

WATER BIRD DIVERSITY AT HEGGERI LAKE, HAVERI DISTRICT

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ABSTRACT

The avifaunal diversity and density in Heggeri lake, Haveri district, Karnataka, India, was studied for a period of 2 years (2004 – 06). Heggeri lake inhabits several local and migratory bird species. Reduction in water retention in this lake in summer has affected the avifauna diversity in the study area. This habitat attracted 30 bird species belonging to 10 families, which are local and migratory birds. Highest population of painted storks and Bar headed geese was recorded in January. Other prominent residents were herons and little cormorants. Interestingly, in spite of disturbances in NHAI activity, all the 30 species enjoyed the habitat from November to February during the study period. But birds like Flamingoes, White breasted water-hen, Little grebe, Spot billed pelican, Open bill-stork, Great stone plover, Brahminy shell-duck, Comb duck Eurasian wigeon, Mallard, Garganey and Poachard observed from 1997 to 2003 were not spotted during study period.

KEY WORDS: Heggeri Lake, Birds diversity, Stop-over site

INTRODUCTION

Lakes are highly complex water, land interactive systems, supposed to be the most fertile - productive ecosystems in the world (R G Wetzel, 2001) and constitute a treasury of biodiversity. Due to inadequate attention and ignorance of common man, these lakes are referred as wastelands in the past, leading to their disappearance in the process of urbanization and development.

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The Ramsar convention, which came into force in December 1973, demands an urgent need to develop the conservation strategies and management plan by inventorying, monitoring and documenting the diversity and density of biodiversity with special reference to water fowl. Water bodies serve as stop-over sites for winged visitors like the migratory water fowls from central Asia and some parts of India. With this back drop, inventorying water fowls diversity is taken up in obsolete Heggeri lake of Haveri district.

STUDY AREA

The lake is owned by Karnataka state Minor Irrigation department. According to the history, the lake is constructed by King Nala in 1134. Lake is surrounded by four villages (one on the south-east, one on the south-west and the other two on eastern side). It is wholly rain fed and no canal is connected to it for traditional supply of water. The earthen embankment runs about a kilometer and is still strong.

The catchment area on the far western-side connects small nallahs to the tank to feed water during rains. The tank is semi-permanent and gets dried up during summer. The depth of water when full is 12 feet. **Materials and methods:** The water bird census was being conducted at the lake between 7 am and 10 am. The number of these birds were counted

using binocular. Waterfowls were identified by the referring the classical text books authored by Salim Ali (2002), Bhat Harish and Pramod Subbarao (2006), and Satish Pande et al (2003). This work was carried out for the period of two years from July 2004 to June 2006.

BIRD DIVERSITY

Heggeri lake is the habitat of plenty of local and migratory waterfowls (Table 1). Recent human activities in and around the lake area has curtailed the water holding capacity and pulverized the flora of the lake. It has affected the water fowls to certain extent. Reduction in the water retention in the lake, weed infestation and lifting of the lake soil and water continuously by National Highway Authority of India (NHAI) has altered the ecological characteristics of the lake.

The waterfowl species density and diversity was found to be more than the earlier records. Some of the birds which were inhabiting the Heggeri lake from 1997 – 2003 like Flamingoes, white breasted waterhen, little grebe, spot-billed pelican, Asian open bill stork, great stone plover, stork billed kingfisher, Nakta duck, Eurasian Wigeon, Mallard, Blue winged teals and Poachard were not recorded during our study period (2004 – 2006).

Since the lake dries in summer and being polluted by excessive use of inorganic fertilizers, the bird life in the lake is threatened. With some of the birds observed prior to 2003 (Table 2) and their noted absence from 2004-2006 (Table 3) indicate that water fowls are yet to identify the lake as a comfortable habitat. It was evident that water fowl population was found to be maximum in the month of December. Moderate volume of water storage, favourable temperature, availability of food may be the cause for maximum population.

As there are cultivable fields around the lake, most of the birds are displaced in rainy season. It has been observed that the bird population was minimum in the month of June and steadily increased there on till December. In the same way, the population was gradually decreased from December to June as the lake dried up in Summer.

Though our study period ended in June 2006, our team made visits to the lake from the commencement of this years rainy season (2007). Though this year rainfall was good, but the channels bringing the water towards lake from the catchment areas were blocked and the water was diverted towards different streams. The lake was totally dry from June 2006 to January 2007 and hence no birds were seen in the lake except a few in the nearby fields of the lake. However, the birds congregated in large numbers during winter seasons of 2008, 2009. The population of Bar-headed geese crossed 400 during winter season of 2009.

In the same way the population gradually decrease from January to June as the lake get dried up in the summer. The lake is getting dried up by March/April and it drives away the avifauna. Even though the rainy season begin in the month of June, it is proved from the observation that the birds require a month or so to return their habitat, the Heggeri lake. The present study provides the population dynamics of the Heggeri lake over two years.

In the recent years, large number of purple moorhens are inhabiting the lake. Whether these birds are indicators of weed infestation and increased vegetation is a matter of debate. There is necessity to undertake measures to restore its original features so as to make this lake an abode of wetland birds. P I Bhat et al (2009) have opined that purple moorhens have developed high tolerance to this highly fluctuating Anekere wetland (Udupi district) and human activity.

The heronry of birds in the early morning and late evenings is attracting many visitors. The state owned (minor irrigation department) is grossly neglected. The water and soil was being lifted for the bypass and four lane highway work (Golden Quadrilateral project of the union government). Due to disturbances around the lake continuous flow of dust towards the lake, the number of birds visiting the lake is reducing.

Though there is a clear instruction from Minor Irrigation department to maintain the water level in the lake, farmers in the catchment area utilize water without maintaining water above dead storage level. Due to drying up of lake, the birds are forced to change their feeding grounds from Heggeri to neighbouring lakes.

In spite of a few disturbing factors, the site deserves a protected bird sanctuary status. The spot bills, pintails, red shank, sand piper, curlews, godwits, painted storks, spoon bills and bar-headed geese make this lake their home for few months every year and are seen in good numbers in this lake.

CONCLUSION

The water body is attracting variety of birds since many years and considered as stopover site for migratory birds. If the water body has to be preserved for their intended use, protecting its biota is essential. A sustainable and holistic management planning is necessary for conservation of this Heggeri lake.

The present study provides the population dynamics of Heggeri lake over two years. It has been proved that the altered ecological characteristics of the lake made the birds unable to inhabit throughout the year. To conclude, December month was found to be most favourable to Avifauna of Heggeri lake. An assessment of current ecological status of Heggeri lake is to be made and adequate measures to restore its original features are to be initiated to make the lake an abode of waterfowls.

ACKNOWLEDGEMENT

The author thank University Grants Commission, New Delhi for sanctioning a minor research project and Principals B S Gavi, M V Gadad and Dr B C Bannur for their encouragement and support.

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Table 1: Family wise distribution of birds in Heggeri lake

Sl.No	Name of the family	Number of species
1	Alcedinidae	2
2	Charadriidae	1
3	Recurvirostridae	1
4	Ralliade	2
5	Anatidae	5
6	Threskiornithidae	4
7	Ciconiidae	2
8	Ardeidae	5
9	Phalacrocoracidae	1
10	Scolopacidae	7
Birds belong to 10 families		30

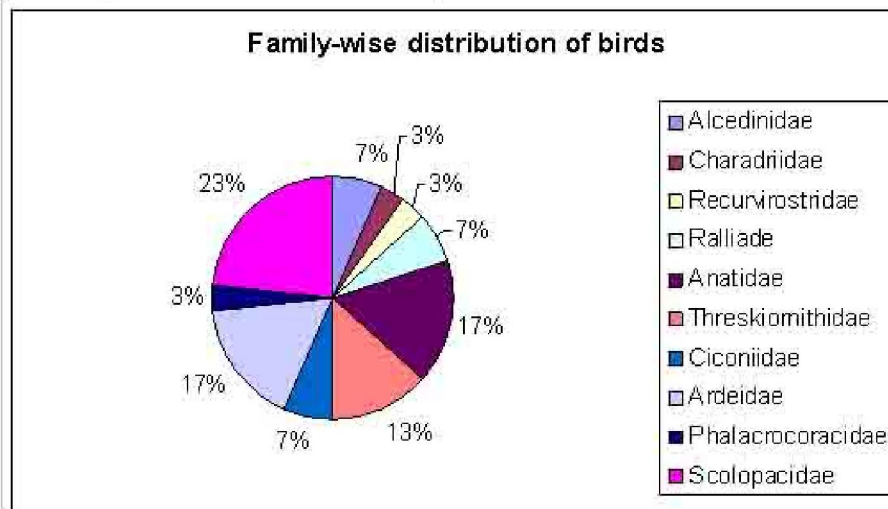


Table 2: List of the birds which were recorded in Heggeri lake from 1997-2003

These have not been seen in Heggeri lake during the study period (2004-2006)

Sl.No	Common name	Scientific name	Family
1	Flamingo	<i>Phoenicopterus ruber</i>	Phoenicopteridae
2	White breasted waterhen	<i>Amaurornis phoenicurus</i>	Rallidae
3	Little grebe	<i>Tachybaptus ruficollis</i>	Podicipitidae
4	Spot-billed pelican	<i>Himantopus himantopus</i>	Pelicanidae
5	Asian openbill-stork	<i>Anastomces oscitans</i>	Ciconiidae
6	Great stone plover	<i>Esacus recurvirostris</i>	Burhinidae
7	Small Blue kingfisher	<i>Alcedo atthis</i>	Coraciiformes
8	Stork billed kingfisher	<i>Halcyon capensis</i>	Coraciiformes
9	Brahminy shelduck	<i>Tadorna ferruginea</i>	Anatidae
10	Comb (nakta) duck	<i>Sarkidiomis melanotus</i>	Anatidae
11	Eurasian wigeon	<i>Anas penelope</i>	Anatidae
12	Mallard	<i>Anas platyrhynchos</i>	Anatidae
13	Garganey (blue winged teal)	<i>Anas querquedula</i>	Anatidae
14	Poachard	<i>Aythya nyroca</i>	Anatidae

Table 3 : Check-list of the birds observed in and around Heggeri lake

Sl.N	Common name	Scientific name	Family
1	Lesser pied kingfisher	<i>Ceryle rudis</i>	Alcedinidae
2	White breasted Kingfisher	<i>Halcyon smymensis</i>	Alcedinidae
3	Red-wattled lapwing	<i>Vanellus indicus</i>	Charadriidae
4	Black winged stilt	<i>Himantopus himantopus</i>	Recurvirostridae
5	Purple moorhen	<i>Porphyrio porphyrio</i>	Ralliade
6	Common coot	<i>Fulica atra</i>	Ralliade
7	Northern pintail	<i>Anas acuta</i>	Anatidae
8	Spot-billed duck	<i>Anas poecilothyncha</i>	Anatidae
9	Northern shoveller	<i>Anas clypeata</i>	Anatidae
10	Lesser whistling duck	<i>Dendrocygna javanica</i>	Anatidae
11	Bar-headed goose	<i>Anser indicus</i>	Anatidae
12	Eurasian spoon bill	<i>Platalea leucorodia</i>	Threskiomithidae
13	Oriental white ibis	<i>Threskiomis melanocephalus</i>	Threskiomithidae
14	Black ibis	<i>Pseudibis papillosa</i>	Threskiomithidae
15	Glossy ibis	<i>Plegadis falcinellus</i>	Threskiomithidae
16	Painted stork	<i>Mycteria leucocephala</i>	Ciconiidae
17	White necked stork	<i>Ciconia episcopus</i>	Ciconiidae
18	Median egret	<i>Mesophoyx intermedia</i>	Ardeidae
19	Cattle egret	<i>Bubulcus ibis</i>	Ardeidae
20	Indian pond heron	<i>Ardeola grayii</i>	Ardeidae
21	Grey heron	<i>Ardea cinerea</i>	Ardeidae
22	Little egret	<i>Egretta garzetta</i>	Ardeidae
23	Little cormorant	<i>Phalacrocorax niger</i>	Phalacrocoracidae
24	Marsh sandpiper	<i>Tringa stagnatilis</i>	Scolopacidae
25	Spotted redshank	<i>Tringa erythropus</i>	Scolopacidae
26	Wood (spotted) sandpiper	<i>Tringa glareola</i>	Scolopacidae
27	Black tailed godwit	<i>Limosa limosa</i>	Scolopacidae
28	Common (fain tail) snipe	<i>Gallinago gallinago</i>	Scolopacidae
29	Common sandpiper	<i>Actitis hypoleucos</i>	Scolopacidae
30	Curlew	<i>Numenius arquata</i>	Scolopacidae

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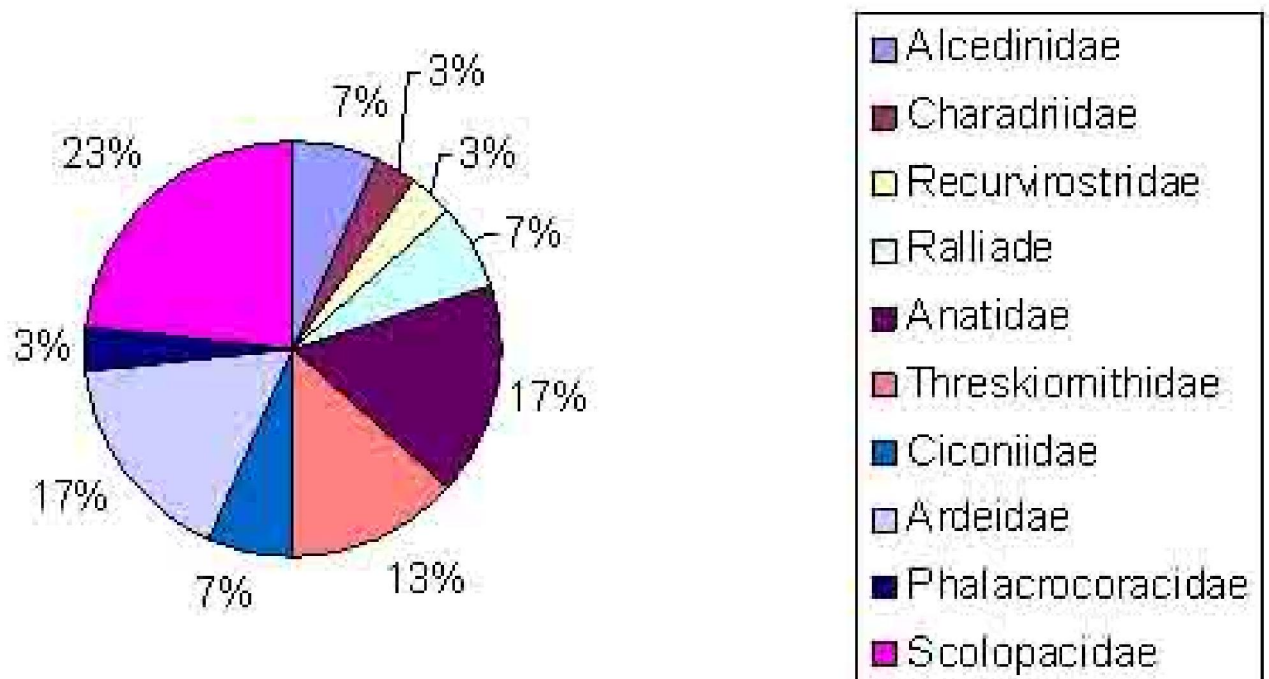


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