poecilorhyncha</i>	Spotbill Duck	Anseriformes	Anatidae	WM	IV
19.	<i>Netta rufina</i>	Redcrested Pochard	Anseriformes	Anatidae	WM	IV
20.	<i>Aythya ferina</i>	Common Pochard	Anseriformes	Anatidae	WM	IV
21.	<i>Aythya fuligula</i>	Tufted Pochard	Anseriformes	Anatidae	WM	IV
22.	<i>Amaurornis phoenicurus</i>	Indian Whitebreasted Waterhen	Gruiformes	Rallidae	RB	IV
23.	<i>Porphyrio porphyrio</i>	Purple moorhen	Gruiformes	Rallidae	RB	IV
24.	<i>Fulica atra</i>	Coot	Gruiformes	Rallidae	RB	IV
25.	<i>Vanellus indicus</i>	Redwattled Lapwing	Gruiformes	Charadriidae	RB	IV
26.	<i>Vanellus malabaricus</i>	Yellow-wattled Lapwing	Gruiformes	Charadriidae	RB	IV
27.	<i>Charadrius dubius</i>	Little Ringed Plover	Gruiformes	Charadriidae	WM	IV
28.	<i>Gallinago stenura</i>	Pintail Snipe	Gruiformes	Scolopacidae	WM	IV
29.	<i>Himantopus himantopus</i>	Blackwingd stilt	Gruiformes	Recurvirostridae	WM	IV
30.	<i>Burhinus oedionemus</i>	Stone Curlew	Gruiformes	Burhinidae	LM	IV
31	<i>Sterna aurantia</i>	Indian River Tern	Gruiformes	Laridae	LM	IV
32.	<i>Ceryle rudis</i>	Lesser Pied Kingfisher	Coraciiformes	Alcedinidae	RB	IV
33.	<i>Alcedo atthis</i>	Small Blue Kingfisher	Coraciiformes	Alcedinidae	RB	IV
34.	<i>Halcyon smyrnensis</i>	White breasted Kingfisher	Coraciiformes	Alcedinidae	RB	IV
35.	<i>Merops orientalis</i>	Small Green Bee-eater	Coraciiformes	Meropidae	RB	IV
36.	<i>Circus aeruginosus</i>	Marsh Harrier	Falconiformes	Accipitridae	LM	I
37.	<i>Hirundo dourica</i>	Indian Straited Swallow	Passeriformes	Hirundinidae	RB	I
38.	<i>Motacilla flava</i>	Yellow Wagtail	Passeriformes	Passeridae	WM	I
39.	<i>Motacilla curcola</i>	Yellowheaded Wagtail	Passeriformes	Passeridae	WM	I
40.	<i>Motacilla alba</i>	Indian White Wagtail	Passeriformes	Passeridae	WM	I
41.	<i>Ploceus philippinus</i>	Baya	Passeriformes	Ploceidae	RB	I

Abbreviations: B-Residential Breeder, LM- Local migrant, WM-Winter migrant. I- Endangered species, IV- Protected species.

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