

Avifaunal diversity at and around Lanjud dam of Buldhana district, Maharashtra

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ABSTRACT

The avifaunal diversity at and around Lanjud dam was studied from October 2021 to September 2022. The present study was carried out to find the avian diversity of the study area. The birds were observed and photographed using a digital camera. The study reveals that a total of 56 species including water birds and land birds belonging to 33 different families and 15 different orders were recorded. Out of the finding, 46 bird species were residential, 8 bird species were residential migratory and 2 species was winter migratory. During investigation 52 are Least concern, 02 are Near threaten, and 02 are Non assessment birds recorded.

Keywords: Avifauna, Lanjud Dam, Diversity, Bird Diversity, Khamgaon

INTRODUCTION

Avifaunal diversity forms an important component of the natural ecosystem (Manjunath and Joshi, 2012). Because of their ability to fly through the air and their exquisite coloration, birds have always captured man's attention. A variety of environmental issues can be studied using birds as useful models and ideal bio-indicators. A closer look is being taken as field ornithology methods, ecological studies, and conservation monitoring are receiving more and more attention. The various lakes and wetlands in any city serve as a balancing reservoir for sustaining native flora and fauna (Grimmett and Inskipp, 2007; Surana et al., 2007).

Khamgaon taluka is known as the most developed city in the Buldana district (M.S.) of India. Latitude 20.6833, and Longitude 76.5666 are the coordinates. It contains 132 villages. A Lanjud reservoir is located 10 kilometers from Khamgaon. It has a harsh climate. Winters are extremely cold, while summers are extremely hot, with temperatures reaching 49^o C.

After Nagpur, Khamgaon has the hottest summer city in Vidarbha. The average annual rainfall is 694.69 mm.

Fresh water from the Lanjud dam is especially used for drinking, domestic, and agricultural purposes and used for catching fish. From this dam during November 2020 to December 2021, 31 fish species belongings to 8 families and 13 orders were recorded (Kale and Bathe, 2022). The socioeconomic condition of fishermen dependent on the Lanjud dam was also studied (Bathe et al., 2022). The present investigation was conducted in and around Lanjud reservoir, near Khamgaon, District Buldhana. The dam is built on the Lendi River and it is surrounded by human settlements, farmlands, and bushes that serve as natural habitats for birds. The present study determines the current status of avian diversity in the Lanjud reservoir region and creates an updated bird checklist for the purpose of conserving indigenous and migratory species that live in this area.

MATERIAL AND METHOD

Study area:

The Lanjud dam is situated 10 km, on Khamgaon-Nandura Highway i.e. NH 6, North-West of Lendi River and surrounded by human settlements like Parkhed, Kurha, Pimpri -Deshmukh villages and has a concern with the MIDC area. It has a catchment area of about 66.96sq km and comes under a Medium Irrigation Project and was sanctioned in 1984. The gross storage capacity of the Dam is 1.9892 mcm. It coordinates 760 -36'-00" longitudinally and 200- 00'- 45" latitudinal. The dam has a total length of 1215m with a height of about 12.55m. It was mainly constructed to supply water to MIDC Khamgaon, nearby agriculture, and drinking water to the surrounding villages.

Methodology:

The present investigation was carried out from October 2021-September22. The bird observation was carried out using binoculars during the morning from 6 am to 10 am and in the evening from 5 pm to 7 pm. The photographs of the bird were taken using D5300 Nikon Camera with a 70-300 Zoom lens. The identification and field diagnosis of birds was carried out by using the standard literature of Grimmett et al., (1999), Ali and Ripley, (1995), and the

book Indian Birds by Salim Ali (1996). Birds observed were recorded and identified by the habitat type; ecological status, Abundance, and checklist were prepared.

RESULT AND DISCUSSION

The survey was conducted to record biodiversity and the ecological status of birds from the Lanjud dam region, 10 km, distance from the Khamgaon-Nandura Highway, Khamgaon Dist. Buldana, Maharashtra of India. In the present report total of 56 bird species belonging to 33 different families and 15 different orders were recorded. Out of the finding, 46 bird species were residential, 8 bird species were residential migratory and 2 species was winter migratory. The findings of the preceding studies are typically similar to the findings of the current report, which show that resident birds outnumber resident migratory and migratory birds. The birds can be seen in all three seasons, but they are most visible in the winter and less so in the summer due to food scarcity. Out of 56 birds investigated in the present study 52 are Least Concern, 02 are Near Threaten, and 02 are Non-assessment Birds. A total of 42 bird species were found to be common, 11 species were found to be uncommon, and 03 species of birds were found to be occasional. The maximum bird species belonging to the order Passeriformes.

Many researchers did related work such as Patil *et al*, (2016) was reported 143 species of birds belonging to 15 orders and 41 families. Out of total 143 species, 07 are migrants, 95 are Resident and 41 are Resident migrants. Seasonal variation is well-marked in birds due to the availability of food and nesting and suitable environmental conditions. The largest number (60) of bird species is recorded from the order Passeriformes which belongs to 17 families. Puri (2015) reported 27 species from Zaliyalake in Gondia district. Lad and Patil (2015) recorded 131 species from Bhayander and Naigaon wetlands in the Thane district. Rohankar and Kothare (2020) reported 17 species of birds of 16 families and observed that out of those 17species 16 are the least concern and 1 is near threatened belongs to the family threskiornithidae i.e. Threskiornis melanocephalus (White Ibis). Kakade and Kasture (2022) reported that 55

Table 1: Preliminary list of birds observed at and around Lanjud reservoir, Khamgaon, Dist- Buldhana (M.S.)

Order	Family	Scientific Name	Common Name	Status	IUCN Status	Abundance
Accipitriformes	Accipitridae	<i>Accipiter badius</i>	Shikara	R	LC	C
		<i>Buteo buteo</i>	Common buzzard	R	LC	O
		<i>Butastur teesa</i>	White-eyed buzzard	R	NT	U
		<i>Anas poecilorhyncha</i>	Spot bill duck	R	LC	C
		<i>Milvus migrans</i>	Black kite	R	LC	C
		<i>Anser indicus</i>	Bar-headed goose	RM	LC	C
		<i>Hieraaetus pennatus</i>	Booted eagle	WM	LC	O
Apodiformes	Apodidae	<i>Apus affinis</i>	House swift	R	LC	C
Bucerotiformes	Bucerotidae	<i>Ocyrceros birostris</i>	Indian grey hornbill	R	LC	C
		<i>Ocyrceros griseus</i>	Malbar grey hornbill	RM	LC	U
	Upupidae	<i>Upupa epops</i>	Common hoopoe	R	LC	C
Caprimulgiformes	Podargidae	<i>Tetrachotomies moniliger</i>	Frog mouth owl	RM	LC	U
	Strigidae	<i>Athene brama</i>	Spotted owl	R	LC	C
Charadriiformes	Jacaniidae	<i>Metopidius indicus</i>	Bronze-winged jacana	R	LC	C
	Scolopacidae	<i>Actithypoleucos</i>	Common sandpiper	RM	LC	C
	Recurvirostridae	<i>Himantopus himantopus</i>	Black winged stilt	R	LC	C
	Charadriidae	<i>Vanellus indicus</i>	Red wattled lapwing	R	LC	C
		<i>Vanellus malabaricus</i>	Yellow wattled lapwing	R	LC	U
Glareolidae	<i>Glareola lacteal</i>	Small pratincole	R	LC	C	
Pelecaniformes	Ardeidae	<i>Aredeola grayii</i>	Indian pond heron	R	LC	C
		<i>Ardea cinerea</i>	Grey heron	RM	LC	U
		<i>Ardea purpurea</i>	Purple heron	R	LC	U
		<i>Ardea alba</i>	Great egret	RM	LC	C
		<i>Bubulcus ibis</i>	Cattle egret	R	LC	C
		<i>Egretta garzetta</i>	Little egret	R	LC	C
Columbiformes	Columbidae	<i>Treron phoenicoptera</i>	Yellow-footed green pigeon	R	LC	C
		<i>Columba livia</i>	Rock pigeon	R	LC	C
		<i>Streptopelia chinensis</i>	Spotted dove	R	LC	C
Coraciiformis	Alcedinidae	<i>Alcido benghalensis</i>	Common kingfisher	R	LC	C
	Halcyonidae	<i>Halcyon smyrnensis</i>	White kingfisher	R	LC	C
	Coraciidae	<i>Coracias benghalensis</i>	Indian roller	R	LC	C
	Meropidae	<i>Merops orientalis</i>	Green bee-eater	R	LC	C
Cuculiformes	Cuculidae	<i>Eudynamys scolpacea</i>	Asian koel	R	LC	C
		<i>Cuculus canorus</i>	Common cuckoo	R	LC	C
Falconiformis	Falconidae	<i>Falco tinnunculus</i>	Common kestrel	RM	LC	C
Galliformes	Phasianidae	<i>Ortygornis pandiceiranus</i>	Gray francolin	R	LC	C

		<i>Francolinus pictus</i>	Painted francolin	R	LC	U
		<i>Francolinus francolinus</i>	Black francolin	R	LC	U
		<i>Coturnix coturnix</i>	Common quail	R	LC	C
		<i>Pavo cristatus</i>	Indian peafowl	R	LC	C
Gruiformes	Rallidae	<i>Amaurornis phoenicurus</i>	White-breasted water hen	R	LC	U
		<i>Gallinula chloropus</i>	Common moor hen	R	LC	U
Passeriformes	Monarchidae	<i>Terpsiphone paradise</i>	Indian paradise fly catcher	R	NT	O
	Sturnidae	<i>Acridotheres tristis</i>	Common myna	R	LC	C
	Muscicapidae	<i>Saxicoloides fulicata</i>	Indian robin	R	LC	C
	Pycnonotidae	<i>Pycnonotus cafer</i>	Red vented bulbul	R	LC	C
	Corvidae	<i>Corvus splendens</i>	House crow	R	NA	C
		<i>Corvus macrorhynchos</i>	Jungle crow	R	NA	U
	Dicruididae	<i>Dicrurus macrocercus</i>	Black drongo	R	LC	C
	Passeridae	<i>Passer domesticus</i>	House sparrow	R	LC	C
	Motacillidae	<i>Motacilla alba</i>	White wagtail	WM	LC	C
	Nectariniidae	<i>Cinnyris asiaticus</i>	Purple sunbird	R	LC	C
	Leiothrichidae	<i>Argya strita</i>	Jungle babbler	R	LC	C
		<i>Microcarbo niger</i>	Little cormorant	RM	LC	C
Psittaciformes	Psittaculidae	<i>Psittacula krameri</i>	Rose Ringed parakeet	R	LC	C
		<i>Psittacula cyanocephala</i>	Plum headed parakeet	R	LC	C

Abbreviations used above table

Status: R-Resident RM- Resident Migrant, and WM- Winter Migrant

IUCN Status: Least Concern (LC), Near Threaten (NT) and Non assessment (NA).

Abundance: C- Common, U- Uncommon, O-Occasional, and Rr- Rare

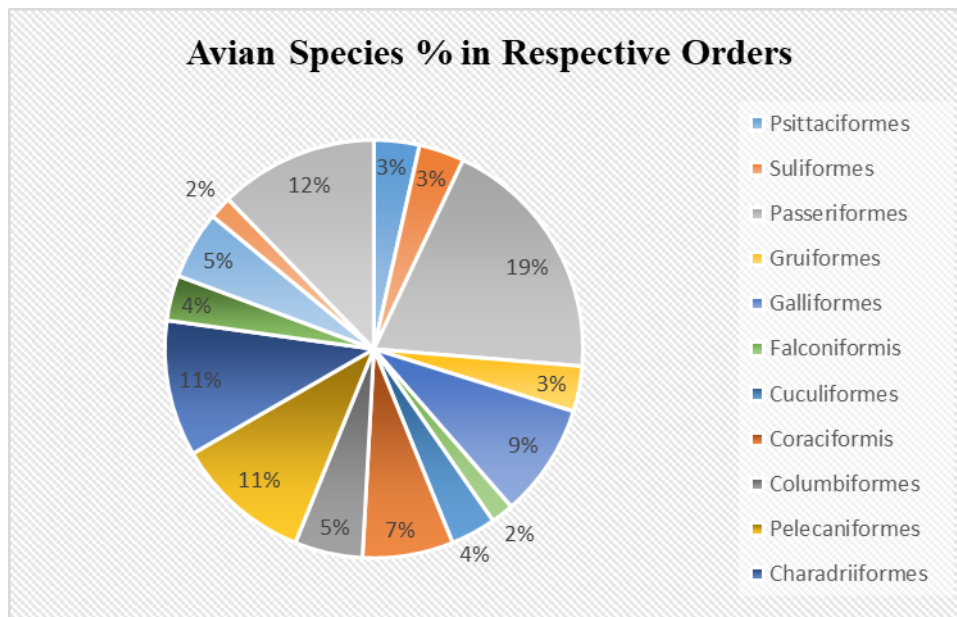


Fig.1- Avian species percentage in respective orders

Species including aquatic and terrestrial birds belonging to 18 orders & 34 families were recorded in and around Nalganga Dam.

CONCLUSION

The most recent status of bird diversity is provided by this study, which also adds to our understanding of the bird diversity in and around Lanjud Dam. The protection and conservation of threatened and vulnerable birds will benefit from the findings of this study on the biodiversity of birds. The study reveals that a total of 56 species including water birds and land birds belonging to 33 different families and 15 different orders were recorded. Out of the finding, 46 bird species were residential, 8 bird species were residential migratory and 2 species was winter migratory. During the investigation 52 are Least concern, 02 are Near threat, and 02 are Non-assessment birds were recorded. A total of 42 bird species were found to be common, 11 species were found to be uncommon, and 03 species of birds were found to be occasional.

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Conflicts of interest: The authors stated that no conflicts of interest.

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