

Avifaunal Diversity, Species Abundance and Relative Abundance at Amal-Nalla Water Reservoir of Chandrapur District (MS), India.

Dorlikar VD¹, NK Kurhade², SD Mane³, SS Shinde^{4*}

¹Department of Zoology, Vidarbha College of Arts, Commerce and Science, Jiwati;

²Department of Zoology, Rajiv Gandhi Mahavidhyalaya Mudkhed;

³Department of Zoology, Yeshwant Mahavidhyalaya, Nanded;

⁴Department of Botany, Vidarbha College of Arts, Commerce and Science, Jiwati Dist. Chandrapur (MS), India.

*Corresponding email- ssshinde493@gmail.com

DOI: [https://doi.org/10.63001/tbs.2026.v21.i04.S.I\(4\).pp293-300](https://doi.org/10.63001/tbs.2026.v21.i04.S.I(4).pp293-300)

KEYWORDS

Avifaunal diversity;
Amalnala Reservoir; bird
abundance; wetland birds;
species richness;
migratory birds; habitat
heterogeneity;
Chandrapur; Maharashtra.

Received: 16/08 /2026

Accepted :20/09/2026

Published: 12/10/2026

Abstract

Wetland ecosystems and reservoirs provide important habitats for diverse bird communities and contribute significantly to regional biodiversity. The present study was undertaken to assess the avifaunal diversity, species composition, abundance and seasonal status of birds associated with Amal-Nalla Water Reservoir and its surrounding habitats in the Gadchandur region of Korpana Taluka, Chandrapur District, Maharashtra, India. Field observations were conducted from June 2025 to May 2026 during morning and evening periods with regular intervals. Birds were recorded through direct visual observations and identified using standard ornithological literature. A total of 53 bird species belonging to 16 orders and 27 families, comprising 486 recorded individuals, were documented during the study period. The assemblage included resident, resident-migrant and migratory species, demonstrating the seasonal and ecological importance of the reservoir and its adjoining habitats. Passeriformes was the most species-rich order, with 10 species, followed by Columbiformes with five species. In terms of abundance, Passeriformes contributed the highest number of individuals (135), followed by Columbiformes (76) and Pelecaniformes (52). House Crow (*Corvus splendens*) was the most abundant species, with 32 individuals (6.58%), followed by Rock Pigeon (*Columba livia*) with 26 individuals (5.35%) and Cattle Egret (*Bubulcus ibis*) with 24 individuals (4.94%). The avifaunal assemblage included herons, egrets, cormorants, kingfishers, ducks, coots, shorebirds and storks, along with diverse terrestrial birds. The study demonstrates that Amal-Nalla Reservoir and its surrounding aquatic, agricultural and terrestrial habitats constitute an important habitat mosaic for birds and provides baseline information for long-term avifaunal monitoring, habitat assessment and conservation planning in the region.

1.INTRODUCTION

Birds constitute an important component of terrestrial and aquatic ecosystems and occupy diverse trophic levels and ecological niches. They perform several essential ecological functions, including predation, regulation of insect populations, seed dispersal, pollination, scavenging and nutrient transfer, thereby contributing significantly to ecosystem functioning and stability (Şekercioğlu, 2006). Because birds respond to changes in vegetation structure, food availability, habitat quality, water resources and anthropogenic disturbance, their diversity and abundance can provide useful information about ecological conditions and habitat quality (Gregory et al., 2003). Consequently, systematic studies of avifaunal diversity are important for understanding ecosystem structure, species-habitat relationships and the conservation value of regional and local landscapes. Avian communities are influenced by several environmental factors, including habitat heterogeneity, vegetation composition, availability of food and nesting sites,

water availability, seasonal changes and human disturbance. Wetlands and other aquatic ecosystems are particularly important for birds because they provide diverse habitats for feeding, breeding, nesting, roosting and refuge. The presence of open water, shallow-water zones, exposed margins, aquatic vegetation and adjoining terrestrial habitats can support different ecological guilds of birds within a relatively small geographical area. Thus, assessment of bird communities can serve as an effective ecological approach for evaluating the biological importance and environmental condition of aquatic habitats.

Wetlands are among the most productive ecosystems and provide important ecological services, including water regulation, flood mitigation, carbon storage, nutrient cycling and support for biodiversity. However, wetlands are undergoing substantial global decline because of agricultural expansion, pollution, infrastructure development, hydrological alteration and climate change. The Global Wetland Outlook 2025 estimates

that approximately 411 million hectares of wetlands, equivalent to about 22% of the global wetland area, have been lost since 1970, while approximately one-quarter of the remaining wetlands are in poor ecological condition (Convention on Wetlands, 2025). Such widespread degradation has important consequences for wetland-dependent organisms, including birds and emphasizes the need for effective monitoring and conservation of both natural and artificial aquatic habitats. India supports a rich and diverse avifauna because of its wide range of climatic conditions, biogeographical regions and habitat types. Nevertheless, Indian bird populations are increasingly affected by habitat alteration, agricultural intensification, urbanization, pollution, infrastructure development, invasive species and other anthropogenic pressures. The State of India's Birds 2023 assessment used more than 30 million observations contributed by over 30,000 birdwatchers to evaluate the distribution and population trends of 942 regularly occurring bird species in India (SolB Partnership, 2023). The assessment demonstrated that a substantial proportion of Indian bird species are experiencing population declines and emphasized the importance of systematic monitoring for understanding local and regional changes in bird populations.

Water bodies such as lakes, reservoirs, irrigation tanks and riverine wetlands provide important supplementary habitats for aquatic and terrestrial birds, particularly in landscapes where natural wetlands have been reduced or modified. The ecological value of such habitats depends not only on the extent of open water but also on shoreline characteristics, shallow-water areas, aquatic and emergent vegetation, surrounding vegetation and availability of prey organisms. Wetland-associated birds may utilize these habitats for feeding on insects, crustaceans, molluscs, fish, amphibians, seeds and other organisms. Therefore, the presence of aquatic vegetation and associated fauna can enhance the availability of food resources and contribute to the occurrence of diverse bird assemblages. Birds are also considered useful ecological indicators because changes in their species composition, abundance and distribution may reflect alterations in habitat quality and environmental conditions (Gregory et al., 2003; Şekercioğlu, 2006). The importance of systematic local-scale monitoring has been emphasized by the State of India's Birds programme, which notes that structured and consistent observations can provide crucial site-specific information on bird populations and local trends (SolB Partnership, 2023). Recent updates to the SolB database have further expanded the available information on Indian birds, with trend graphs and distribution maps updated using a substantially larger observational dataset (SolB Partnership, 2025).

The importance of aquatic habitats for avifaunal conservation, many small reservoirs, irrigation impoundments and locally important wetlands remain inadequately studied. Site-specific surveys are therefore necessary to document species richness, abundance, seasonal occurrence and habitat use. Such baseline information is particularly valuable in areas experiencing

increasing tourism, agricultural activity and other forms of anthropogenic pressure. Local inventories can also help identify species of conservation significance and provide a basis for future ecological monitoring and habitat-management programmes. Amalnala Reservoir, situated in the Gadchandur-Korpana region of Chandrapur District, Maharashtra, represents an important aquatic habitat surrounded by agricultural land and terrestrial vegetation. The reservoir contains open-water and shoreline habitats and is associated with aquatic vegetation and adjoining terrestrial environments that can provide feeding, resting, roosting and refuge opportunities for different bird species. The heterogeneous nature of the reservoir landscape is therefore expected to support a combination of resident, migratory and seasonally occurring birds.

However, systematic information regarding the avifaunal composition and relative abundance of birds associated with Amal-Nalla Water Reservoir is limited. In view of the ecological importance of aquatic habitats and the increasing anthropogenic pressure on wetland ecosystems, documentation of the local bird community is necessary to establish a baseline for future monitoring and conservation. Therefore, the present study was undertaken to document the avifaunal diversity, species richness, relative abundance and seasonal occurrence of birds associated with Amal-Nalla Water Reservoir and its surrounding habitats in the Gadchandur region of Korpana Taluka, Chandrapur District, Maharashtra, India. The study is intended to contribute baseline information for understanding the ecological significance of the reservoir and to support future avifaunal monitoring, habitat assessment and conservation planning.

2. METHODOLOGY

Study Area

The present investigation was carried out at Amalnala Dam (Amal-Nalla Water Reservoir), situated on the Amalnala River in the Chandrapur District of Maharashtra, India. The reservoir is located in the Gadchandur-Korpana region and is approximately 10 km from Gadchandur. The dam was constructed in 1985 as an irrigation project. According to the National Register of Large Dams published by the Central Water Commission (CWC), the dam is an earth fill embankment structure with a height of 37.75 m, a length of 1,607 m, and a gross storage capacity of 22.35 million m³. The reservoir area is approximately 370,300 m² (0.37 km²). The geographical coordinates recorded by the CWC are 19°41'36" N latitude and 79°07'56" E longitude (Figure 1). The reservoir is surrounded by a heterogeneous landscape consisting of open-water habitats, shallow-water and shoreline areas, agricultural fields and adjoining terrestrial vegetation. The surrounding terrain is characterized by hilly and undulating features, contributing to habitat heterogeneity around the reservoir. The area is also visited for recreation and tourism because of its scenic landscape. The combination of aquatic, semi-aquatic and terrestrial habitats provide suitable ecological conditions for a variety of resident as well as seasonally occurring bird species.

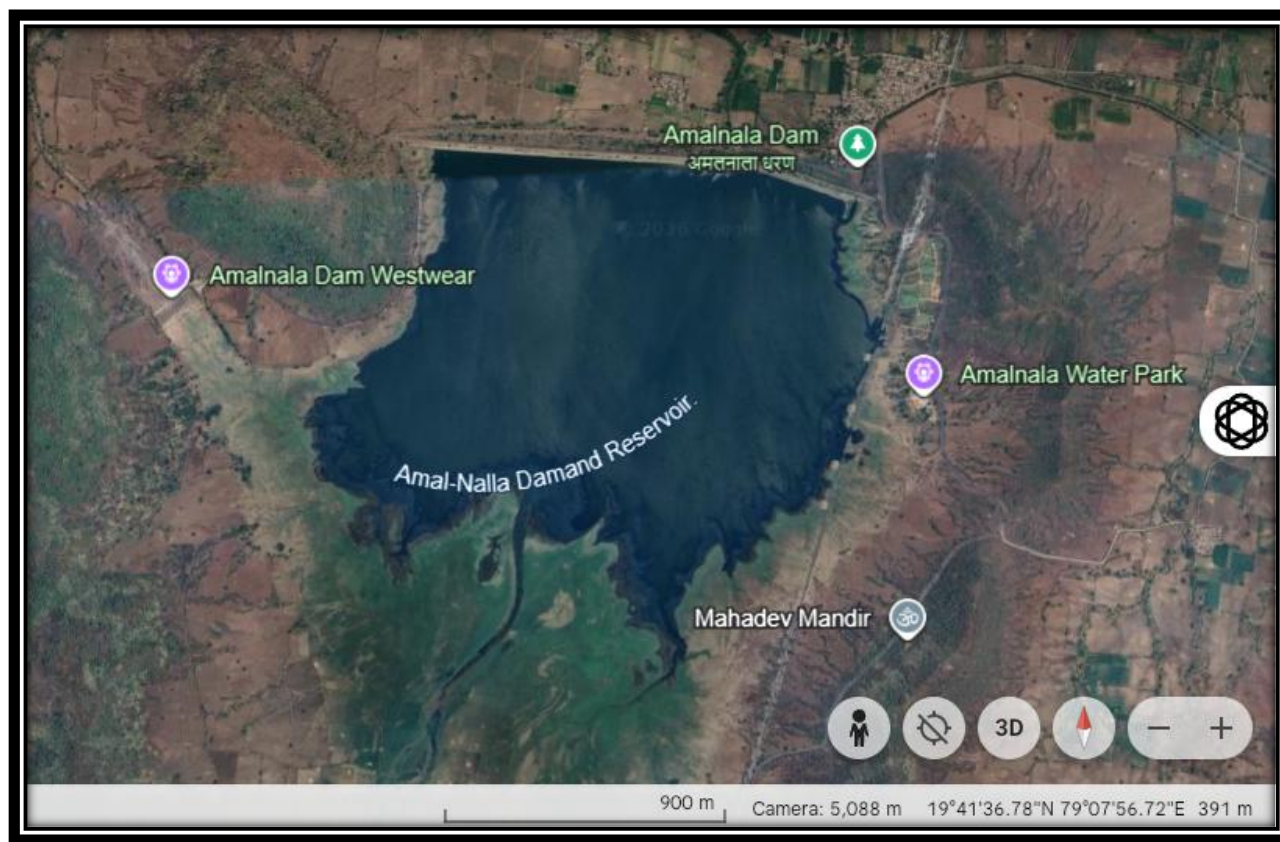


Figure 1. Satellite image showing Amal-Nalla Water Reservoir and its surrounding landscape in the Gadchandur-Korpana region, Chandrapur District, Maharashtra, India.

Study Period

The avifaunal survey was conducted from June 2025 to May 2026. The study period encompassed different seasonal conditions and consequently allowed observations of resident as well as migratory and seasonally occurring bird species associated with the reservoir and its surrounding habitats. Repeated observations were made with regular intervals during the study period to improve the probability of detecting species with different activity patterns and seasonal occurrence. Systematic and consistent monitoring is particularly valuable for generating site-specific information on bird assemblages and local patterns of occurrence. Recent Indian bird-monitoring work has emphasized the importance of structured and consistent observations for understanding local bird populations and trends.

Field Observation and Survey Procedure

Bird observations were carried out during two daily observation periods: Morning: 06:00-10:00 h and Evening: 16:00-18:00 h. These observation periods were selected to coincide with periods of comparatively high bird activity. Observations were conducted from accessible locations around the reservoir, including the dam and shoreline, open-water margins, shallow-water areas, vegetated portions and adjoining terrestrial habitats. Birds were detected by direct visual observation. During each observation session, the species encountered and the number of individuals observed were recorded. Particular attention was given to water-associated birds, birds using shoreline habitats, aerial feeders, terrestrial species occurring around the reservoir and birds utilizing surrounding vegetation. Repeated observations of the same species were recorded during

subsequent visits. Care was taken to minimize disturbance to birds, especially in areas used for feeding, roosting or nesting.

Identification of Bird Species

Initial identification of birds in the field was carried out using standard ornithological literature, particularly Woodcock (1980), Ali and Ripley (1995), and Grimmett et al. (1999). Identification was based on diagnostic morphological characters such as body size, plumage, colouration, wing and tail pattern, bill shape, flight characteristics, habitat association and behaviour. Vocal characteristics were also considered wherever applicable. Because bird taxonomy and nomenclature are periodically revised, the scientific names, family placement, order and English names recorded during the present study were subsequently cross-checked with the Checklist of the Birds of India, Version 10.1 (2026). The current India Checklist identifies itself as the definitive checklist for birds reliably recorded from India and follows eBird/Clements as its taxonomic and nomenclatural backbone. Recent taxonomic updates published by Praveen and Jayapal have further emphasized alignment of the India Checklist with the eBird/Clements framework. The 2025 update completed the transition toward the eBird/Clements backbone, while the 2026 update continued this framework and incorporated subsequent nomenclatural and taxonomic changes.

Analysis of Species Richness and Abundance

For every bird species recorded during the survey, the following information was entered in the field data sheet: Serial number; Order; Family; Scientific name; Common/English name; Number of individuals observed and Seasonal/residency status. The total

number of species recorded during the study period was considered as the species richness of the study area. The occurrence status of the recorded species was categorized as: R - Resident: species recorded throughout or predominantly during the study period and considered resident in the study area; M - Migrant: species recorded principally during its migratory/seasonal occurrence; RM - Resident/Migrant: species represented by resident or seasonally occurring individuals or

species showing a combination of resident and migratory occurrence.

Relative Abundance

The relative abundance of each species was calculated using the following expression:

$$\text{Relative abundance (\%)} = \frac{(\text{Number of individual Bird species})}{(\text{Total number of Bird species})} \times 100$$

This measure was used to compare the numerical representation of different bird species in the observed assemblage. The use of repeated and consistently recorded observations is important because local bird assemblages may vary according to season,

habitat, detectability and observer effort. Contemporary Indian bird assessments similarly emphasize the importance of accounting for observation effort and other sources of bias when interpreting bird occurrence and abundance data.

3. RESULTS

Avifaunal Diversity and Species Composition

The present investigation recorded a total of 53 bird species representing 16 orders and 27 families, with an overall recorded abundance of 486 individuals from Amalnala Reservoir and its surrounding habitats. The recorded avifaunal assemblage comprised resident, resident-migrant and migratory species, indicating that the reservoir and its associated terrestrial habitats provide a heterogeneous combination of aquatic, agricultural, scrub and woodland habitats capable of supporting birds with different ecological requirements. Habitat heterogeneity is widely recognized as an important factor influencing avian species richness because structurally diverse habitats provide a greater variety of feeding, nesting, roosting

and refuge opportunities (Gregory et al., 2003; Qiu et al., 2024). Among the 53 recorded species, 32 species (60.38%) were categorized as resident, 9 species (16.98%) as resident-migrant (RM), and 12 species (22.64%) as migratory (M) as shown in figure 2. Thus, resident species constituted the largest component of the recorded avifauna, while migratory and resident-migrant species together accounted for 21 species (39.62%). The substantial representation of seasonal species indicates that Amal-Nalla Water Reservoir may provide important feeding, resting and refuge opportunities during different phases of the annual cycle. Wetlands and inland water bodies can be particularly important for migratory birds because they provide resources at different stages of seasonal movement (Convention on Wetlands, 2025).

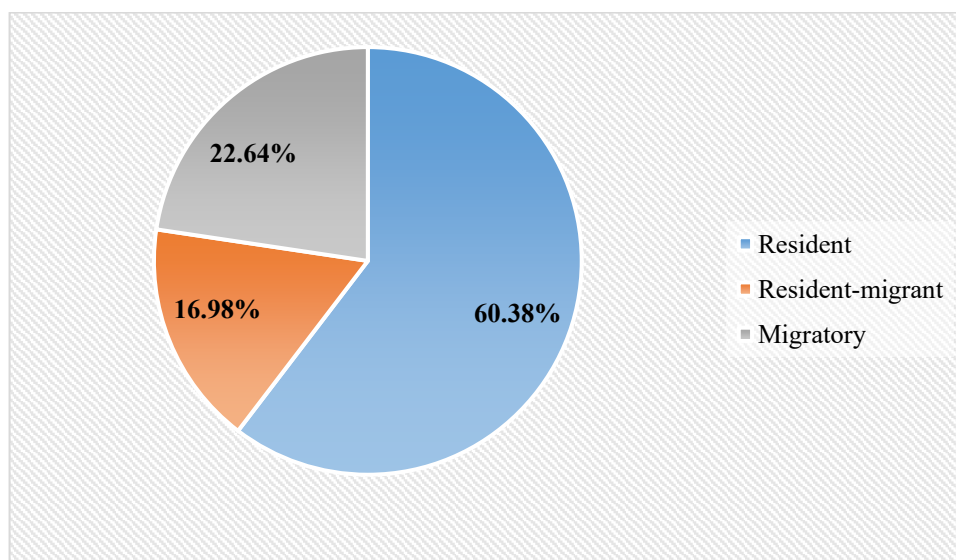


Figure 2: Status-wise Avifaunal diversity of Amal-Nalla Water Reservoir.

At the order level, Passeriformes was the most species-rich order, represented by 10 species, followed by Columbiformes with 5 species. Pelecaniformes, Anseriformes, Cuculiformes, Coraciiformes and Psittaciformes each contributed four species, while Gruiformes and Charadriiformes contributed three species each. Ciconiiformes, Piciformes, Galliformes, Bucerotiformes and Strigiformes were represented by two species each, whereas Suliformes and Accipitriformes were represented by one species each. The predominance of Passeriformes may be associated with the availability of diverse terrestrial habitats surrounding the reservoir, including agricultural fields, trees, shrubs and open areas. Such habitat heterogeneity can support birds

occupying different feeding guilds and ecological niches (Şekercioğlu, 2006; Gregory et al., 2003). At the family level, 27 families were represented in the recorded assemblage. Ardeidae, Anatidae, Cuculidae, Columbidae, Alcedinidae, Sturnidae, Corvidae, Phasianidae, Ciconiidae, Picidae, Scolopacidae and Psittaculidae were among the better-represented families, while several other families were represented by single species. The occurrence of families associated with aquatic, terrestrial, aerial and woodland habitats demonstrate the ecological heterogeneity of the Amal-Nalla landscape. Such habitat diversity is particularly relevant for wetland-associated birds because different habitat

components can support species with contrasting ecological and foraging requirements (Qiu et al., 2024).

Species Abundance and Relative Abundance

The abundance of individual species varied considerably across the recorded assemblage. House Crow (*Corvus splendens*) was the most abundant species, with 32 individuals (6.58%), followed by Rock Pigeon (*Columba livia*) with 26 individuals (5.35%) and Cattle Egret (*Bubulcus ibis*) with 24 individuals (4.94%). Barn Swallow (*Hirundo rustica*) was represented by 21 individuals (4.32%), while Rose-ringed Parakeet (*Alexandrinus krameri*) accounted for 19 individuals (3.91%). The relatively high abundance of these species may reflect their ecological flexibility and ability to exploit a variety of natural and human-modified habitats. Jungle Crow (*Corvus sp.*) recorded 18 individuals (3.70%), whereas Eurasian Coot (*Fulica atra*) recorded 17 individuals (3.50%). Spotted Dove (*Spilopelia chinensis*) and Indian Silverbill (*Euodice malabarica*) contributed 16 (3.29%) and 15 (3.09%) individuals, respectively. Other comparatively abundant species included Black Kite (*Milvus migrans*) and Laughing Dove (*Spilopelia senegalensis*), with 14 individuals each (2.88%), followed by Little Egret (*Egretta garzetta*) with 13 individuals (2.67%). Oriental Magpie-Robin (*Copsychus saularis*) and Eurasian Collared Dove (*Streptopelia decaocto*) each contributed 12 individuals (2.47%) as shown in table 1.

Order-wise Abundance

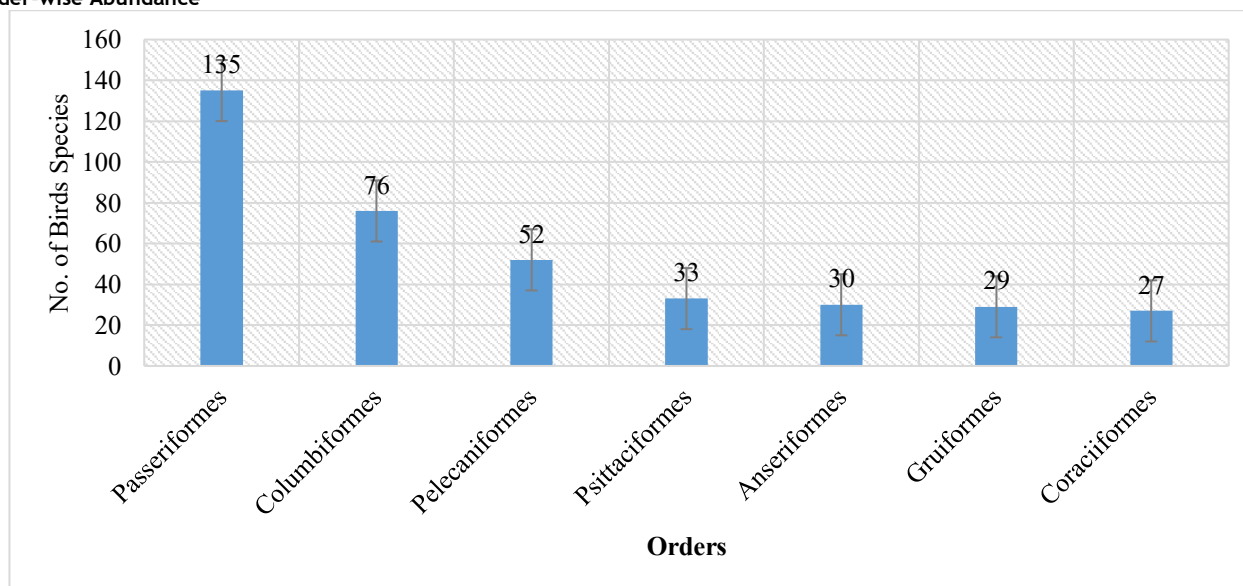


Figure 3: Order-wise abundance of Avifaunal Biodiversity of Amal-Nalla Water Reservoir.

The highest number of individuals was recorded under Passeriformes (135 individuals), followed by Columbiformes (76 individuals) and Pelecaniformes (52 individuals). Psittaciformes contributed 33 individuals, while Anseriformes contributed 30, Gruiformes 29, and Coraciiformes 27 individuals (Figure 3). The remaining orders—Charadriiformes, Cuculiformes, Galliformes, Ciconiiformes, Piciformes, Bucerotiformes, Suliformes, Accipitriformes and Strigiformes—contributed comparatively smaller numbers of individuals. The numerical dominance of Passeriformes corresponds with their high species richness in the study area. Passerines occupy a wide range of ecological niches and include insectivorous, granivorous, frugivorous and omnivorous species. The surrounding agricultural fields, trees, shrubs and open terrestrial habitats may therefore provide diverse food and shelter resources for passerine birds. Birds

The relatively high abundance of House Crow and Rock Pigeon may be associated with their broad ecological tolerance and capacity to utilize agricultural, open and human-influenced environments. Generalist bird species frequently achieve high local abundance where food resources are diverse and anthropogenic habitats are available (Şekercioğlu, 2006). Similarly, the abundance of Cattle Egret may reflect the availability of open feeding areas around the reservoir and adjoining agricultural fields. Cattle Egrets are adaptable foragers that commonly exploit terrestrial prey in open habitats, including agricultural landscapes. At the lower end of the abundance spectrum, Scops Owl (*Otus sp.*) and Black-necked Stork (*Ephippiorhynchus asiaticus*) were represented by only two individuals each (0.41%). Common Cuckoo (*Cuculus canorus*), Sarus Crane (*Antigone antigone*) and the unidentified (*Psittacus sp.*) were represented by three individuals each (0.62%). Low observed abundance does not necessarily indicate low ecological importance or poor habitat quality because species detectability, behaviour, territoriality, home-range size and seasonal movements can substantially influence field observations. In particular, nocturnal or crepuscular species may be under-recorded when observations are concentrated during daylight hours (Gregory et al., 2003).

occurring in agricultural landscapes can respond strongly to vegetation structure, food availability and landscape heterogeneity (Gregory et al., 2003). The substantial representation of Columbiformes (76 individuals) may similarly reflect the availability of grains, seeds, fruits and other plant-derived food resources in the agricultural and semi-natural surroundings of the reservoir. The combined occurrence of terrestrial generalists and aquatic-associated species indicates that the avifaunal community of Amalnala is not restricted to the reservoir itself but is influenced by the broader reservoir-agricultural landscape complex.

Aquatic and Wetland-associated Birds

The occurrence of herons, egrets, cormorants, kingfishers, coots, waterhens, ducks, shorebirds and storks indicates that

Amal-Nalla Water Reservoir provides a variety of habitats suitable for wetland-associated birds. Open water, shallow margins, exposed shoreline areas and aquatic vegetation can provide distinct feeding opportunities for piscivorous, insectivorous, omnivorous and other ecological guilds. Wetlands with greater habitat heterogeneity are capable of supporting a wider range of waterbird species because different species exploit different habitat components and food resources (Qiu et al., 2024). Species such as Grey Heron (*Ardea cinerea*), Cattle Egret (*Bubulcus ibis*), Intermediate Egret (*Ardea intermedia*), Little Egret (*Egretta garzetta*), Indian Cormorant (*Phalacrocorax fuscicollis*), Common Kingfisher (*Alcedo atthis*), Pied Kingfisher (*Ceryle rudis*), Eurasian Coot (*Fulica atra*), White-breasted Waterhen (*Amaurornis phoenicurus*), Indian Spot-billed Duck (*Anas poecilorhyncha*), Cotton Pygmy-Goose (*Nettapus*

coromandelianus), Common Greenshank (*Tringa nebularia*), Painted Stork (*Mycteria leucocephala*) and Black-necked Stork (*Ephippiorhynchus asiaticus*) collectively demonstrate the use of different aquatic and shoreline habitats. The occurrence of Eurasian Coot, Indian Spot-billed Duck, Cotton Pygmy-Goose, Bar-headed Goose, Ruddy Shelduck and Common Greenshank further indicates the seasonal importance of the reservoir for water-associated birds. The presence of migratory and seasonally occurring species is ecologically significant because inland reservoirs can provide supplementary feeding and resting sites within landscapes where natural wetland habitats are increasingly modified or lost. The continuing global decline of wetlands emphasizes the conservation value of such aquatic habitats (Convention on Wetlands, 2025).

Table 1. Avifaunal diversity, species abundance and relative abundance recorded at Amalnala Water Reservoir of Chandrapur District (MS).

Sr. No.	Order	Family	Scientific Name	Common Name	Status	Species Abundance (No. of Individuals)	Relative Abundance (%)
1	Pelecaniformes	Ardeidae	<i>Ardea cinerea</i>	Grey Heron	RM	8	1.65
2	Pelecaniformes	Ardeidae	<i>Bubulcus ibis</i>	Cattle Egret	R	24	4.94
3	Pelecaniformes	Ardeidae	<i>Ardea intermedia</i>	Intermediate Egret	R	7	1.44
4	Pelecaniformes	Ardeidae	<i>Egretta garzetta</i>	Little Egret	R	13	2.67
5	Ciconiiformes	Ciconiidae	<i>Mycteria leucocephala</i>	Painted Stork	M	4	0.82
6	Passeriformes	Sturnidae	<i>Sturnia pagodarum</i>	Brahminy Starling	R	11	2.26
7	Passeriformes	Sturnidae	<i>Gracupica contra</i>	Pied Starling	R	9	1.85
8	Passeriformes	Corvidae	<i>Corvus splendens</i>	House Crow	R	32	6.58
9	Passeriformes	Corvidae	<i>Corvus sp.</i>	Jungle Crow	R	18	3.70
10	Passeriformes	Monarchidae	<i>Terpsiphone paradisi</i>	Asian Paradise Flycatcher	RM	5	1.03
11	Passeriformes	Stenostiridae	<i>Culicicapa ceylonensis</i>	Grey-headed Canary-Flycatcher	RM	4	0.82
12	Passeriformes	Muscicapidae	<i>Copsychus saularis</i>	Oriental Magpie-Robin	R	12	2.47
13	Passeriformes	Estrildidae	<i>Euodice malabarica</i>	Indian Silverbill	R	15	3.09
14	Passeriformes	Estrildidae	<i>Amandava amandava</i>	Red Avadavat	R	8	1.65
15	Passeriformes	Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	RM	21	4.32
16	Piciformes	Picidae	<i>Dendrocopos mahrattensis</i>	Yellow-crowned Woodpecker	R	6	1.23
17	Coraciiformes	Alcedinidae	<i>Halcyon smyrnensis</i>	White-throated Kingfisher	R	10	2.06
18	Coraciiformes	Alcedinidae	<i>Alcedo atthis</i>	Common Kingfisher	RM	6	1.23
19	Coraciiformes	Alcedinidae	<i>Ceryle rudis</i>	Pied Kingfisher	R	5	1.03
20	Gruiformes	Rallidae	<i>Fulica atra</i>	Eurasian Coot	M	17	3.50
21	Gruiformes	Rallidae	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	R	9	1.85
22	Galliformes	Phasianidae	<i>Francolinus pondicerianus</i>	Grey Francolin	R	7	1.44
23	Cuculiformes	Cuculidae	<i>Clamator jacobinus</i>	Pied Cuckoo	R	5	1.03
24	Cuculiformes	Cuculidae	<i>Centropus sinensis</i>	Greater Coucal	RM	4	0.82
25	Cuculiformes	Cuculidae	<i>Cuculus canorus</i>	Common Cuckoo	M	3	0.62

Sr. No.	Order	Family	Scientific Name	Common Name	Status	Species Abundance (No. of Individuals)	Relative Abundance (%)
26	Suliformes	Phalacrocoracidae	<i>Phalacrocorax fuscicollis</i>	Indian Cormorant	R	8	1.65
27	Accipitriformes	Accipitridae	<i>Milvus migrans</i>	Black Kite	R	14	2.88
28	Anseriformes	Anatidae	<i>Anser indicus</i>	Bar-headed Goose	M	6	1.23
29	Gruiformes	Gruidae	<i>Antigone antigone</i>	Sarus Crane	R	3	0.62
30	Anseriformes	Anatidae	<i>Tadorna ferruginea</i>	Ruddy Shelduck	M	5	1.03
31	Charadriiformes	Glareolidae	<i>Cursorius coromandelicus</i>	Indian Courser	R	4	0.82
32	Charadriiformes	Scolopacidae	<i>Tringa nebularia</i>	Common Greenshank	RM	7	1.44
33	Columbiformes	Columbidae	<i>Columba livia</i>	Rock Pigeon	R	26	5.35
34	Columbiformes	Columbidae	<i>Spilopelia senegalensis</i>	Laughing Dove	R	14	2.88
35	Columbiformes	Columbidae	<i>Treron phoenicopterus</i>	Yellow-footed Green Pigeon	R	8	1.65
36	Columbiformes	Columbidae	<i>Spilopelia chinensis</i>	Spotted Dove	R	16	3.29
37	Columbiformes	Columbidae	<i>Streptopelia decaocto</i>	Eurasian Collared Dove	R	12	2.47
38	Psittaciformes	Psittaculidae	<i>Alexandrinus krameri</i>	Rose-ringed Parakeet	R	19	3.91
39	Cuculiformes	Cuculidae	<i>Eudynamis scolopaceus</i>	Asian Koel	R	7	1.44
40	Psittaciformes	Psittaculidae	<i>Alexandrinus eupatria</i>	Alexandrine Parakeet	R	5	1.03
41	Psittaciformes	Psittacidae	<i>Psittacus sp.</i>	Parrot	R	3	0.62
42	Bucerotiformes	Upupidae	<i>Upupa epops</i>	Eurasian Hoopoe	RM	6	1.23
43	Bucerotiformes	Bucerotidae	<i>Ocyrceros birostris</i>	Indian Grey Hornbill	R	5	1.03
44	Galliformes	Phasianidae	<i>Pavo cristatus</i>	Indian Peafowl	R	7	1.44
45	Piciformes	Picidae	<i>Dinopium benghalense</i>	Black-rumped Flameback	R	5	1.03
46	Strigiformes	Strigidae	<i>Otus sp.</i>	Scops Owl	R	2	0.41
47	Strigiformes	Strigidae	<i>Athene brama</i>	Spotted Owlet	R	4	0.82
48	Anseriformes	Anatidae	<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	RM	11	2.26
49	Anseriformes	Anatidae	<i>Nettapus coromandelianus</i>	Cotton Pygmy-Goose	M	8	1.65
50	Coraciiformes	Coraciidae	<i>Coracias benghalensis</i>	Indian Roller	RM	6	1.23
51	Ciconiiformes	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	M	2	0.41
52	Psittaciformes	Psittaculidae	<i>Psittacula cyanocephala</i>	Plum-headed Parakeet	R	6	1.23
53	Charadriiformes	Scolopacidae	<i>Calidris pugnax</i>	Ruff	M	4	0.82
Total	17 Orders	25 Families	53 Species	—	—	486	100 (%)

Note: R = Resident; RM = Resident/Migrant; M = Migrant.
Relative abundance was calculated as (number of individuals of a species / total individuals recorded) × 100.

4. CONCLUSION

The present study documented a diverse avifaunal assemblage associated with Amal-Nalla Water Reservoir and its surrounding habitats, comprising 53 species belonging to 16 orders and 27 families, with 486 recorded individuals. The occurrence of resident,

resident-migrant and migratory species demonstrates that the reservoir functions as an important habitat supporting birds with different ecological and seasonal requirements. The predominance of Passeriformes and the substantial representation of wetland-associated birds indicate that both terrestrial and aquatic habitat components contribute to the overall avian diversity of the area. The occurrence of herons, egrets, kingfishers, ducks, coots, shorebirds and storks highlights the importance of the reservoir and its shoreline habitats, while the presence of passerines, pigeons, parakeets, woodpeckers and other terrestrial birds reflects the

contribution of the surrounding agricultural and terrestrial landscape. The findings demonstrate that the ecological importance of Amal-Nalla Water Reservoir extends beyond the open-water area and depends on the integrated reservoir-shoreline-agricultural-terrestrial habitat mosaic. Conservation of shallow-water areas, shoreline vegetation, aquatic vegetation and adjoining terrestrial habitats is therefore essential for maintaining the local avifaunal diversity. Minimizing pollution, excessive vegetation removal and anthropogenic disturbance would further contribute to habitat protection. As the present investigation represents a baseline assessment for June 2025 to May 2026, long-term and standardized monitoring is recommended to evaluate seasonal changes, migratory patterns, breeding activity, habitat associations and population trends. The Amal-Nalla Water Reservoir represents a locally significant avian habitat in the Gadchandur-Korpana region

5. REFERENCES

- Convention on Wetlands. (2025). Global Wetland Outlook 2025: Valuing, conserving, restoring and financing wetlands. Gland, Switzerland: Secretariat of the Convention on Wetlands. DOI: 10.69556/GWO-2025-eng.
- Gregory, R. D., van Strien, A., Vorisek, P., Gmelig Meyling, A. W., Noble, D. G., Foppen, R. P. B., & Gibbons, D. W. (2003). Developing indicators for European birds. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 360, 269-288.
- Şekercioğlu, Ç. H. (2006). Increasing awareness of avian ecological function. *Trends in Ecology & Evolution*, 21(8), 464-471.
- SolB Partnership. (2023). State of India's Birds, 2023: Range, Trends and Conservation Status. The SolB Partnership. DOI: 10.5281/zenodo.11124589.
- Ali, S., & Ripley, S. D. (1995). *Handbook of the Birds of India and Pakistan, Together with Those of Bangladesh, Nepal, Bhutan and Sri Lanka*. Oxford University Press, New Delhi.
- Central Water Commission (CWC). (2019). National Register of Large Dams - 2019. Government of India, Ministry of Jal Shakti, Department of Water Resources, River Development & Ganga Rejuvenation. The register lists Amal Nalla Dam at 19°41'56" N, 79°09'57" E, completed in 1985, with a 37.75-m height, 1,607-m length, 22.35-million-m³ gross storage capacity and 370,300-m² reservoir area.
- Grimmett, R., Inskipp, C., & Inskipp, T. (1999). *Birds of the Indian Subcontinent*. Oxford University Press, New Delhi.
- Praveen, J., & Jayapal, R. (2024). Taxonomic updates to the checklists of the birds of India and the South Asian region—2025. *Indian BIRDS*, 20(6), 165-169.
- Praveen, J., & Jayapal, R. (2025). Taxonomic updates to the checklists of the birds of India and the South Asian region—2026. *Indian BIRDS*, 21(6), 165-166.
- Qiu, J., Zhang, Y., & Ma, J. (2024). Wetland habitats supporting waterbird diversity: Conservation perspective on biodiversity-ecosystem functioning relationship. *Journal of Environmental Management*, 357, 120663. <https://doi.org/10.1016/j.jenvman.2024.120663>.

of Chandrapur District, and the present findings provide a scientific baseline for future ecological monitoring, habitat management and bird-conservation initiatives.

Conflicts of Interest: The authors declare that they have no conflicts of interest.

Author Contributions: All authors contributed equally to the work.

Acknowledgement: Authors express sincere gratitude towards Principal, Vidarbha College of Arts, Commerce and Science Jiwati Dist. Chandrapur for his continuous support during the work.