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ABUNDANCE AND CONSERVATION OF AVIAN POPULATION FROM HINGANI DAM, BARSHI -TALUKA, DIST- SOLAPUR , (M.S)



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ABSTRACT:

Birds play an important role in aquatic ecosystem. A given ecosystem comprises flora and fauna. There is an interaction established between these two as the flora is food source of birds. Therefore, the energy is transferred between the plants and animals. Birds receive nectar from plants and carryout the process of pollination and seed dispersal hence the conservation of birds is in top priority for the ecologists. The present investigation has been carried out during 2015 -2016 season at Hingani Dam near Solapur to find out the species variations, abundance and distribution of avian population. The study revealed that total of 60 species belonging to 19 families, out of which 30 species were residential, 25 species were migratory and 5 species were occasional visitors. From our data it was noticed that most of the birds were commonly found during entire year. However, there is a demarcation of regular occurrence and appearance of various bird species. From our work it is quite evident that avian population, in a given site is specific and it will reflect the richness and importance of the wetland which are very useful for transaction of migratory birds.

KEY WORDS: Wetland, Avian population, Conservation, Hingani Dam etc.

INTRODUCTION:

Wetlands are very important areas in the entire country as they used for recreation, conservation of flora and fauna, prevention of floods and educational purposes .They are also important for socio-economic identity of a given community (Sivaperuman and Jayson , 2000). Aquatic birds are very important components of dams, tanks, rivers and other aquatic ecosystem. They are very important representatives as they occupy at various tropic position of food chain. These birds include water fowls, shore birds, waders and other representatives. Various scientists studied avian diversity from different regions of India. Saxena (1975) studied the flora and fauna of Bharatpur bird sanctuary which greatly emphasize the bird life. Hussain et al., (1984) also studied the avian faunal diversity from world famous Chilka lakes from Odessa. Ishwara Bhat et al., (2009) studied avian faunal diversity from Ankere wetland, Karkala , Udappi district Karnataka. They have observed that Karkala wetland attracted 44 bird species including residential and migratory. Kachare et al., (2011) studied the avian population from the wetland of Kolhapur City (M.S). They have mainly stressed on natural disturbance, seasonal variation, rainfall and human interference during festival days and emphasized that the washing, bathing, recreation and other aspects affecting avian diversity and abundance from four various water bodies in Kolhapur City, Maharashtra. Narwade et al., (2012) studied the distribution and conservation of heronries in Southwest region of Deccan, Maharashtra. They have stated that habitat loss hunting and lack of public awareness are the major factors in conservation of threatened birds.

In the present investigation an attempt has been made to study the avian population and occurrence during 2015 -2016 from Hingani Dam near Barshi, District Solapur, Maharashtra. As this area comes under drought prone region, Hingani wetland is not explored so far extensively for the study of conservation of avian population, hence this endeavour is undertaken.

MATERIALS AND METHODS

STUDY AREA

Hingani Dam is located on Bhogawati river at 18° 08'05''N and 75°50'12'' E. It was established in 1977 as a source of water supply, for irrigation, drinking and other domestic purposes (Plate No. 1). It is also used for fish farming and commercial exploitation. It is surrounded by agricultural land, aquatic weeds and with barren area.



Plate :1- Hingani Dam in Solapur District(Google maps)

SURVEY METHODOLOGY:

Avian population survey was conducted every week in early morning 07:00 am to 10:00 am during 2015- 2016. Birds were observed using 10 x 50 binocular (Olympus) and identified with the help of standard

field guides (Grimmet et al.,1999). The photographs (using NIKON P510) were also generated for head counting and identification. Population density was estimated by using point count method and data selected from various sites were recorded for analysis .During our study, we have not disturbed the native ecosystem and obeyed the biodiversity regulations and we have untouched the bird species for the conservation.

RESULTS AND DISCUSSION

The results of present investigation are given in the Table: 1 and Plate :2

Table.1 Avian Population from Hingani Dam during 2015-2016

Sr.No.	Name of Family	No. of Species	Migratory	Residential	Visitors
1	Passeridae	6	4	2	0
2	Ciconidae	3	0	1	2
3	Threskiornithidae	4	1	2	1
4	Phoenicopteridae	2	2	0	0
5	Ardeidae	4	1	3	0
6	Podicipedidae	1	0	1	0
7	Phalacrocoracidae	3	0	3	0
8	Anatidae	15	11	2	2
9	Alcedinidae	1	0	1	0
10	Rallidae	4	0	4	0
11	Pteroclididae	1	0	1	0
12	Scolopacidae	5	5	0	0
13	Charadriidae	4	0	4	0
14	Jacaniidae	1	0	1	0
15	Burhinidae	1	0	1	0
16	Recurvirostridae	1	0	1	0
17	Glareolidae	1	0	1	0
18	Laridae	2	1	1	0
19	Accipitridae	1	0	1	0
	Total Families: 19	Total Species: 60	Total:25	Total:30	Total:5

Plate.2. Few bird representatives from Hingani Dam during the study



The present investigation revealed variations in avian fauna and relative abundance from Hingani Dam. From our study it was observed that the overall avian population noticed during 2015 -2016 revealed that a total of 19 families were identified out of which Anatidae family represented with 15 species, which is followed by Passeridae represented with 6 species, Scolopacidae family represented 5 species, Threskiornithidae, Ardeidae, Rallidae and Charadriidae represented with 4 species, whereas Ciconidae and Phalacrocoracidae represented by 3 species, while Phoenicopteridae and Laridae represented by 2 species, whereas Recurvirostridae, Burhinidae, Jacanidae, Pteroclididae, Alcedinidae, Podicipedidae, Glareolidae and Accipitridae represented with 1 species. Therefore the total number of 60 species were found from Hingani Dam.

Narwade and Fartade (2012) studied bird diversity from Osmanabad district Maharashtra, India. They have covered Yedsi grassland, Terna Lake and Masla village from Solapur district. They further noticed that, a total of 165 bird species reported during their survey out of which 109 found to be residential, 41 species were found to be migratory and 8 species under threatened list. Studies were also carried out from Dudhale Lake Bhadravati district Chandrapur on diversity of avian fauna (Harney, 2014). The author observed that during October 2012 to September 2013, a total of 49 species of birds were recorded out of which 42 were residential, 6 resident migrant and 1 resident migrant common. He concluded that the bird species needs conservational strategies from pollution and disturbances of human activities. Gavhane and Babare (2013) studied the Piscivorous birds of Hingani – Pangaon reservoir during 2011. They have observed a total of 8 species, 4 representatives were residential, and 3 representatives were resident migrant; and only 1 representative of migratory behavior.

From our observation, in the present study, a total of 19 families represented by 60 species, out of which 25 species found to be migratory, 30 species were found to be residential and 5 species found to be occasional visitors. From this observation it is confirmed that the Hingani Dam has very rich diversity of avian population. On an average fifty percent of birds were residential and approximately more than forty percent of bird species were migratory and ten percent of bird species were occasional visitors. This study clearly indicates that these undisturbed wetlands are used by majority of birds including aquatic birds throughout year for fulfillment of their nutritive requirement and continues their reproductive cycle. Our study reveals that Hingani Dam also attracts substantial number of migratory birds (more than forty percent) this clearly sends a message for the conversationalist, that the flora and fauna of Hingani Dam has rich nutritional and edible value for water birds. Hence, the protection and management strategies have to be implemented for habitat diversity which will finally maintain the original heritage of avian diversity from this drought prone area. Further insight is necessary to study the interrelationship between the birds and other inhabitants of Hingani Dam.

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