



To Study the Avifaunal Diversity of the Niwali Reservoir. Tq. Jintur Dist. Parbhani, Maharashtra, India

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Abstract

The bird habitats of the Indian subcontinent can be roughly divided into forest, scrub, wetlands, marine, grassland, desert and agricultural land. There is some overlap between habitats for example mangrove forest can also be considered as wetland as can seasonally flooded grassland. Many bird species require mixed habitat types. The proposed Niwali Reservoir is located in one of the richest waterbird zones in Parbhani. This site has never been properly studied as a single site for its avifaunal diversity. The present study aims to find avifaunal diversity in the Niwali Reservoir. Data collection was performed from Nov. 2022 to Feb. 2023. A total of 113 bird species belonging to 43 families including 16 Orders waterbird and Land species were recorded in the present study.

Key words : Avifauna, Wetlands, Bird, Niwali Reservoir, Parbhani District.

Introduction

Niwali Reservoir is having good biodiversity having a different type of flora and fauna. Avifauna is one of the most important ecological indicators to evaluate the quality of habitats. Most of the birds are useful to man kind. Birds play a useful role in the control of insect pests of agricultural crops, as predators of rodents, as scavengers, as seed dispersers and as pollinating agents. Their occurrences have been helpful as environmental health indicator, Plant Pollinators and seed dispersals as well as pest controller. Birds are essential animal group of an ecosystem and are rightly called as bioindicators. There are more than 8600 bird species in the world, out of these 1250 species recorded from Indian Subcontinent. Birds also referred to as masters of air are homeothermic or warm blooded egg laying vertebrates characterized by the presence of feathers of

modification of forelimbs as wings for flight. Assessment of bird community is important tool in biodiversity conservation and identification of conservation actions. It has been said that birds could exist without man but that man would perish without birds. (Ali, 2002).

Aquatic ecosystems are excellent habitats for migrating and resident birds. The proposed Niwali Reservoir is located in one of the richest waterbird zones in Parbhani. This site has never been properly studied as a single site for its avifaunal diversity. The present study aims to find avifaunal diversity in the Niwali Reservoir. Data collection was performed from Nov. 2022 to Feb. 2023. A total of 113 bird species belonging to 43 families including 16 waterbird and Land species were recorded in the present study. Wetland are abundant in the region and support a rich of waterfowl. As well as providing habitats for breeding resident

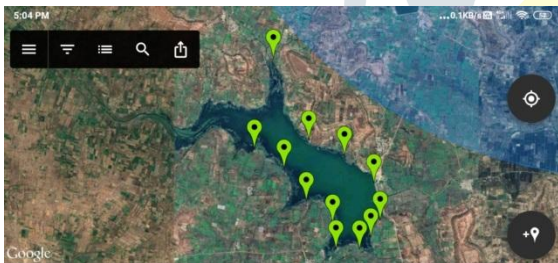
species, they include major staging and wintering grounds for waterfowl breeding. Small water storage reservoirs are a distinctive feature in India and provide important feeding and nesting areas for a wide range of waterbirds in some places. Fore Example on the Niwali Reservoir.

The Niwali Reservoir is perenial water body of the parbhani district located near Niwali Kh village (Lat.19.5107101°N , Long.76.6288661°E) It is located at 55 km from Parbhani city and 11 km from Jintur Taluka. The dam constructed on karpara river in 1975. Total Catchment area of the reservoir is 776 sq.km. It spread across the two tehsils namely Jintur and selu. Water is being used mainly supplied for agriculture purpose. Water is available throughout the year with comparatively less water in peak summers. The number of birds is decreasing dute to over fishing.

Material and Methods

Study area-

Niwali kh. is a village in Jintur taluka in Parbhani District of Maharashtra state,India. It belongs to Chhatrapati Sambhaji Nagar Division.The Latitude are 19.5107101°N and Longitude 76.6288661°E are geo coordinate



1. A Satellite view of local area of Niwali Lake (Reservoir). Source Google map

of the Niwali Reservoir. The Birds observations was done morning between 6:30 to 11:00 hrs. during study work. Only photo and video were prepared for the study duration.

Olympus ,10X50 DPS I Binocular was used for close observation of birds and for photography **Cannon 80D,Tamraon Lense J2 150-600** and **Cannon (16.1 mega pixel)** and **Vanguard Spotting Scope**, Book of Indian Birds by (Ali.S,2002) and birds of the Indian Subcontinent by (Grimmett et,at. 2011) were used as field guides for bird Identifications.

Method -

Ramsar convention defines water fowl/waterbird as species of birds that are ecologically dependent upon wetlands.Given the current information available for waterbird. It is rerely possible to define ideal populations.There is often overlap of populations at some stage of the annual cycle and it is even possible for populations to mix yet maintain independence through behavioral isolating mechanisms. (wetlands international 2018) Surveys and monitoring of the waterbirds will be conducted from the best vantage points and after dividing the site up into areas without overlap of areas counted and without missing any part of the site. All suitable and potential shallow areas of the wetlands will be selected for surveys and monitoring. Count will be taken from the same site or sites in the same way on every visit seasonal variation in birds will be recorded using point counts at the same selected sites. Observations will be use Binoculars (**Olympus ,10X50 DPS I**),**Vanguard Spotting Scope**, Identification Guides (Birds of the Indian Subcontinent,), Camera (**Cannon 80D,Tamraon Lense J2 150-600** and **Cannon (16.1 mega pixel)**) to count birds.

Result :-

Present study on avian fauna revealed the presences of one hundred twelve (113) bird species. Observed species were placed taxonomically under 43 families of 16 orders. Order Anseriformes 14, Phoenicopteriformes 2, Galliformes, Podicipediformes, Upepiformes , Bucerotiformes with 1 species of Birds, Columbiformes 6, Culculiformes 3, Gruiformes 4, Ciconiformes 9, Charadriiformes 12, Suliformes 3, Plecaniformes 12, Accipitriformes 3, Cocraciiformes 5, Passeriformes 36.

The present studies, a sum of (113) species of including water and land bird species belonging orders (16) and (43) families were recorded during Nov. 2022 Feb. 2023 (Table 1). Karpara Dam and its adjacent area showed good avian diversity.The birds reported here, eithre visit or permanently dwell in this dam area most of the avian species are Residnet Common (RC), Wingter Visitor (WV), and very few are Local Migrant (LM).

Table 1 :- Avifaunal diversity in and around the Niwali reservoir, Taluka Jintur, District of Parbhani, Maharashtra

Sr. No	Order	Family	Common Name	Scientific Name	Status
			Waterfowl		
1	Anseriformes	Anatidae	Lesser Whistling Duck	Dendrocygna javanica	WV
2			Bar Headed Goose	Anser indicaus	WV
3			Ruddy Shelduck	Tadorna ferruginea	WV
4			Cotton Pygmy Goose	Nettapus coromandelianus	WV
5			Garganey	Anas querquedula	WV
6			Northern Shoveler	Anas clypeata	WV
7			Gadwall	Anas strepera	WV
8			Indian Spot billed Duck	Anas poecilorhyncha	RC
9			Northern Pintail	Anas acuta	WV
10			Green winged Teal	Anas crecca	WV
11			Red crested pochard	Rhedonessa rufina	WV
12			Common Pochard	Athya ferina	WV
13			Knob billed duck	Sarkidiornis melanotos	WV
14			Eurasian Wigeon	Anas Penelope	WV
				Grouse, Quail	
15	Galliformes	Phasianidae	Gray Francolin	Francolinus Pondicerianus	RC
			Flamingos		
16	Phoenicopteriformes	Phoenicopteridae	Greater Flamingo	Phoenicopterus ruber	WV
17			Lesser Flamingo	Phoenicopterus minor	WV
			Grebes		
19	Podicipediformes	Podicipedidae	Little Grebe	Tachybaptus ruficollis	RC
			Pigeons and Doves		
20	Columbiformes	Columbidae	Rock Pigeon	Columba liva	RC
21			Eurasian Collared Dove	Streptopelia decaocto	RC
22			Red Collared Dove	Streptopelia tranquebarica	RC
23			Spotted Dove	Streptopelia Chinensis	RC
24			Laughing Dove	Streptopelia senegalensis	RC
25			Yellow footed Green Pigeon	Treron phoenicopeterus	RC
				Cuckoos	
26	Culculiformes	Culculidae	Greater Coucal	Centropus sinensis	RC
27			Asian Koel	Eudynamys	RC

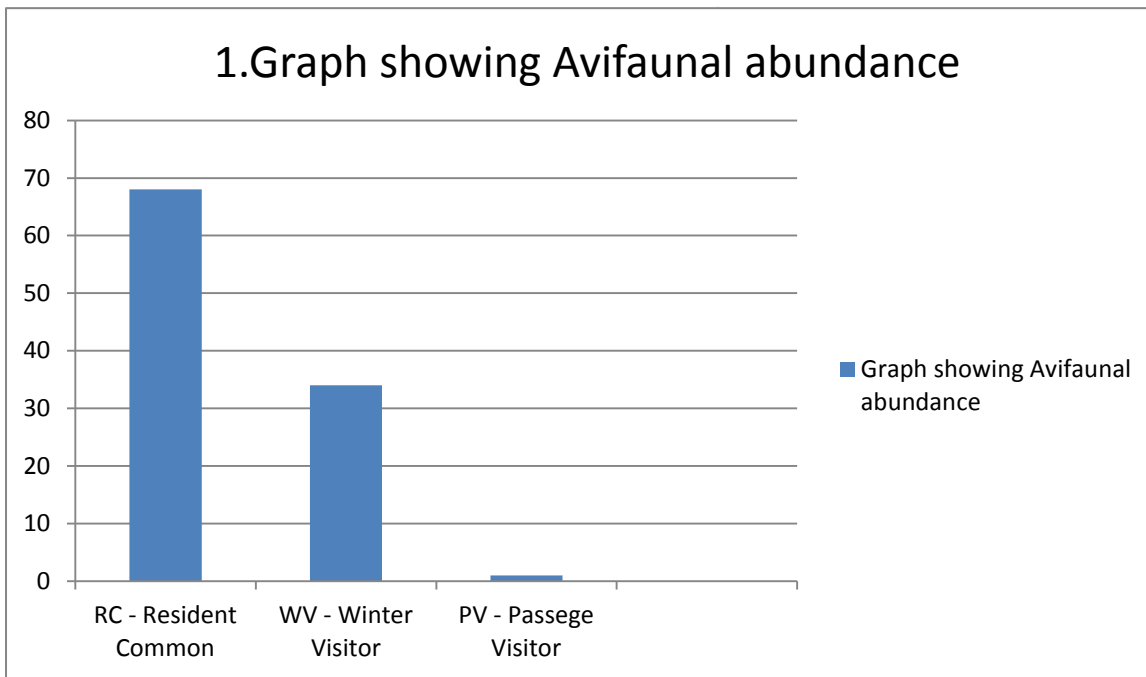
				scolooacea	
28		Centropodidae	Rose-ringed Parakeet	Pisttacula krameri	RC
			Rails,Gallinules		
29	Gruiformes	Rallidae	Eurasian Coot	Fulica atra	RC
30			Gray Headed Swamphen	Porphyrio Porphyrio	RC
31			White breasted Waterhen	Amauornis phoenicurus	RC
			Cranes		
32		Gruidae	Common Crane	Grus grus	WV
			Shorebirds		
33	Ciconiformes	Charadiidae			
34			Red wattled Lapwing	Vanellus indicus	RC
35			Kentish Plover	Charadrius alexandrines	WV
36			Yellow wattled Lapwing	Vanellus malabaricus	RC
37			Little Ring Plover	Charadrius dubius	RC
38			Storks		
			Ciconiidae	Asian Openbill	Anastomus oscitans
39			Asian Woolly necked Stork	Ciconia episcopus	RC
40			Painted Stork	Myeteria leucocephala	RC
41			Rostratulidae	Greater Painted Snipe	Rostratula benghalensis
42		Jacaniidae	Pheasant tailed Jacana	Hydrophasianus chirurgus	RC
43	Charadriiformes	Scolopacidae	Black tailed Godwit	Limosa limosa	WV
44			Little Stint	Calidris minuta	WV
45			Common Snipe	Lymnocyptes minimus	WV
46			Common Sandpiper	Actitis hypoleucos	WV
47			Green Sandpiper	Tringa Ochropus	WV
48			Common Greenshank	Tringa nebularia	WV
49			Wood Sandpiper	Tringa galreola	WV
50		Recurvirostridae	Black winged stilt	Himantopus himantopus	RC
51		Turnicidae	Barred Buttonquail	Tyrnix sylvaticus	RC
52		Glareolidae	Small Pratincole	Glareola lacteal	WV
53			Gulls,Terns, and Skimmers		
54		Laridae	Whiskered Tern	Childonias hybridus	WC
55			River Tern	Gelochelidon nilotica	RC
56			Cormorants and		

			Anhingas		
57	Suliformes	Anhingidae	Oriental Darter	Anhinga melanogaster	WV
58		Phalacrocoracidae	Little Cormorant	Phalacrocorax niger	RC
59			Indian Shag	Phalacrocorax fuscicollis	RC
60				Herons, Ibis	
61	Pelecaniformes	Ardeidae	Yellow Bittern	<i>Ixobrychus sinensis</i>	WV
62			Gray Heron	Ardea cinerea	WV
63			Purple Heron	Ardea purpurea	WV
64			Great Egret	Casmerodius albus	WV
65			Intermediate Egret	Mesophoyx intermedia	RC
66			Little Egret	Egretta garzetta	RC
67			Cattle Egret	Bubulcus ibis	RC
68			Indian Pond Heron	Ardeola grayii	RC
69			Threskiornithidae	Glossy Ibis	Plegadis falcinellus
70		Black headed Ibis		Threskionis melanocephalus	RC
71		Red naped Ibis		Pseudibis papillosa	RC
72		Eurasian Spoonbill		Platalea leucorodia	WV
73				Vulures, Hawks	
74	Accipitriformes	Accipitridae	Black winged Kite	Elanus caeruleus	RC
75			White eyed Buzzard	Butastur teesa	RC
76			Eurasian Marsh Harrier	Circus aeruginosus	WV
77			Hoopoes		
78	Upepiformes	Upupidae	Eurasian Hoopoe	Upupa epops	RC
			Hornbills		
79	Bucerotiformes	Bucerotidae	Indian Gray Hornbill	Ocyeros birostris	RC
			Kingfishers		
80	Coraciiformes	Alcedinidae	Common Kingfisher	Alcedo atthis	RC
81		Halcyonidae	White thorated Kingfisher	Halcyon smyrnensis	RC
82			Pied Kingfisher	Ceryle rudis	RC
				Bee-eaters, Rollers	
83		Meropidae	Aisan Green Bee-eater	Merops orientalis	RC
84	Coraciidae	Indian Roller	Coracias benghalensis	RC	
85	Passeriformes	Pittidae	Pittas		
86			Indian Pitta	Pitta brachyuran	RC
87				Drongos	
88		Dicruridae	Black Drongo	Dicrurus macrocercus	RC
89			Ashy Drongo	Dicrurus leucophaeus	RC
90				Shrikes	

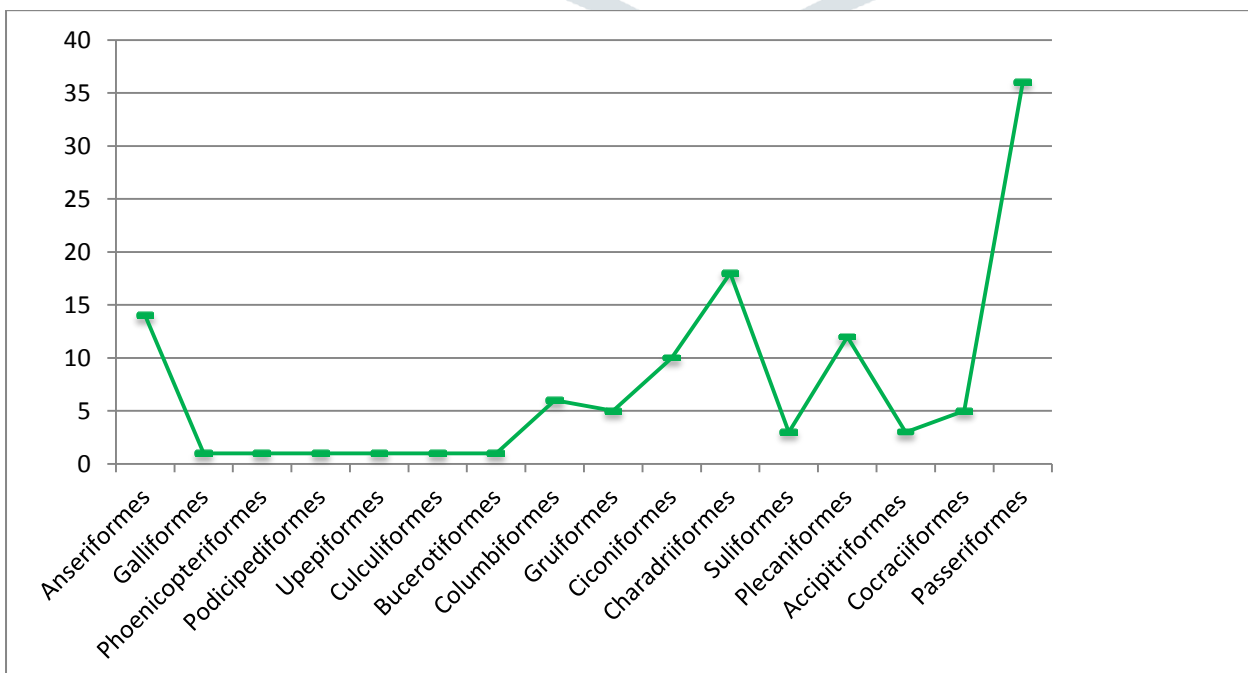
91		Laniidae	Bay backed Shrike	Lanius vittatus	RC
92			Long tailed Shrike	Lanius schach	RC
93			Great Gray Shrike	Canius excubitor	RC
94			Jays, Magpies, Crows, and Ravens		
95		Corvidae	House Crow	Corvus splendens	RC
96			Jungle Crow	Crow Corvus macrorhynchos	RC
97			Larks		
98		Alaudidae	Rufous tailed Lark	Ammomanes phoenicurus	RC
99			Ashy crowned Sparrow Lark	Eremopterix grisea	RC
100			Indian Bushlark	Mirafraga erythroptera	RC
101			Cisticolas		
102		Cisticolidae	Common Tailorbird	Orthobomus sutorius	RC
103			Ashy Prinia	Prinia socialis	RC
104			Plain Prinia	Prinia inornata	RC
105			Martins and Swallows		
106		Hirundinidae	Barn Swallow	Hirundo rustica	WV
107			Wire tailed Swallow	Hirundo smithii	RC
108			Red rumped Swallow	Hirundo daurica	RC
109			Bulbuls		
110		Pycnonotidae	Red vented Bulbul	Pycnonotus cafer	RC
111		Paradoxornithidae	Yellow eyed Babbler	Chrysomma sinense	RC
112			Laughingthrushes		
113		Leiothrichidae	Jungle Babbler	Argya striata	RC
114			Common Babbler	Argya caudate	RC
115			Starlings and Mynas		
116		Sturnidae	Rosy Starling	Sturnus roseus	WV
117			Indian Pied Starling	Sturnus contra	RC
118			Brahminy Starling	Sturnus pagodarum	RC
119			Common Myna	Acridotheres tristis	RC
120			Flycatchers		
121		Muscicapidae	Oriental Magpie Robin	Copsychus saularis	RC
122			Black Redstart	Phoenicurus ochruros	RC
123			Siberian Stonechat	Saxicola maurus	WV
124			Pied Bushchat	Saxicola caprata	RC
125			Sparrow		
126		Passeridae	House Sparrow	Passer domesticus	RC
127			Wagtails and		

			Pipits		
128		Motacillidae	Gray Wagtail	Motacilla cinerea	WV
129			Western Yellow Wagtail	Motacilla flava	WV
130			Citrine Wagtail	Motacilla citreola	WV
131			White browed Wagtail	Motacilla maderaspatensis	WV
132			White Wagtail	Motacilla alba	WV
133			Paddyfield Pipit	Anthus rufulus	RC

Key of Observations : RC - Resident Common, WV - Winter visitor, PV - Passage visitor.



2. Number of Bird Species in Orders wise.



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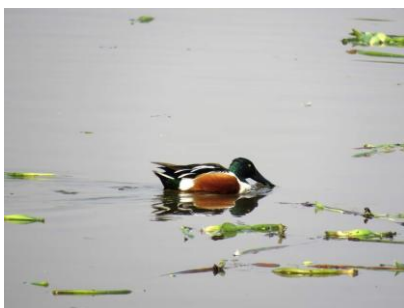
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Photoplate 1 :- Avifaunal diversity in and around the Niwali Reservoir, Taluka Jintur, District of Parbhani, Maharashtra



Northern Shoveller



Ruddy Shelduck



Green winged teal



Common Pochard



Bar Headed Goose



Barn Swallow



Eurasian Wigeon



Common Kingfisher



Tufted Duck



White Eye Buzzard



Little Grebe



Asian Woolly necked stork



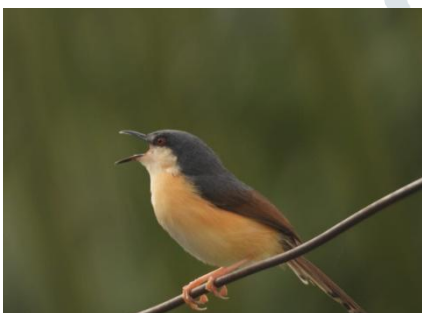
Red naped Ibis



Eurasian Marsh Harrier



Gray Headed Swamphen



Ashy Prinia



Asian Openbill



Pied Kingfisher



Indian Shag



Grey Heron



Indian Sooty Bill duck



Painted Stork



Cotton Pigmy Goose



Indian Grey Hornbill



Black Winged Kite



Bay Backed Shrike



White Throated Kingfisher



Common Sandpiper



Cattle Egret



Wood Sandpiper



Red Wattled Lapwing



Greater Coucal



Black winged Stilt



Ashy Drongo



Oriental Magpie Robin



Indian Robin



Yellow footed Green Pigeon



Greater Flamingo



Asian Koel



Yellow wattaled Lapwing



Paddyfield Pipit



Little Stint



Intermediate Egret



Ashy crowned Sparrow Lark



River tern



Sykes Lark



Long tailed Shrike



Eurasian Spoonbill



Brahminy Starling



Rock Pigeon



Rose ringed parakeet



House Sparrow



Asian Green bee eater



Yellow eyed babbler



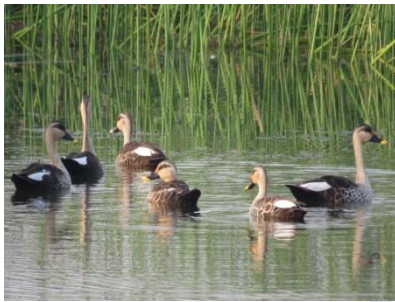
Cinerous tit



Lesser whistling Duck



Northern pintail



Indian Spot bill Duck



White Browed Wagtail



Little Ring Plover



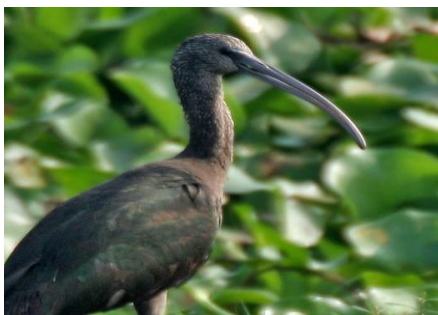
Indian Pond Heron



Pied Bushchat



Red Crested Pochard



Glossy Ibis



Black Tailed Godwit



Oriental Darter



Black Headed Ibis



Indian Pied Starling



Shikra



White Brested Waterhen



Rufous tailed Lark



Common Tailorbird



Coppersmit Barbet



Indian Roller



House Crow



Little Cormorant



Jungle Crow



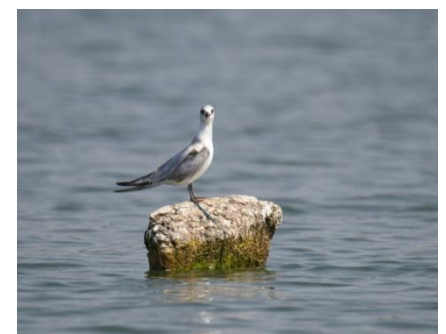
Common Myna



Pheasant Tailed Jacana



Eurasian Coot



Whiskerd Tern