

A Study on Avian Species Diversity in Chupi Lake, Purbasthali, West Bengal

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Abstract: The present study Highlight the Diversity, different Variations of Bird species in Purbasthali, Chupi Lake, west Bengal India. In this area has a lots of birds living place, such as migratory birds and local birds. According to the present report there are 108 Birds species are present in this area and also 16 orders and 39 families are present based on year of 2017-2018 record. Among the Record Bird species-51 were Resident, 15 were local migrant and 42 were winter migrant and others were Indian Birds. The winter Migratory birds were Brant Birds, Canada goose, spot Billed Duck, Pintail Birds, Ruddy Duck and local Birds were sparrow, Drongo, Kite, Crow, Dove etc.

Keywords: Purbasthali Chupi Lake, Avian Diversity, Threat, Birds Checklist, Conservation

1. Introduction

Birds are Heart of the Wetlands.it is important for our environment, it's protect Diversity. Avifaunal plays a Significant Role, its help and control the aquatic ecosystem. But due to the environmental changes, pollution, food capacity, Birds catcher and other problem decrease the bird's number in present day.

Chupi Lake is created by the Ganges River on its Western Bank, in PurbaBurdwanDistrict, West Bengal, India. This lake are home of different types of Birds, Fishes, Arthropods and Reptiles. This lake harbor large populations of migratory water birds during the winter season. The present study highlight the bird's diversity and analyze the number of birds in Chupi Lake and also identify them.

1.1 Object of the Study

The present study Highlight the following objects.

- Know about present status of avian faunal Biodiversity in Chupi Lake.
- Count the number of species.
- How to conserve bird's diversity in future.

1.2 Data Source

The study is mainly based on primary and secondary data sources. Such as different Research Paper, Wikipedia, different Book, internet access and many reports. For picture capturing canon-EOS 1300D and single lens, sjcam4000 Wi-Fi action camera use.

2. Methodology

2.1 Study Area

The study area is purbasthaliChupi Lake (88⁰19'45" to 88⁰22' E longitude 23⁰26' to 23⁰26'45" N latitude).which is lies close on the Tropic of cancer. Purbasthali is a large Block with a number of lake, created by the river Ganga, on its western Bank in PurbaBurdwandistrict of west Bengal.

Chupi lake of purbasthali sprawls over an area 3.50 km².this lake is famous here for thousands of migratory birds coming here from far off places including Siberia in winters.Handreds of bird species can be seen here.people from for off places come here for Birding.



Figure 1: Geographical localization of Chupi Lake (Purbasthali)

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3. Results and Discussion

3.1 Avian Diversity of Purbasthali Chupi Lake

Generally a huge amount of migratory Birds comes in to winter session so, the survey start on November 24th 2017

and observation complete 10th February 2018. The following checklist based on birds species, family and their order. Generally in this session 108 bird's species observed, it can totally depend on weather. Out of total 108 species of birds- 52.8% were resident 42% were winter migrant, in this checklist.

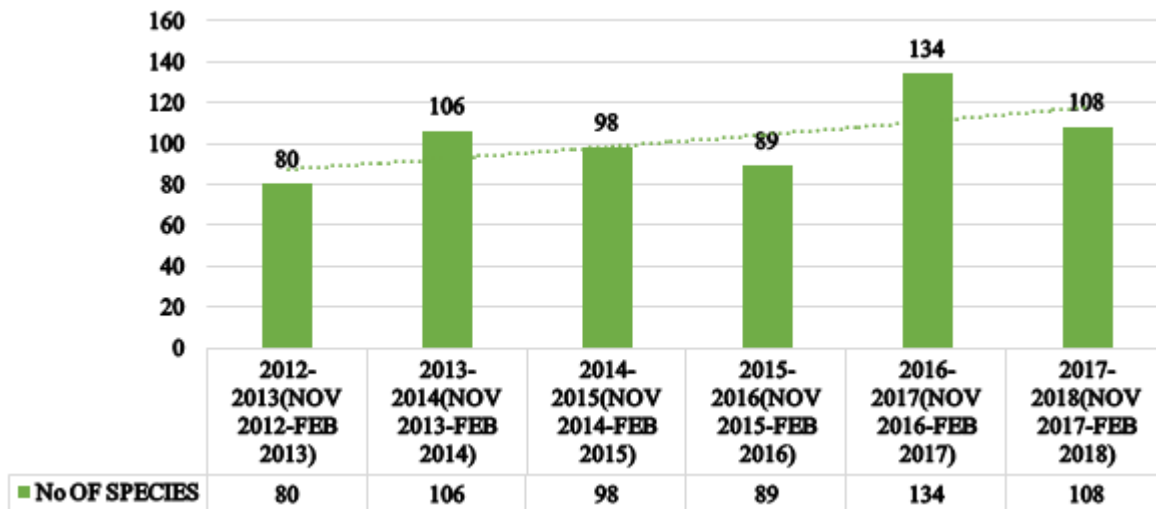


Figure 2: Last Six Years Birds Species Record Analysis

The following checklist highlight some birds are common, Rare, occasional, some are local birds and local migrant, winter migrant, near threatened. Birds were categorized as

LM (Local Migrant), WM (Winter Migrant), RE (Residential), LC (Least Concern), VU (Vulnerable), NT (Near Threatened). The checklist are---

Sl.No	Common Name	Scientific Name	Family	Order	Living Status	IUCN Status
1.	Red-Wattled Lapwing	<i>Vanellusindicus</i>	Charadriidae	Charadriiformes	LM	LC
2.	Yellow-Wattled Lapwing	<i>Vanellusmalabaricus</i>	Charadriidae	Charadriiformes	LM	LC
3.	Grey-Headed Lapwing	<i>Vanelluscinereus</i>	Charadriidae	Charadriiformes	WM	LC
4.	Little Ringed Plover	<i>Charadriusdubius</i>	Charadriidae	Charadriiformes	WM	LC
5.	Bronze Winged Jacana	<i>Metopidiusindicus</i>	Jacanidae	Charadriiformes	RE	LC
6.	Pheasant Tailed Jacana	<i>Hydrophasianuschirurgus</i>	Jacanidae	Charadriiformes	RE	LC
7.	Common Redshank	<i>Tringatotanus</i>	Scolopacidae	Charadriiformes	LM	LC
8.	Common Greenshank	<i>Tringanebularia</i>	Scolopacidae	Charadriiformes	LM	LC
9.	Wood Sandpiper	<i>Tringaglareola</i>	Scolopacidae	Charadriiformes	LM	LC
10.	Marsh Sandpiper	<i>Tringastagnatilis</i>	Scolopacidae	Charadriiformes	LM	LC
11.	Green Sandpiper	<i>Tringaochropus</i>	Scolopacidae	Charadriiformes	WM	LC
12.	Common Sandpiper	<i>Actitishypoleucos</i>	Scolopacidae	Charadriiformes	LM	LC
13.	Little Stint	<i>Calidrisminuta</i>	Scolopacidae	Charadriiformes	WM	LC
14.	Common Snipe	<i>Gallinagogallinago</i>	Scolopacidae	Charadriiformes	WM	LC
15.	Black-Winged Stilt	<i>Himantopusnimantopus</i>	Recurvirostridae	Charadriiformes	WM	LC
16.	Small Pratincole	<i>Glareolalactea</i>	Glareolidae	Charadriiformes	WM	LC
17.	Grey-Wattled Lapwing	<i>Vanellusmalabaricus</i>	Charadriidae	Charadriiformes	LM	LC
18.	White Wagtail	<i>Motacilla alba</i>	Motacillidae	Passeriformes	RE	LC
19.	Citrine Wagtail	<i>Motacillacitreola</i>	Motacillidae	Passeriformes	LM	LC
20.	Yellow Wagtail	<i>Motacillaflava</i>	Motacillidae	Passeriformes	LM	LC
21.	Paddyfield Pipit	<i>Anthusrufulus</i>	Motacillidae	Passeriformes	RE	LC
22.	Baya Weaver	<i>Ploceusphilippinus</i>	Ploceidae	Passeriformes	RE	LC
23.	Black Drongo	<i>Dicrurusmacrocerus</i>	Dicruridae	Passeriformes	RE	LC
24.	Lesser Racket Tailed Drongo	<i>Dicrurusremifer</i>	Dicruridae	Passeriformes	RE	LC
25.	Barn Swallow	<i>Hirundorustica</i>	Hirundinidae	Passeriformes	RE	LC
26.	Wire-Tailed Swallow	<i>Hirundosmithii</i>	Hirundinidae	Passeriformes	RE	LC
27.	Bank Myna	<i>Acridotheresginginianus</i>	Sturnidae	Passeriformes	LM	LC
28.	Jungle Myna	<i>Acridotheresfuscus</i>	Sturnidae	Passeriformes	RE	LC
29.	Pied Myna	<i>Gracupica contra</i>	Sturnidae	Passeriformes	RE	LC
30.	Brambhany Starling	<i>Sturnusroseus</i>	Sturnidae	Passeriformes	RE	LC
31.	Common Myna	<i>Acridotherestrictis</i>	Sturnidae	Passeriformes	RE	LC
32.	Purple Sunbird	<i>Cinnyrisasiaticus</i>	Nectarinidae	Passeriformes	RE	LC
33.	House Crow	<i>Corvussplendens</i>	Corvidae	Passeriformes	RE	LC
34.	Black Hooded Oriole	<i>Oriolusxanthornus</i>	Oriolidae	Passeriformes	RE	LC
35.	Oriental Magpie Robin	<i>Copsychussaularis</i>	Muscicapidae	Passeriformes	RE	LC

36.	Little Magpic Robin	<i>Copsychussauralis</i>	Muscicapidae	<i>Passeriformes</i>	RE	LC
37.	Jungle Babbler	<i>Turdoidesstriata</i>	Leiothrichidae	<i>Passeriformes</i>	RE	LC
38.	Ashy Prinia	<i>Priniasocialis</i>	Cisticolidae	<i>Passeriformes</i>	RE	LC
39.	ZittingCisticola	<i>Cisticolajuncidis</i>	Cisticolidae	<i>Passeriformes</i>	RE	LC
40.	Common Tailorbird	<i>Orthotomussutorius</i>	Cisticolidae	<i>Passeriformes</i>	RE	LC
41.	Plain Prinia	<i>Priniainornata</i>	Cisticolidae	<i>Passeriformes</i>	RE	LC
42.	Red-Vented Bulbul	<i>Pycnonotuscafer</i>	Pycnonotidae	<i>Passeriformes</i>	RE	LC
43.	Brown Shrike	<i>Laniuscristatus</i>	Laniidae	<i>Passeriformes</i>	RE	LC
44.	Long Tailed Shrike	<i>Laniusschach</i>	Laniidae	<i>Passeriformes</i>	RE	LC
45.	Brant Bird	<i>Brantabernicals</i>	Anatidae	<i>Anseriformes</i>	WM	LC
46.	Ruddy Duck	<i>Oxyurajamaicensis</i>	Anatidae	<i>Anseriformes</i>	WM	LC
47.	Mute Swan	<i>Cygnus olor</i>	Anatidae	<i>Anseriformes</i>	WM	LC
48.	King Eider	<i>Somateriaspectabilis</i>	Anatidae	<i>Anseriformes</i>	WM	LC
49.	Eurasian wigeon	<i>Anaspenelope</i>	Anatidae	<i>Anseriformes</i>	WM	LC
50.	Knob-billed duck	<i>Sarkidiornismelanotos</i>	Anatidae	<i>Anseriformes</i>	WM	LC
51.	Lesser Whistling Duck	<i>Dendrocygnajavanica</i>	Anatidae	<i>Anseriformes</i>	WM	LC
52.	Red crested pochard	<i>Nettarufina</i>	Anatidae	<i>Anseriformes</i>	WM	LC
53.	Spot billed duck	<i>Anaspoecilorhyncha</i>	Anatidae	<i>Anseriformes</i>	WM	LC
54.	Northern Pintail	<i>Anasacuta</i>	Anatidae	<i>Anseriformes</i>	WM	LC
55.	Northern Shoveler	<i>Anaslypeata</i>	Anatidae	<i>Anseriformes</i>	WM	LC
56.	Common Pochard	<i>Aythyaferina</i>	Anatidae	<i>Anseriformes</i>	WM	VU
57.	Tufted duck	<i>Aythyafuligula</i>	Anatidae	<i>Anseriformes</i>	WM	LC
58.	Ferruginous duck	<i>Aythyauroca</i>	Anatidae	<i>Anseriformes</i>	WM	LC
59.	Garganey	<i>Anasquerquedula</i>	Anatidae	<i>Anseriformes</i>	WM	LC
60.	Gadwall	<i>Anasstrepera</i>	Anatidae	<i>Anseriformes</i>	WM	LC
61.	Cotton pigmy goose	<i>Nettapuscoromandelianus</i>	Anatidae	<i>Anseriformes</i>	WM	LC
62.	Eurasian Teal	<i>Anascrecca</i>	Anatidae	<i>Anseriformes</i>	WM	LC
63.	Ruddy Shelduck	<i>Tadornaferruginea</i>	Anatidae	<i>Anseriformes</i>	WM	LC
64.	Common Kingfisher	<i>Alcedoatthis</i>	Alcedinidae	<i>Coraciiformes</i>	RE	LC
65.	Green Bee Eater	<i>Merposorientalis</i>	Meropidae	<i>Coraciiformes</i>	RE	LC
66.	Spotted Dove	<i>Spilopeliachinensis</i>	Columbidae	<i>Columbiformes</i>	RE	LC
67.	Rock Pigeon	<i>Columba livia</i>	Columbidae	<i>Columbiformes</i>	RE	LC
68.	Rose-ringed parakeet	<i>Psittaculakrameri</i>	Psittaculidae	<i>Psittaciformes</i>	RE	LC
69.	Bronze winged parrot	<i>Pionuschalcopterus</i>	Psittacidae	<i>Psittaciformes</i>	RE	LC
70.	Asian Koel	<i>Eudynamysscolopaceus</i>	Cuculidae	<i>Cuculiformes</i>	RE	LC
71.	Greater Coucal	<i>Centropussinensis</i>	Cuculidae	<i>Cuculiformes</i>	RE	LC
72.	Indian Cuckoo	<i>Cuculusmicropterus</i>	Cuculidae	<i>Cuculiformes</i>	RE	LC
73.	Copper smith Barbet	<i>Megalaimahaemacephala</i>	Megalaimidae	<i>Piciformes</i>	RE	LC
74.	Blue throated Barbet	<i>Megalaimaasiatica</i>	Megalaimidae	<i>Piciformes</i>	RE	LC
75.	Common Hoopoe	<i>Upupaepops</i>	Upupidae	<i>Bucerotiformes</i>	RE	LC
76.	Common kestrel	<i>Falco tinnunculus</i>	Falconidae	<i>Falconiformes</i>	LM	LC
77.	Little grebe	<i>Tachybaptusruficollis</i>	Podicipedidae	<i>Podicipediformes</i>	WM	LC
78.	Great crested grebe	<i>Podicepsristatus</i>	Podicipedidae	<i>Podicipediformes</i>	WM	LC
79.	Little Cormorant	<i>Phalacrocoraxniger</i>	Phalacrocoracidae	<i>Suliformes</i>	RE	LC
80.	Indian Cormorant	<i>Phalacrocoraxcarbo</i>	Phalacrocoracidae	<i>Suliformes</i>	LM	LC
81.	Double crested Cormorant	<i>Phalacrocoraxauritus</i>	Phalacrocoracidae	<i>Suliformes</i>	WM	LC
82.	Osprey	<i>Pandion haliaetus</i>	Pandionidae	<i>Accipitriformes</i>	LM	LC
83.	Black-shouldered kite	<i>Elanusaxillaris</i>	Accipitride	<i>Accipitriformes</i>	RE	LC
84.	Black kite	<i>Milvusmigrans</i>	Accipitride	<i>Accipitriformes</i>	RE	LC
85.	Red tailed Hawk	<i>Buteojamaicensis</i>	Accipitride	<i>Accipitriformes</i>	WM	LC
86.	White Breasted Waterhen	<i>Amaurornisphoenicurus</i>	Rallidae	<i>Gruiformes</i>	RE	LC
87.	Purple moorhen	<i>Porphyrioporphyrion</i>	Rallidae	<i>Gruiformes</i>	RE	LC
88.	Common Moorhen	<i>Gallinulachloropus</i>	Rallidae	<i>Gruiformes</i>	RE	LC
89.	Eurasian coot	<i>Fulicaatra</i>	Rallidae	<i>Gruiformes</i>	WM	LC
90.	Baillon's crane	<i>Porzanapusilla</i>	Rallidae	<i>Gruiformes</i>	WM	LC
91.	Virginia Rail	<i>Ralluslimicola</i>	Rallidae	<i>Gruiformes</i>	WM	LC
92.	Black Rail	<i>LaterallusJamalcensis</i>	Rallidae	<i>Gruiformes</i>	WM	NT
93.	Black headed ibis	<i>Threskiornismelanocephalus</i>	Threskiornithidae	<i>Pelecaniformes</i>	WM	NT
94.	Glossy Ibis	<i>Plegadisfalcinellus</i>	Threskiornithidae	<i>Pelecaniformes</i>	WM	LC
95.	Purple Heron	<i>Ardeapurpurea</i>	Ardeidae	<i>Pelecaniformes</i>	RE	LC
96.	Yellow Bittern	<i>Ixobrychussinensis</i>	Ardeidae	<i>Pelecaniformes</i>	WM	LC
97.	Cattle Egret	<i>Bubulcus ibis</i>	Ardeidae	<i>Pelecaniformes</i>	RE	LC
98.	Little Egret	<i>Egrettazarzeta</i>	Ardeidae	<i>Pelecaniformes</i>	RE	LC
99.	Great Egret	<i>Ardea alba</i>	Ardeidae	<i>Pelecaniformes</i>	RE	LC
100.	Indian Pond Heron	<i>Ardeolagrayii</i>	Ardeidae	<i>Pelecaniformes</i>	RE	LC
101.	Intermediated egret	<i>Mesophoyx intermedia</i>	Ardeidae	<i>Pelecaniformes</i>	RE	LC
102.	Asian Openbill	<i>Anastomusoscitans</i>	Ciconiidae	<i>Ciconiiformes</i>	RE	LC

103.	Wood Storks	<i>Mycteria americana</i>	Ciconiidae	Ciconiiformes	WM	LC
104.	Painted Storks	<i>Mycteria leucocephala</i>	Ciconiidae	Ciconiiformes	LM	LC
105.	Hammer-Headed Stork	<i>Scopus umbretta</i>	Scopidae	Ciconiiformes	WM	LC
106.	Shoebill	<i>Balaeniceps rex</i>	Balaenicipitidae	Ciconiiformes	WM	LC
107.	Greater Flamingo	<i>Phoenicopterus roseus</i>	Phoenicopteridae	Ciconiiformes	WM	LC
108.	American Flamingo	<i>Phoenicopterus ruber</i>	Phoenicopteridae	Ciconiiformes	WM	LC



Figure 4: Bird Species Record Analysis According to Their Order

The lakes are covered lots of local Birds and Residential Bird Species like Bronze Winged jacana, common Redshank, cotton Pigmy goose, Black winged stilt are found in Purbasthali Chupi Lake.

Local Birds such as common myna, spot wild dove, sarker falcon, kingfisher, yellow-footed Green Pigeon, Rose Ringed Parrot, Greater Coucal, Black Drongo, Asin-koel, Blue Kingfisher, Laughing dove, Red vented Bulbul, Babbler, and Black kites, common Tailor Birds can observe in chupi area. Residential Birds species like Pheasant Tailed Jacana, purple moorhen, purple Heron etc.

3.2 Threat

Birds are often considered to be outstanding indicators of the Health of the overall environment. But present day birds are Threatened due to the-

a) **Climate change-** climate change is one of the most publicized conservation issues of our time. Due to the climate changes migratory birds are not come to proper time in this area.

- b) **Area Protection-** The total area of chupi lake is unprotectable.in this area totally gurdless, no monitoring system. This are suitable for Birds Catcher.
- c) **Hybridization-** Hybridization may also endanger Birds, damaging the gene stock.
- d) **Pollution-** pollution has led to serious declines in some Birds Species. The Pesticide DDT was Responsible for Thinning egg shells in nesting birds.
- e) **Other Problems-** Chupi Lake also use as a picnic spot.in picnic session a huge amount of sound vibration are created this is harmful for bird’s diversity. Now a day’s Human population slowly increase on that area, it’s harmful for bird’s species.

3.3 Conservation

Chupi Lake plays important role to maintain the ecological and environmental Balance. But, in present Day Chupi lake has threat for this causes Birds diversity goes to lost.so, conservation is necessary for Chupi Lake.

a) Chupi Lake is unprotected so it is very suitable place for bird catcher. For this purpose the local police have to more active to solve the problem.

- b) Chupi Lake is used as bathing, agriculture purpose so quickly stop this.
- c) To improve the quality of wetland and more Govt. allowance for its development.
- d) In picnic session stop the High Decibel Sound.

4. Conclusion

The present study Highlight that the importance of chupi Lake. Winter migratory Birds and local Birds totally depend on Chupi Lake. But, in present day there are lot of problem in chupi char for this problem chupi avian diversity are loss. If we can maintain one species diversity then others are survive easily. Avian diversity loss always Harmful for our environment. There are several conservation Way to protect the Chupi Lake and also a sustainable and dependable management planning is necessary for conservation of purbasthaliChupi Lake. And also build up well developed system such as watch tower, monitoring system, forest guard and also a Birds Research Team.

5. Authors' Contributions

This work was carried out in collaboration between the authors. Authors KS designed the study area and collect the data and Author RM collect the Picture and analysis the Birds Record. Author KS and RM wrote the paper. Both authors read and approved the final manuscript.

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