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Study of Avian Diversity Nesting Ecology and Conservation of Nageshwadi Dam, District Hingoli (Maharashtra)

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Abstract

Birds are constantly struggling with environmental factors and adapting to environmental as well as anthropogenic disturbances. The diversity of bird species and the community structure of their nests are an interesting indicator of the balance of the ecosystem. Understanding their life cycle habitat and ecosystem is important to assess the ecological implications for the conservation and preservation of species. This study was conducted to assess the ecological and conservation diversity of bird species nests in various habitats in Nageshwadi Dam, Hingoli district. Our study was conducted for two consecutive years from February 2023 to February 2025. During this study period, 30 bird species from 20 bird families have been identified in the Nageshwadi Dam area and around the dam. Also, 10 orders and 8 nests have been found. 4 typs of nest found including platform nest, Ground nest, Cup nest & hole nest using deferent types of nest materials. The current study of this dam helps in keeping a record of the species and nesting behavior so that the current status can be restored and maintained. Birding is a great way to monitor the environment to provide information about bird biodiversity and identify this site as a globally important habitat for the conservation of bird populations.

Keyword: *Nesting Diversity, Ecology & Conservation of Nageshwadi Dam, Hingoli.*

Introduction

Birds are ecologically versatile and live in all types of habitats. All birds play various roles that are important for the ecosystem. The temperature of Nageshwadi Dam remains at a maximum of 44 degrees Celsius in summer and a minimum of 21 degrees Celsius in winter and monsoon. The water in the dam is used extensively for agriculture. Aquatic plants and various aquatic animals are found in these reservoirs.

Objective:

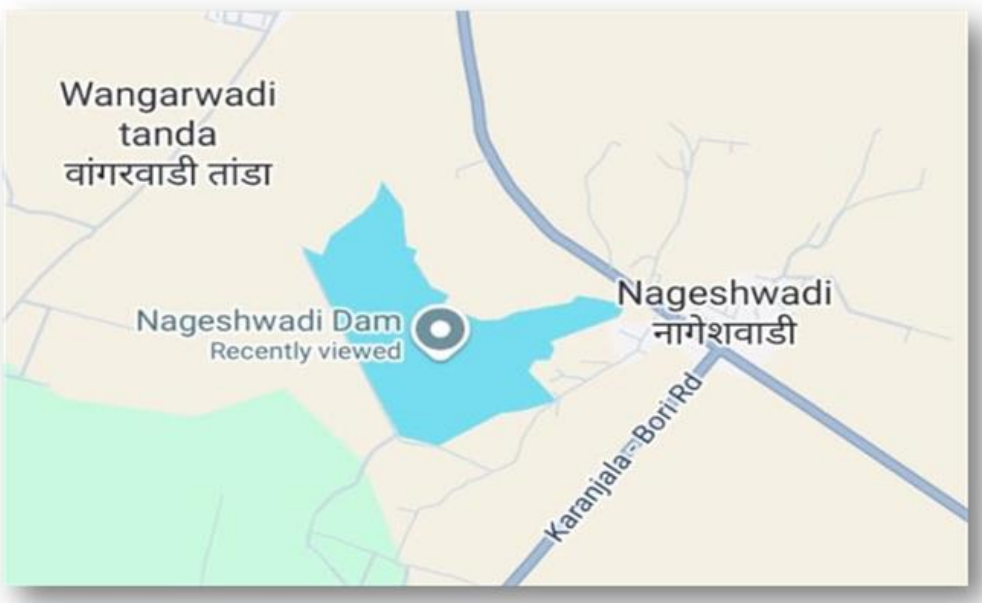
1. Study of avian fauna in and around Nageshwadi Dam.
2. Study of seasonal abundance of avian fauna.
3. Observe & study the nesting behavior of and types of nest.

Material and Methodology:

Bird survey and nesting study has been conducted at different selected locations of the dam. During the study period, each site around the dam was visited weekly. Observations were made from 6:15 AM to 9:25 AM and 4:45 PM to 6:45 PM. Birds were observed using field binoculars and digital photo cameras. Where different species of birds were analyzed and identified with the help of standard materials. The identification and analysis of these birds was done with the help of Salim Ali and Ripley and Grimmett et al books.

All the birds, including resident birds, wetland visitors and seasonal birds, were observed.

Figer 01: Study area Nageshwadi Dam, Hingoli District.



Figer 02: Map of Study area Nageshwadi Dam, Hingoli District.

Table 01: Check list of Birds Recording in and around Nageshwadi Dam, Hingoli

Order & Family	Common Name	Scientific Name	Count	Abundance	Habitat status
1. Anseriformes					
1. Anatidae	1. Common Teal (Eurasian teal)	*Anas crecca (Linnaeus, 1758)*	4	S	WM
	2. Garganey	*Spatula querquedula (Linnaeus, 1758)*	2	S	WM
	3. Bar-headed goose	*Anser indicus (Latham, 1790)*	3	S	M
	4. Ruddy shelduck (Brahminy duck)	*Tadorna ferruginea (Pallas, 1764)*	6	R	RM
	5. Indian spot-billed duck	*Anas poecilorhyncha (Forster, 1781)*	10	R	RM
2. Pelecaniformes					
2. Ardeidae	6. Little Egret	*Egretta garzetta (Linnaeus,1766)*	15	R	RC
	7. Indian pond Heron	*Ardeola grayii (Sykes,1832)*	13	R	RC
	8. Intermediate egret	*Ardea intermedia (Wagler, 1829)*	9	R	RC
3. Threskiornithidae	9. Indian black ibis	*Pseudibis papillosa (Temminck,1824)*	6	R	R
3. Passeriformes					
4. Motacillidae	10. Western yellow wagtail	*Motacilla flava (Linnaeus, 1758)*	4	S	WM
	11. White wagtail	*Motacilla alba (Linnaeus, 1758)*	5	S	WM
5. Pycnonotidae	12. Red-vented bulbul	*Pycnonotus cafer (Linnaeus, 1766)*	21	UC	RC
6. Leiothrichidae	13. Large grey babbler	*Argya malcolmi (Sykes, 1832)*	8	R	RC
7. Sturnidae	14. Common myna	*Acridotheres tristis (Linnaeus, 1766)*	54	O	RC
8. Passeridae	15. House sparrow	*Passer domesticus (Linnaeus, 1758)*	51	O	RC
9. Dicruridae	16. Black drongo	*Dicrurus macrocercus (Vieillot, 1817)*	10	R	RC
10. Muscicapidae	17. Indian robin	*Copsychus fulicatus (Linnaeus, 1766)*	8	R	RC

4. Gruiformes					
11. Rallidae	18. Purple swamphen	*Porphyrio porphyrio (Linnaeus, 1758)*	7	R	RC
	19. Common coot (Eurasian coot)	*Fulica atra (Linnaeus, 1758)*	6	R	RM
5. Columbiformes					
12. Columbidae	20. Ring-necked dove	*Streptopelia capicola (Sundevall, 1857)*	8	R	RC
	21. Rock dove (Rock pigeon)	*Columba livia (Gmelin, JF, 1789)*	12	R	RC
6. Cuculiformes					
13. Cuculidae	22. Greater coucal	*Centropus sinensis (Stephens,1815)*	8	R	RC
	23. Asian koel (Common Koel)	*Eudynamys scolopaceus (Linnaeus,1758)*	6	R	RM
7. Charadriiformes					
14. Laridae	24. River tern	*Sterna aurantia (Gray, JE,1831)*	4	S	RU
15. Charadriidae	25. Red-wattled lapwing	*Vanellus indicus (Boddaert,1783)*	15	R	RC
16. Recurvirostridae	26. Black-winged stilt	*Himantopus himantopus (Linnaeus,1758)*	8	R	WMc
8. Coraciiformes					
17. Meropidae	27. green bee-eater	*Merops orientalis (Latham, 1801)*	9	R	RC
18. Alcedinidae	28. White-throated kingfisher	*Halcyon smyrnensis (Linnaeus, 1758)*	12	R	RC
9. Podicipediformes					
19. Podicipedidae	29. Little grabe	*Tachybaptus ruficollis (Pallas, 1764)*	23	UC	RC
10. Suliformes					
20. Phalacrocoracidae	30. Little cormorant	*Microcarbo niger (Vieillot, 1817)*	25	UC	RC

RC: Residential Common, **WM:** Winter Migrant, **M:** Migrant, **RM:** Residential Migrant, **R:** Residential, **RU:** Residential Uncommon, **WMc:** Winter Migrant Common.
Abbreviation in ACOR are A= Abundant, C= Common, O= Occasional, R= Rare

Table 02: List of Birds Species, Nest sites, Nest Types & No. of Nests

Sr. No.	Species	Nest type	Nest-site	Nest Materials	No. of Nests
1	Little Cormorant	Platform nest	Trees, Bushes, Bomboo Stand	Stick and Leaves	8
2	Red-wattled Lapwing	Ground nest	Ground	Ground Nest	6
3	Red-vented Bulbul	Cup nest	Trees	Fibres, twigs	5
4	Indian Robin	Hole nest	Wall,treeholes	Grasses, feather,straw	4
5	Common Myna	Hole nest	Treeholes/cavities	Twigs, roots,leaves, polythene, feathers, snakeskin	12
6	Black Drongo	Cup nest	Trees	Twigs,fibres	3
7	House sparrow	Platform nest	Trees	Twigs, finecloth,coir, fibres	12
8	Ring-necked dove	Platform nest	Trees	Twigs,finecloth,coir,fibres	2

Result and Discussion:

A total of 30 species of birds recorded during the study period are shown in the table. Out of these, 10 species are resident in varying order. Out of these, 18 species are resident common, 4 winter migrants, 4 resident migrants, 1 migrant, 1 resident, 1 common, 1 winter migrant common and 8 species nest in 4 types of nests. Bird researcher S.P. Chauhan observed 168 birds in the Godavari river basin in Nanded in 2015 and Jadhav V.S. observed

63 bird species in Dhanora dam in Nanded district in 2012. Strict restrictions on the inflow of sewage water are necessary to maintain water quality for the protection of bird habitats and sites. Educational and environmental awareness programmes are also useful to encourage disciplined development efforts. Along with this, it is necessary to encourage the cultivation of indigenous trees that can attract birds for food.

Conclusions:

Total 30 bird species observed from 10 orders and 20 family of Nageshwadi Dam in Hingoli Districts. During study period from Feb-2023 to Feb 2025 order Passeriformes is dominated with 14 species and 08 species nest also observed.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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