Avifaunal Diversity of Wetland Birds in Tal. Chalisgaon, Dist. Jalgaon, Maharashtra, India

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***Abstract*—Wetlands are among the most productive ecosystems, supporting rich biodiversity, particularly avifauna. The present study evaluates the diversity of wetland birds in Chalisgaon Taluka, Jalgaon District, Maharashtra, India. Field surveys were conducted from September 2023 to October 2024 using point count and line transect methods across selected wetland habitats. A total of 70 bird species belonging to 08 orders and 14 families were recorded; a total of 70 bird species were wetland-dependent birds. Charadriiformes was dominant in the study area, including 5 families and 20 species (28.57%), followed by Order Anseriformes, 1 family and 16 species (22.85%); Pelecaniformes, with 2 families and 14 species (20%); Ciconiiformes, with 1 family and 06 species (08.57%); Gruiformes, with 1 family and 05 species (20%); Suliformes, with 2 families and 04 species (5.71%); Coraciiformes, with 1 family and 04 species (5.71%); and Podicipediformes, with 1 family and 01 species (1.42%). The aim of this study was to observe and record the avifaunal diversity of wetland birds in Taluka Chalisgaon, Dist. Jalgaon, Maharashtra, India.**

I. INTRODUCTION

Wetlands are dynamic ecosystems that provide essential ecological services, including biodiversity conservation, flood control, and nutrient cycling. They are particularly important for avifauna, offering feeding, breeding, and nesting habitats for a wide range of bird species (Mitsch & Gosselink, 2000).

Birds are widely regarded as bioindicators of ecosystem health due to their sensitivity to environmental changes (Bibby *et al.,* 2000). Wetland birds, including ducks, herons, waders, and storks, depend heavily on aquatic habitats for survival. These habitats are also critical for migratory birds traveling along major flyways such as the Central Asian Flyway (Kumar *et al.,* 2005). Studied the bird diversity in and around Hatale Dam, Taluka Chalisgaon, District Jalgaon, and recorded a total 45 species including water birds and the land bird belonging to the different 09 orders and 21 families (Shelke A. D., 2019).

Recorded the avifaunal diversity of Varthan Dam and its adjacent areas, Chalisgaon, Dist-Jalgaon, Maharashtra, India, during November 2018 to February 2019. A total of 75 species, including both water and terrestrial birds, belonging to 11 orders and 31 families (Shelke, A. D., 2020). Despite this, limited studies have been conducted on wetland bird diversity in Chalisgaon Taluka. Therefore, the present study aim was to document avifaunal diversity.

II. MATERIAL AND METHODS

Study Area

The study was carried out in Chalisgaon Taluka (20°28'12.0"N 75°01'12.0"E), located in the Jalgaon District of Maharashtra, India. The region experiences a semi-arid climate characterized by hot summers, moderate monsoon rainfall, and mild winters. The study sites included dams of Chalisgaon taluka, irrigation ponds, seasonal wetlands and marshy areas, and agricultural waterlogged fields. These habitats support diverse aquatic vegetation and fauna.

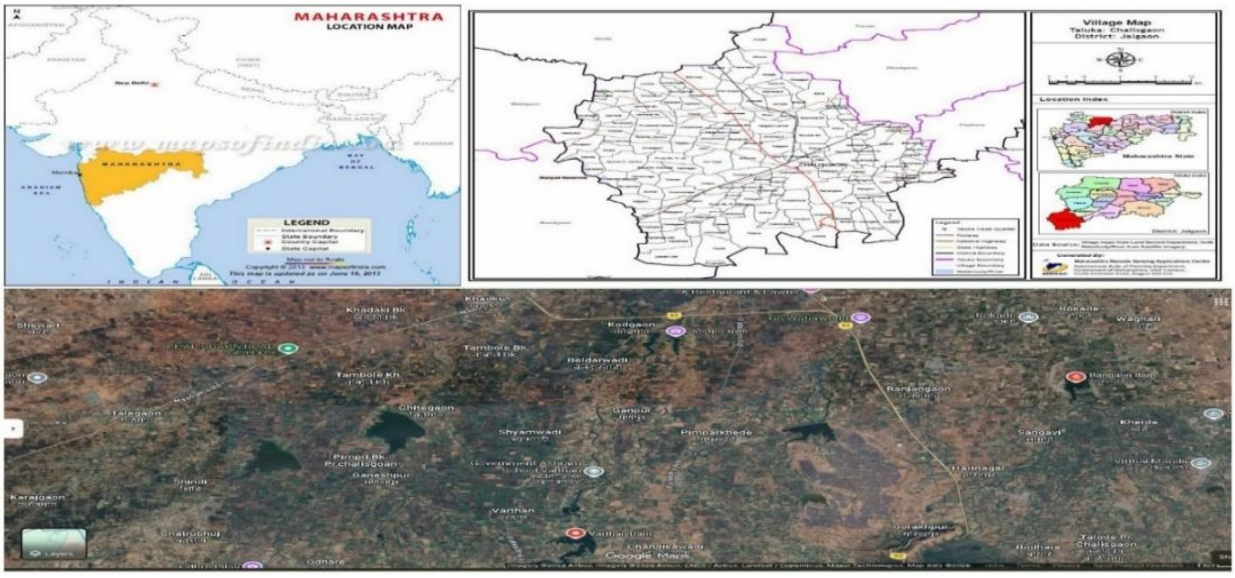

Fig:1. Google map of DamS of Tal. Chalisgaon, Dist- Jalgaon, Maharashtra, India.

Methodology

The field survey method was conducted from September 2023 to October 2024; the survey of birds was done by the line transect method (Bibby *et al*., 2000) and the point count method. Visits were carried out for two days a week during each month of the year in the entire study period to report the bird diversity. observation and reporting of birds was done during the morning 06:00-10:00 hrs. and evening 16:00-18:30 hrs. by using Nikon Aculon A211 10 x 50 binoculars, and photographs of birds were captured by a Nikon Coolpix B700 camera. No bird specimen was collected; only photos and videos with audio were prepared for the reference in the study. Book of Indian Birds (Ali, S. 2002) and Birds of the Indian Subcontinent (Grimmett *et al*., 2011) were used as field guides. The Internet Birds database was used for the identification of birds. The review of the global conservation status, of observed bird species was conducted in accordance with the Red List Categories classified by 'International Union for Conservation of Nature' (IUCN, 2024).

Data Classification:

Birds were classified based on their ecological status: R= Resident, WM = Winter Migrant and IUCN - International Union for Conservation of Nature; LC = Least Concern; VU = Vulnerable species; NT = Near Threatened.

III. RESULTS:

A total of 70 bird species belonging to 8 orders and 14 families were recorded. These species utilize wetlands as feeding and resting grounds during migration. Species richness was highest during winter due to the influx of migratory birds along the Central Asian flyway. The findings highlight the ecological importance of wetlands in the region. This study indicates that bird species diversity is abundant because the wetlands of this region provide a good food and habitat for resident and migratory birds.

Table1: Avifaunal diversity of Wetlands birds of Tal. Chalisgaon, district Jalgaon, Maharashtra India.

S. No.	Order and Family	Common Name	Scientific Name	Ecological Status	IUCN Status
1.	Podicipediformes				
	1. Podicipedidae	1.Little Grebe	*Tachybaptus ruficollis*	WM	LC
2.	Anseriformes				
	2. Anatidae	2.Lesser Whistling Duck	*Dendrocygna javanica*	WM	LC

		3.Cotton Pygmy Goose	*Nettapus coromandelianus*	WM	LC
		4.Ruddy Shelduck	*Tadorna ferruginea*	WM	LC
		5. Bar-headed Goose	*Anser indicus*	WM	LC
		6.Northern Pintail	*Anas acuta*	WM	LC
		7.Common Teal	*Anas crecca*	WM	LC
		08.Indian Spot-billed Duck	*Anas poecilorhyncha*	R	LC
		09.Garganey	*Anas querquedula*	WM	LC
		10.Northern Shoveler	*Anas clypeata*	WM	LC
		11.Eurasian Wigeon	*Mareca penelope*	WM	LC
		12.Gadwall	*Mareca strepera*	WM	LC
		13.Common Pochard	*Aythya ferina*	WM	LC
		14. Mallard	*Anas platyrhynchos*	WM	LC
		15.Tufted Duck	*Aythya fuligula*	WM	LC
		16.Ferruginous Duck	*Aythya nyroca*	WM	LC
		17.Red-crested Pochard	*Netta rufina*	WM	LC
3.	Suliformes				
	3. Phalacrocoracidae	18.Great Cormorant	*Phalacrocorax carbo*	R	LC
		19.Indian Cormorant	*Phalacrocorax fuscicollis*	R	LC
		20.Little Cormorant	*Microcarbo niger*	R	LC
	4. Anhingidae	21.Oriental Darter	*Anhinga melanogaster*	R	NT
4.	Pelecaniformes				
	5. Ardeidae	22.Grey Heron	*Ardea cinerea*	WM	LC
		23.Purple Heron	*Ardea purpurea*	R	LC
		24.Great Egret	*Ardea alba*	R	LC
		25. Intermediate Egret	*Ardea intermedia*	R	LC
		26.Little Egret	*Egretta garzetta*	R	LC
		27.Cattle Egret	*Bubulcus ibis*	R	LC
		28.Indian Pond Heron	*Ardeola grayii*	R	LC
		29.Black-crowned Night Heron	*Nycticorax nycticorax*	R	LC
		30.Cinamon Bittern	*Ixobrychus cinnmomeus*	R	LC
		31.Yellow Bittern	*Ixobrychus sinensis*	R	LC
	6. Threskiornithidae	32.Black-headed Ibis	*Threskiornis melanocephalus*	R	NT
		33.Red-naped Ibis	*Pseudibis papillosa*	WM	LC
		34.Glossy Ibis	*Plegadis falcinellus*	WM	LC
		35. Eurasian Spoonbill	*Platalea leucorodia*	WM	LC
5.	Ciconiiformes				
	7. Ciconiidae	36.Painted Stork	*Mycteria leucocephala*	WM	NT
		37.Asian Openbill	*Anastomus oscitans*	R	LC
		38.Woolly-necked Stork	*Ciconia episcopus*	R	LC
		39.Black Stork	*Ciconia nigra*	WM	LC
		40.White Stork	*Ciconia ciconia*	WM	LC
		41.Black-necked Stork	*Ephippiorhynchus asiaticus*	WM	LC

6.	**Gruiformes**				
	8. Rallidae	42.White-breasted Waterhen	*Amaurornis phoenicurus*	R	LC
		43.Common Moorhen	*Gallinula chloropus*	R	LC
		44.Grey-headed Swamphen	*Porphyrio porphyrio*	R	LC
		45.Eurasian Coot	*Fulica atra*	R	LC
		46.Purple swamphen	*Porphyrio porphyria*	R	LC
7.	Charadriiformes				
	09. Recurvirostridae	47.Black-winged Stilt	*Himantopus himantopus*	WM	LC
	10. Charadriidae	48.Red-wattled Lapwing	*Vanellus indicus*	R	LC
		49.Yellow-wattled Lapwing	*Vanellus malabaricus*	R	LC
		50.Little Ringed Plover	*Charadrius dubius*	WM	LC
	11. Scolopacidae	51.Common Greenshank	*Tringa nebularia*	WM	LC
		52.Green Sandpiper	*Tringa ochropus*	WM	LC
		53.Wood Sandpiper	*Tringa glareola*	WM	LC
		54.Marsh Sandpiper	*Tringa stagnatilis*	WM	LC
		55.Common Sandpiper	*Actitis hypoleucos*	WM	LC
		56.Little Stint	*Calidris minuta*	WM	LC
		57.Dunlin	*Calidris alpina*	WM	LC
		58.Curlew Sandpiper	*Calidris ferruginea*	WM	LC
		59.Black-tailed Godwit	*Limosa limosa*	WM	LC
		60.Eurasian Curlew	*Numenius arquata*	WM	NT
		61.Common Snipe	*Gallinago gallinago*	WM	LC
	12. Rostratulidae	62.Greater Painted Snipe	*Rostratula benghalensis*	R	LC
	13. Glareolidae	63.Small Pratincole	*Glareola lactea*	R	LC
		64.River Tern	*Sterna aurantia*	R	LC
		65.Common Tern	*Sterna hirundo*	R	LC
		66.Little Tern	*Sternula albifrons*	R	LC
08.	Coraciiformes				
	14. Alcedinidae	67.Common Kingfisher	*Alcedo atthis*	R	LC
		68.White-throated Kingfisher	*Halcyon smyrnensis*	R	LC
		69.Stork-billed Kingfisher	*Pelargopsis capensis*	R	LC
		70.Pied Kingfisher	*Ceryle rudis*	R	LC

Ecological Status: R = Resident, WM = Winter Migrant. IUCN= International Union for Conservation of Nature, LC= Lest Concern, VU = Vulnerable species NT= Near Threatened

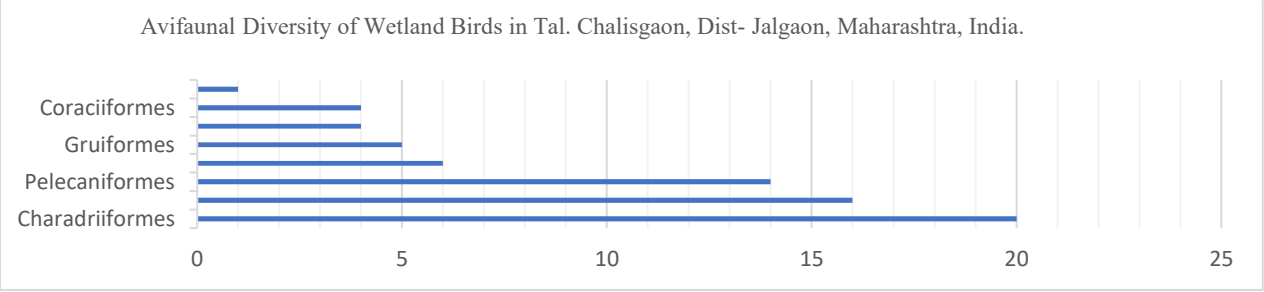

Fig. 2: Avifaunal diversity of wetland birds of Tal-Chalisgaon, Dist. Jalgaon, Maharashtra, India.

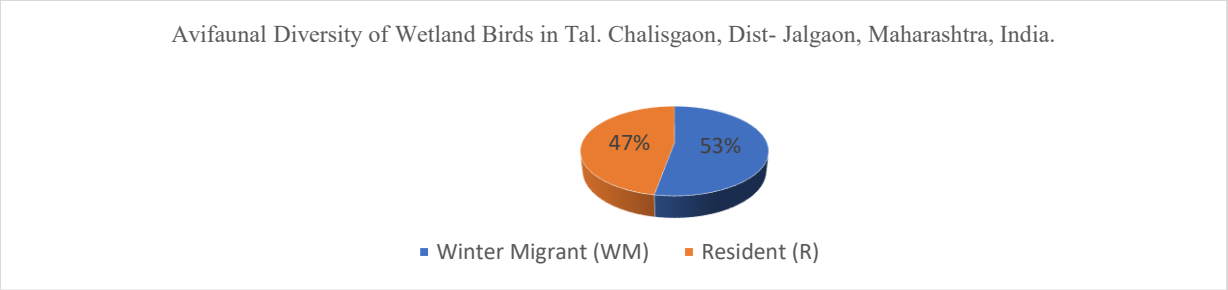

Fig. 3: Ecological Status of wetlands birds of Tal. Chalisgaon, Dist. Jalgaon, Maharashtra India.

IV. DISCUSSION

Seasonal variation in species richness reflects migratory patterns, with winter showing maximum diversity due to the arrival of migratory birds (Kumar *et al.,* 2005). reported the avifauna from Nagad Dam and its nearby area, Taluka-Kannad, Dist-Aurangabad, Maharashtra, India, during October to December 2019. A total of 77 species, including both water and terrestrial birds, were reported, belonging to 29 families and 11 orders (Shelke, A. D., 2020). Reported the bird diversity of Bahula Dam and its nearby areas of Pachora, Dist.-Jalgaon, Maharashtra, India. During this study, 105 species, including water and land birds, were recorded belonging to 16 avifaunal orders and 46 families. order Passeriformes was dominant in the study area, including 23 families and 44 species, followed by Coraciiformes with 4 families and 7 species, Charadriformes with 4 families and 6 species, Ciconiformes with 3 families and 6 species, and Ansariformes with 1 family and 9 species (8%) (Shelke, A. D., 2022).

Bird diversity of Bhoras Dam and its adjacent areas, Chalisgaon, Dist. Jalgaon, Maharashtra, India. A total 90 species, including water and land birds, were recorded belonging to the 15 avifaunal orders and 43 families. Order Passeriformes was dominant, including 21 families and 36 species, followed by Ciconiformes with 2 families and 9 species, Ansariformes with 1 family and 7 species, Charadriformes with 4 families and 6 species, and Coraciiformes with 4 families and 6 species (Shelke, A. D., 2023). Studied the avifaunal Diversity of Agnavanti Dam and its Adjoining Areas, Nagardeola, Dist-Jalgaon, Maharashtra, India. A total of 104 species, including water and land birds, were recorded belonging to 17 avifaunal orders and 46 families. (Shelke, A. D., 2025).

The present study highlights the ecological importance of wetlands in supporting avifaunal diversity in Chalisgaon Taluka. The dominance of waterbird families such as Anatidae and Ardeidae suggests suitable habitat conditions, including food availability and water depth.

V. CONCLUSION

The wetlands of Chalisgaon Taluka support a rich diversity of avifauna, including both resident and migratory species. The present study of avifaunal diversity of wetland birds of Tal-Chalisgaon, dist. Jalgaon, Maharashtra, India. A total of 70 bird species belonging to 08 orders and 14 families were recorded. A total of 70 bird species were wetland-dependent birds. Wetlands of this area provide a good and natural habitat for the residential and migratory birds. These wetlands provide favorable conditions for aquatic birds. Bird species prefers these wetlands as feeding and resting grounds during migration. This study data will be useful for making awareness among the peoples on the wetland bird diversity of this region.

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REFERENCES

[1] Ali, S. (2002). The Book of Indian Birds. Bombay Natural History Society, Mumbai.
[2] Bibby, C. J., Burgess, N. D., Hill, D. A., & Mustoe, S. (2000). Bird Census Techniques. Academic Press.
[3] BirdLife International. (2024). The IUCN Red

List of Threatened Species: Birds. BirdLife International.

[4] Grimmett, R., Inskipp, C., & Inskipp, T. (2011). Birds of the Indian Subcontinent. Oxford University Press.

[5] Kumar, A., Sati, J. P., Tak, P. C., & Alfred, J. R. B. (2005). Handbook on Indian Wetland Birds and their Conservation. Zoological Survey of India.

[6] Mitsch, W.J. and Gosselink, J.G., (2000). Wetlands. 3rd ed. New York: John Wiley & Sons.

[7] Shelke, A. D. (2019). Bird Diversity in and around Hatale Dam, Taluka Chalisgaon, District Jalgaon, Maharashtra, India. *Journal of Emerging Technologies and Innovative Research*, 6(3): 92-100.

[8] Shelke, A. D. (2020). Avifauna from Nagad Dam and Its nearby area, Taluka- Kannad, Dist- Aurangabad, Maharashtra, India. Bioinfolet, 17 (1B): 183-189.

[9] Shelke, A. D (2020). Avifaunal diversity of Varthan Dam and its adjacent areas, Chalisgaon, Dist- Jalgaon, Maharashtra, India. Bioinfolet 17 (4B): 635-642.

[10] Shelke A. D, (2022). The survey of Avifauna of Bahula Dam and its nearby areas of Pachora, Dist. Jalgaon, Maharashtra, India. International Journal of Zoological Investigations, Vol. 8 (1): 167-176.

[11] Shelke A.D. (2023). Bird diversity of Bhoras Bk. Dam and its adjacent areas Taluka- Chalisgaon, Dist. Jalgaon, Maharashtra, India. International Journal of Emerging Technologies and Innovative Research, *Vol. 10 (10):* 1-6.

[12] Shelke, A. D. (2025). Avifaunal Diversity of Agnavanti Dam and its Adjoining Areas, Nagardeola, Jalgaon, Maharashtra, India. International Journal of Zoological Investigations, Vol. 11 (2): 753-761.