

**RAPID SURVEY
OF
BIRDS AND THEIR HABITAT IN
PENCH TIGER RESERVE MAHARASHTRA**

FINAL REPORT - 2022





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FINAL REPORT

Submitted to:

**Executive Director, Pench Tiger Conservation Foundation
and Chief Conservator of Forest and Field Director, Pench Tiger Reserve
Maharashtra**

Submitted by:

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March - 2022



PREFACE

The Pench Tiger Reserve Maharashtra (hereinafter referred to as PTR) is situated in Central India and enjoys a very huge diversity of flora and fauna. The presence of Pench river which cuts through the forest, huge water reservoirs namely, Totladoh, Navegaon Khairy, streams and nullahs, a number of water bodies, manmade water spots, borewells inside PTR, hilly terrains, sandy areas, rocks, grasslands, Tree Canopies, bushes, all have contributed in making PTR a very unique habitat for all types of animals.

The area under PTR has hills, plateaus, rivers, streams, lakes, ecotone areas, artificial water spots, borewells near van-kutis (camp sites inside PTR) and a few human settlements and their farmlands. Thus each of these habitats are suitable for different birds species. The areas in PTR have different bird habitats, Forest, Wetland, Grassland, riparian, ecotones etc.

The studies undertaken in Pench indicated that as per the earlier checklist there were about 168 birds of 50 families and pertained to the area under the PTR at the relevant time. After the addition of surrounding areas in the PTR this list was needed to be updated. A Memorandum of Understanding dtd. 29.12.2020, for Rapid survey of birds and their habitat in Pench Tiger Reserve was executed between Central India Bird Academy, Nagpur and Pench Tiger Conservation Foundation, Nagpur. Vide the said document, the tasks to be performed were Preparation of Checklist of birds of PTR, Study of bird diversity and varied habitat usage by birds in Totladoh and Navegaon Khairy lakes, identification of breeding sites of Malabar Pied Hornbill, exploring the presence of Forest Owlet presence in PTR, presence of birds in Totladoh colony and precincts thereof under NAFCC area and to train the forest officials and frontline staff about bird identification and their capacity building in bird related matters.

The project covered all four seasons and all the Ranges of PTR were also visited. The training of the field staff and frontline officers was done indoors as well as during the field visits. The impact of their sensitization was immense and led to the identification of nests of various birds in both East and West Pench. A whats-app group was created exclusively for interacting and help in identification of the birds, a bird identification app called Forestly was also introduced. The number of birds in the checklist almost doubled from the earlier checklist. Now the present list has 310 birds of 64 families.

The said list has been prepared by Central India Bird Academy (CIBA) after actually visiting various areas of PTR and various methods were used: transects, travel on foot,



vehicle, watchtowers, lake shores, identifying various hotspots for birds, with the active participation and involvement of the officers of Forest Department, and spending 48 days in 40 visits during the period from 29.12.2020 to 31.10.2021 and after travelling about 2700 km.

During the course of preparation of the list the field officers also participated actively and got on field training about birds. A separate checklist has also been prepared for use by the field officers which contains pointers for identification of the birds. The list contains birds actually seen or heard during the aforesaid period and also includes the birds which were seen and whose presence was reported previously. The list would be helpful in various future projects and for conservation planning as well as for inclusion in Tiger Conservation Plan.

The breeding sites of the Malabar Pied hornbill were also identified during the rapid survey, notwithstanding the fact that a few crucial weeks were lost due to pandemic and lockdown like situation.

The search of Forest Owlet was made in various areas, on the lines of the studies undertaken by experts in Melghat Area. The areas near teak plantations and in the vicinity of the villages on the fringes were also checked for sightings. After lot of interaction with locals it has been observed that they are not aware about the existence of Forest Owlet.

The area covered under NAFCC project was also studied from the birds point of view. The Miyawaki plantation is proving to be a useful habitat for birds. Red Jungle fowls were seen in large numbers, as also Peacocks. It is also a preferred roosting point for Hornbills. The observations made during the survey have been recorded in the report.

The varied usage of habitat by birds seen in Totladoh and those in Navegaon Khairy lake has also been studied and details thereof have been provided in the report.

In addition to the given tasks, the report also includes observations and recommendations about birds and habitat.

It is felt that the report will be useful for planning, bird conservation and bird tourism as well.

Dr. Anil B. Pimplapure
Director
Central India Bird Academy



ACKNOWLEDGEMENTS

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We thank Shri Atul Deokar, ACF, MFS, Shri Kiran Patil, ACF, MFS and Shri Mahesh Parab, ACF MFS for providing all help, resources, logistics support during the entire period.

We thank all RFOs, ROs, Beat Guards and STPF Guards, the drivers of vehicle for their participation and taking active interest despite their busy field activities.

It would be unfair on our part not to express our gratitude to Shri Mangesh Tathe, RFO and Ms Sneha Raut, RFO for their valuable contribution in the work, as well as for providing all assistance every time.

We record our grateful appreciation for the friendly co-operation received, collectively, and individually from the Bird Watching Organisations as well as from individual birders.



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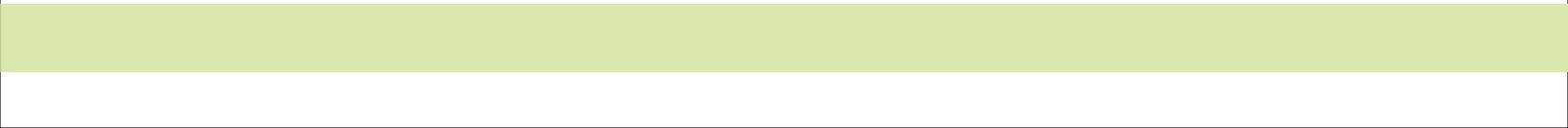
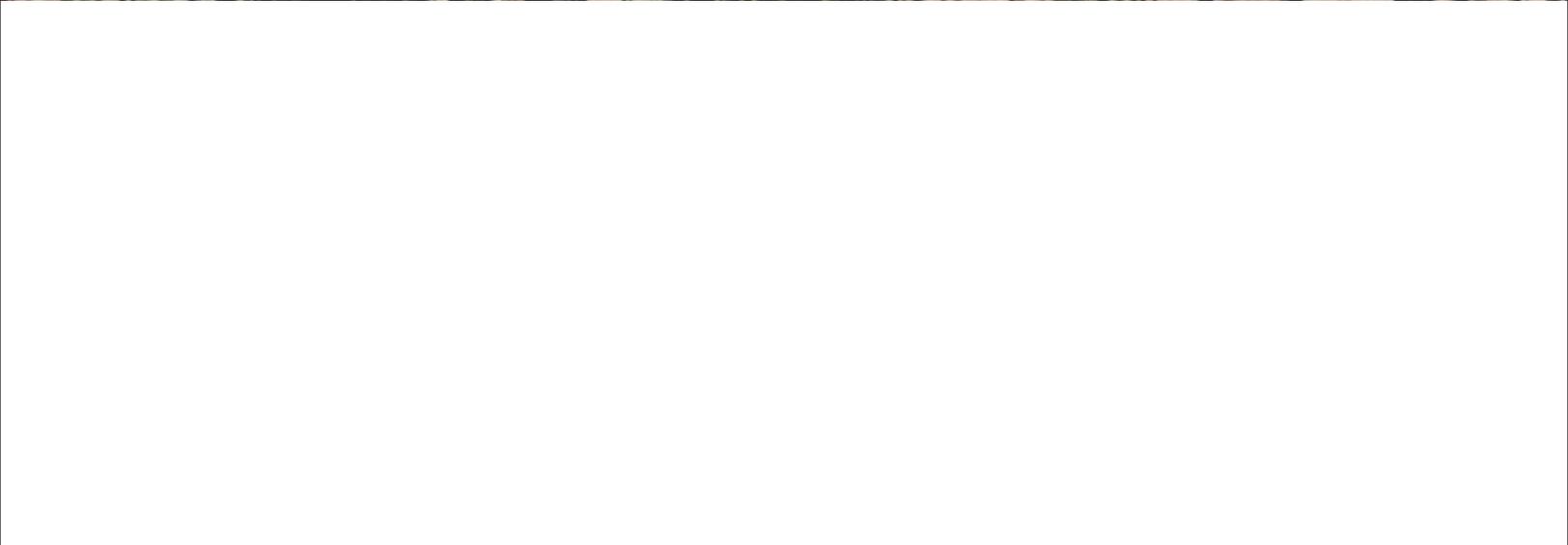


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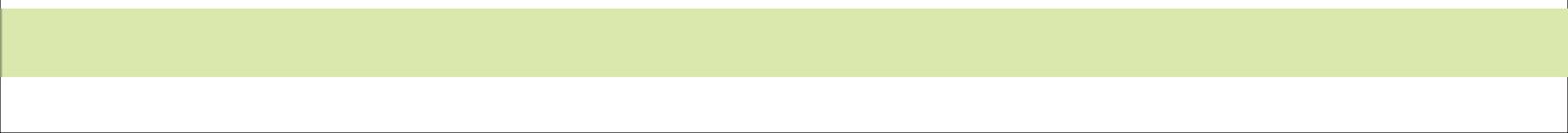


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INTRODUCTON





1.0 INTRODUCTON

1.1 About the Study Area

Pench Tiger Reserve (PTR) is located in Central India. It is one of the premier tiger reserves of India and the first one to straddle across two states – Madhya Pradesh and Maharashtra. It covers a total area of around 1015 km². The Government of Maharashtra vide its gazette notification No. PGS 1375/121758-F I dated 22nd Nov 1975 declared its intention to constitute the area of PTR in Maharashtra to be 257 km².

PTR belongs to the Indo-Malayan phytogeographical region. Ecologically, Pench is categorized as a tropical moist deciduous (TMD) tiger habitat. Floristically, Pench Tiger Reserve can be classified, according to Champion and Seth (1968) as:

- Tropical Moist Deciduous Forests:
 - Type 3B/C1c Slightly moist teak forests
- Tropical Dry Deciduous Forests:
 - Type 5A/C1b Dry teak forests
 - Type 5A/C3 Southern dry mixed deciduous forests

There are records of 168 species of resident and migratory birds. Birds like Malabar Pied Hornbill, Indian Pitta, Osprey, Grey Headed Fishing Eagle, White Eyed Buzzard etc are recorded in the PTR. Vultures are also seen in many parts of forest.

The area has always been rich in wildlife habitat. As per the Tiger Conservation Plan for Pench Tiger Reserve 2013-14 to 2022-23, the area has 33 species of fishes, 7 species of amphibians, 49 species of reptiles, 33 species of mammals. The high habitat heterogeneity favors good population of Chital and Sambhar. The area is especially famous for large herds of Chital, Sambar, Nilgai, Gaur (Indian Bison) and wild boar. The key predator is the tiger followed by leopard, wild dogs and wolf in Pench Tiger Reserve. Out of the 33 species of mammals, the important ones include sloth bear, chousingha, barking deer, jackal, fox, palm civet, small Indian civet, jungle cat, hyena and porcupine.

1.2 Historical

Since time immemorial the area of the PTR has remained under Forest cover and a favourite place for the rulers of the land. The area has historical, ethnic and administrative importance.

During the modern historical days this area was being ruled by the Gond rulers who established Nagpur city. The Bakht Buland Shah and his successors ruled the area before the Bhoslas of Nagpur and British. The place attracts tourists to a well-maintained Durga Temple and tomb of Baba Alla Hazrat Ali Baux Lal Diwan Shah.



Fortification are military constructions and buildings designed for defence in warfare and military bases. This fort belongs to the 'Vandurga' (Forest Fort) category and is one of the smallest forts in Nagpur district. This and several other historic places viz. Gughusgarh, Nagpahadi etc in the PTR stood testimony to the history of the area. Besides these British period mines of Manganese, and other minerals are also situated in the PTR which have become hotspots for birds due to accumulation of season's water.

There are other places such as Vent in the downstream of the dam which are very amazing manmade miracles.

1.3 Ethnic

The place also has several places of ethnic importance such as Mathatek, Mamaa Bhanjaa, Nagdeo Pahadi etc, as well as Shiva Temple, Hanuman mandir, Sai Mandir and dargah near Dongartal as already stated in the foregoing para. Thus it can be easily seen that the forest in PTR are used to human presence since long and remained witnesses to the anthropological activities going around. Besides the PTR is also having a number of small lakes used for villagers for fishing and agriculture irrigation and there are some villages inside the entire PTR which also include agricultural lands adjacent to forests, such as Pipariya in the East and Narhar on the West of PTR.

1.4 Administrative

A part of the area is under unified control, Territorial, on the right side of the highway as one comes from Nagpur direction, there are several ecotone areas in the vicinity of human settlements on both East and West sides of the PTR. There are a number of places which are ecotone areas and this is where bird diversity is abundantly seen. It can be said that the area is dominated by Pench River and a large number of large and small water bodies inside the PTR.

1.5 Type of habitat

In totality it can be said that the PTR is having a large variations in habitats, dense forest, deciduous forest, bushes, riparian zones, hilly places, grasslands, ecotone areas, farmlands in between, bushes, high trees etc. The present project is bird oriented and one of the major objectives involved therein is making checklist of the birds in the PTR

The following photographs are illustrative –



1.6 Microhabitats

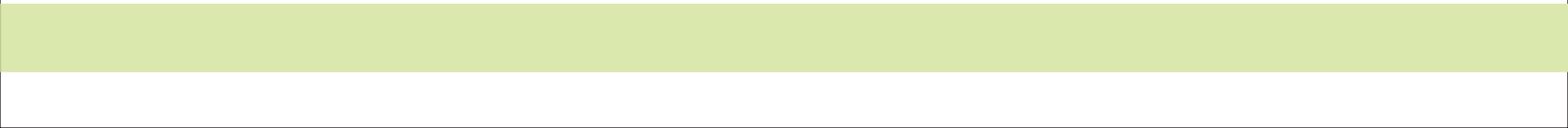
In addition to the above macro areas, there are various small pockets inside and on the fringes of the PTR which have become hotspots for animals in general and birds in particular. There are various forest observation posts called Kuti at strategic places where the frontline staff and officers stay almost throughout the year guarding the forests from poachers and fires & for maintenance purposes. Besides these there are a few temples, tourist sankuls like Amaltash, Nagalwadi, Sillari, to name a few. In addition to the same there are a few religious places like temples, the Dam, village meadows and deep forests. Such places are usually having provision for water such as borewell, handpumps, ponds etc. These play a very crucial role in holding the resident living beings at the said place as water availability is round the year.



1.7 Flowering and fruiting trees

The PTR is replete with lots of flowering as well as fruiting trees, creepers, herbs and shrubs such as Mahua (*Madhuca longifolia*), Jamun (*Syzygium cumini*), Mango (*Mangifera indica*), Ficus sp., *Lantana camara*, Bahawa (*Cassia fistula*), Bel (*Aegle marmalos*), Tendu (*Dyspyros melanixylon*), Palash (*Butea monosperma*), Semal (*Bombax ciba*), Ghogal (*Gardenia latifolia*), Dikamali (*Gardenia gummifera*), Wood apple (*Limonia acidissima*), etc which cater to the food requirements of a large number of animals and especially birds. The flowers attract bees, butterflies, insects and other pollinating agents and hence birds. This also explains the presence of a diverse range of animals especially birds in the PTR.







STATUS OF STUDY AREA



2.0 STATUS OF STUDY AREA

2.1 Present scenario

The area of PTR was studied from bird centric view point. It is seen that the area has a tremendous potential to become one of the major bird hotspots at national level. This is due to the fact that the forest here is based on the banks of Pench river which is perennial and the dams on it. Secondly, the erstwhile irrigation colony is now being converted into a lush green patch under the NAFCC project which is sure to bring a rapid change in the area due to its strategic location as well as due to the fact that the same is being pursued with great efforts. It was seen during the span of eight months that the area has been fenced to protect the plantation made, drip irrigation has been provided to ensure that the plants survive. This is going to be a great hot spot for birds. We noticed a great congregation of about 50 Red Jungle Fowls in the area, in addition to about equal number of grey hornbills in summer months on figs of ficus trees behind the irrigation guest house near Totladoh. We also saw a good number of grey hornbills near the Forest entry gate of Kolutmara, some Malabar Pied Hornbills near Lamandoh area. This is a glimpse of the things.

The dense Bamboo van, Dati zira, Salama, Ambakhori and Ranidoh, Gauli ghat, area on the east coast of the Pench, Bandra lake, Pipariya lake, Dongartal lake, Nandpur kuti, Bor Ban etc are other equally great birding hotspots.

2.2 Seasonal variation and changes in bird habitat

This year the area witnessed a good monsoon. The resident birds shift locally from one place to other during the seasons. We noticed about 1000 Indian Cormorants flying in the morning hours from Navegaon Khairi side towards Totladoh side and returning via the same route in the evening. This could be due to the abundance of fish as they are known to be collective hunters. We also saw a good number of Fish Eagles in the area and a few nests. The population of these eagles is highest in the area as compared to other forests in Central India. The bee eaters, egrets, lapwings too shift the areas according to the season. Further there are man-made factors, such as sudden release of dam water is also a factor which has its impact on the bird sightings in the area. Whereas the Bandra lake remains a hub of activity for winter migratory birds, the same is more or less deserted during other months, except for resident birds, raptors, swallows, bitterns etc. for the rest of the year. Bor ban too remains occupied with lot of summer migrants like Oriental Pratincoles etc when the water recedes and the same is a nesting ground for other waders as well.

Thus from the above it is seen that a more systematic long term survey / research needs to be carried out by Researchers, Ornithologists about Bird life in PTR and Birds Habitat.



2.3 New potential areas

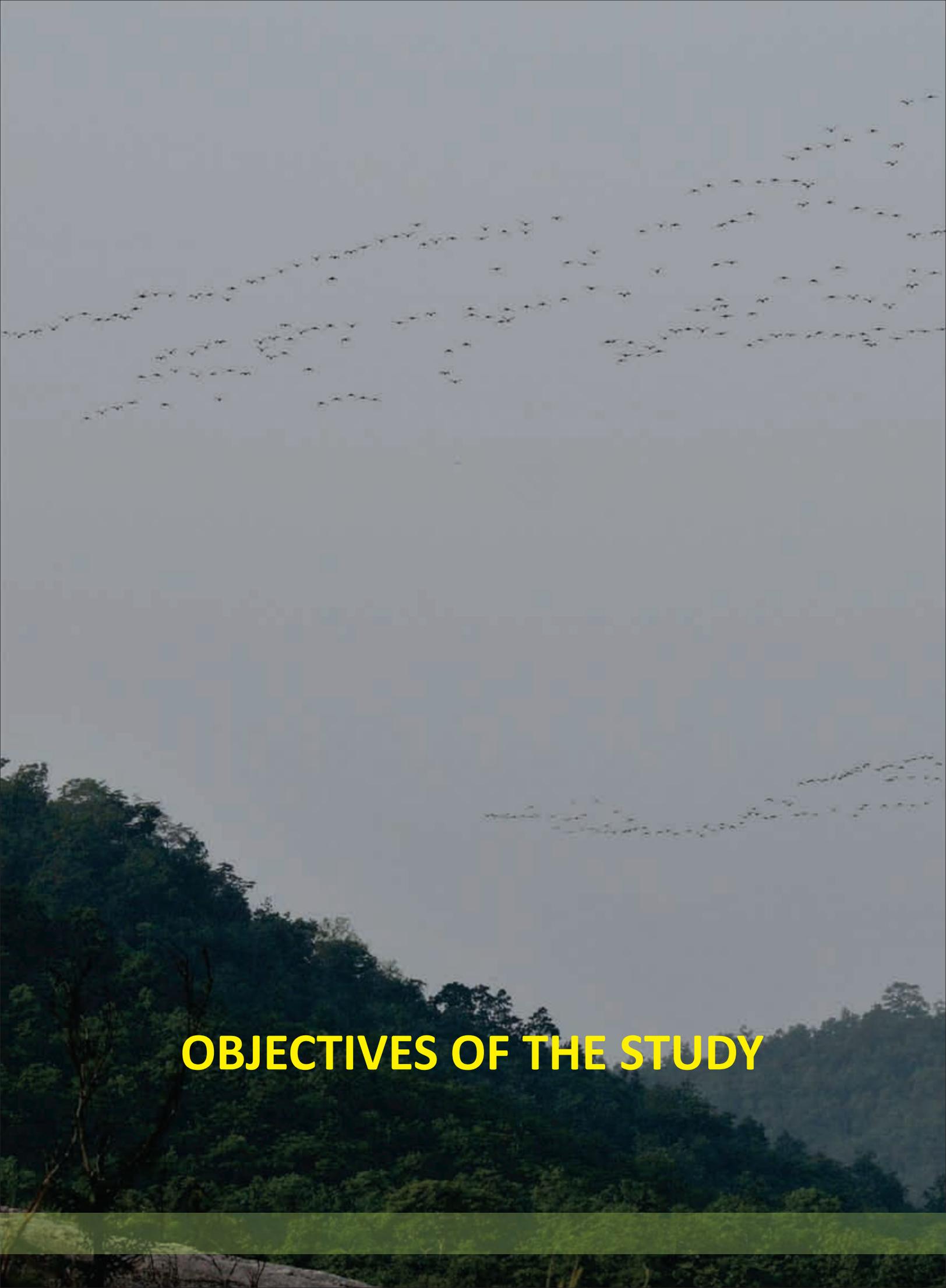
During the course of the rapid survey study of the area of PTR it was noticed that there are various places which are new potential areas for birds, one of them being the Territorial forest on the right side of the highway. Another area noticed is on the Kolutmara - Ghatpendhari road near Chipala Kuti which has a small pond surrounded by dense forest. (Crested Serpent Eagle was seen perched). Yet another spot noticed was “Futka Talao” which lies on the right side of the Kolutmara village to Banera road, at a distance of about one and half km from the Kolutmara village. Besides these there are several spots such as Rohdeo Nalla, Chatan Bore well, Dhawlapur lake, on the West side, and Mahadeo Temple, two ponds off Khapa-Deopapar road, Teliya (on the Maharashtra side) near Khursapar, Mahar kund, Kutumba Nala etc.

During our visits it was noticed that the major areas of the forest from the birds point of view, are near the Pench riverside such as Chorbauli, Kolutmara, Nagalwadi , Surewani, Gauli Ghat, Ambakhori, etc; while some areas are near the lakes inside the PTR and on the fringes such as Pipariya, Wagholi, Dongartal, Narhar, Chargaon, Bandra (core), Maharkund, Bakhari Kund, etc and a few more are near the small - medium streams flowing like Kutumba Nala, Kantra utar nala and a few others. It is also seen that the major terrain on the West Side of PTR is hilly and with very few uplands, meadows. There are a number of undulations. Whereas a few lakes are surrounded by Forest area, some are under Irrigation control. In some cases like Bor Ban area, Bandra lakes (on the fringes) fishing activity is noticed being under the control of irrigation. In lakes like Dongartal it was noticed that floating vegetation had covered a major area, the lake was surrounded by agriculture fields on three sides and a hill on the South side. The said situation was seen to be conducive for a large number of birds, especially Jacanas, Purple Moorhens which were most abundant, followed by egrets and herons and ibis. The hill seems to be a good habitat for owls and raptors.

2.4 Pandemic effect

The Covid pandemic waves affected the birds of PTR also. The conditions were favourable to birds due to minimal human movement in the PTR during the period. The area witnessed more bird activities. Increased presence of birds which could be gauged from the calls heard as well as courtship displays were indicators of a boon in disguise during the pandemic. This could be attributed to reduced administration activities, halt of Excavator work at NAFCC, less number of tourists at complexes. There were two pairs of Jungle Owlets which were regular visitors to Amaltash Complex Sillari, and there was a Pitta nest high up on a teak tree.

Similar was the situation near Nagalwadi complex where nests of Pitta, Monarch Flycatcher, Drongo and White Eye were detected by the officers of Forest Department and in addition a young first year Malabar Pied Hornbill was also clicked by one of our Forest Guards.

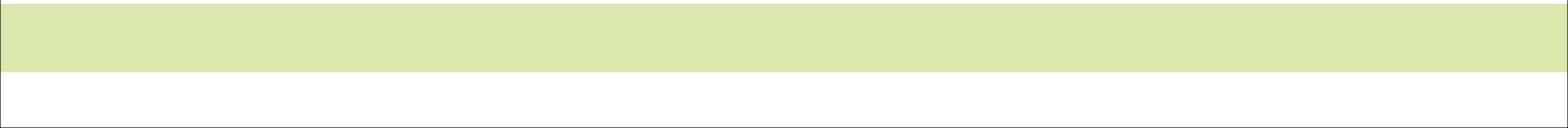


OBJECTIVES OF THE STUDY

3.0 OBJECTIVES OF THE STUDY

As per the terms of the MOU following assignments were required to be carried out -

- i) Preparation of checklist of the birds seen in the area in all the four seasons along with status;
- ii) Exploring the existence of Forest Owlet in Pench area;
- iii) Identification of the breeding sites of Malabar Pied Hornbill;
- iv) Study the birds and their varied habitat usage in Totladoh as against that in Navegaon Khairi;
- v) Imparting training to the field / frontline officials of Forest Department and their capacity building regarding birds;
- vi) Study of birds in the Totladoh colony and nearby under National Adaption Fund for Climate Change project (NAFCC);





DESK STUDY





4.0 DESK STUDY

For achieving the same the CIBA adopted scientific approach. The responsibilities of achieving the tasks was delegated to team leaders who would accomplish the same with the active assistance from the entire team CIBA.

Study conducted of the material available including the checklist of the birds of Madhya Pradesh Pench area, the old records, checklist prepared earlier were referred for the purpose of preparation of checklist. Maps of the area under study were obtained, studied and various habitats, such as water bodies, streams, canopies, dense vegetation, riparian areas, grassland areas, upland areas etc as well as ecotone areas were identified.

Desk study was undertaken at first, to gather the details available in respect of study previously undertaken. This included the details available on the internet, printed formats, social media, published studies. It was primarily done for the purpose of compiling checklist of birds and for Breeding sites of Malabar pied Hornbill.

The study included various research work, Forest management plan (PTR) and material available on internet, including data available on e-bird, data already available with the CIBA, Shri Girish Jathar and Shri Jayant Wadtkar, Smt Prachi Mehta, Checklist of MP Pench, Checklist of Pench National Park, Coffee Table book on PTR, as well as checklist drawn VNHS details of the birds posted by others in social media etc.

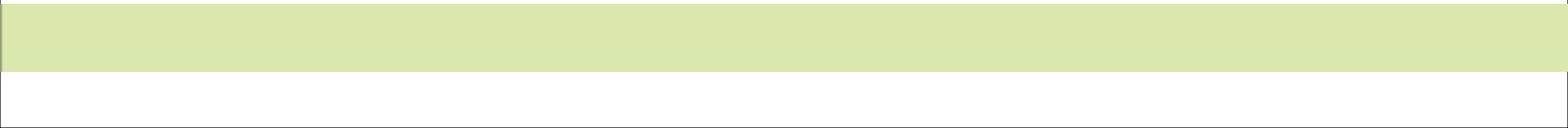
During the pandemic period when the tourism was permitted in Madhya Pradesh, **visits were made to Pench Tiger Reserve in Madhya Pradesh** as it was the crucial time of breeding of Malabar Pied Hornbill and in order to study the breeding behaviour of the bird. A breeding site was successfully located and was studied for three days. This helped in a large way in understanding the Pench Forest in totality.

Frequent interactions with the Forest frontline officers and others, tourist guides, forest officers, tourists etc were made to gain maximum inputs . There were considerable number of **thought processes held** on each and every task.



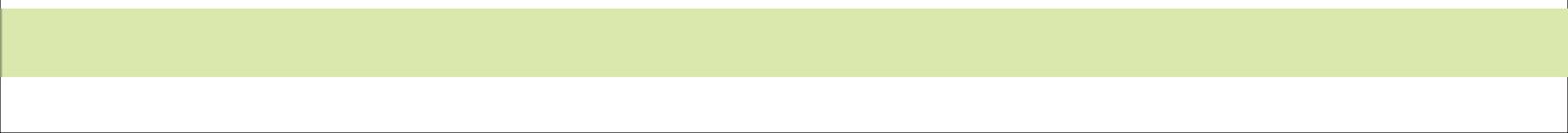
Efforts were also made to **identify shortcomings or lacunae** if any, in the course of working and suitable amendments were made. Strengthening of team was also done and other than members of CIBA, selected members from the forest Department were also involved to achieve desired results. Division of labour was also done and responsibilities were also assigned task-wise for improving outcome.







FIELD VISITS





5.0 FIELD VISITS

Field visits covering all the Ranges under PTR were immediately undertaken. Meetings and discussions with the Forest Officials in-charge of the PTR area under consideration including the jurisdictional Officers of both the East and the West side as well as with Shri Girish Vashisth, Retd. DFO, looking after the work under NAFCC in the erstwhile colony area in PTR Maharashtra. We also spoke with guides, tourists, and villagers on the fringes, who are also the stakeholders for the work related to the study of birds and habitat and the planning was made after getting inputs from such sources.

Based on the study so made, various areas of PTR were visited in order to get a first-hand idea and to enable proper planning of the project. A total number of 42 visits were made and data was gathered on each of the tasks given in the Project.

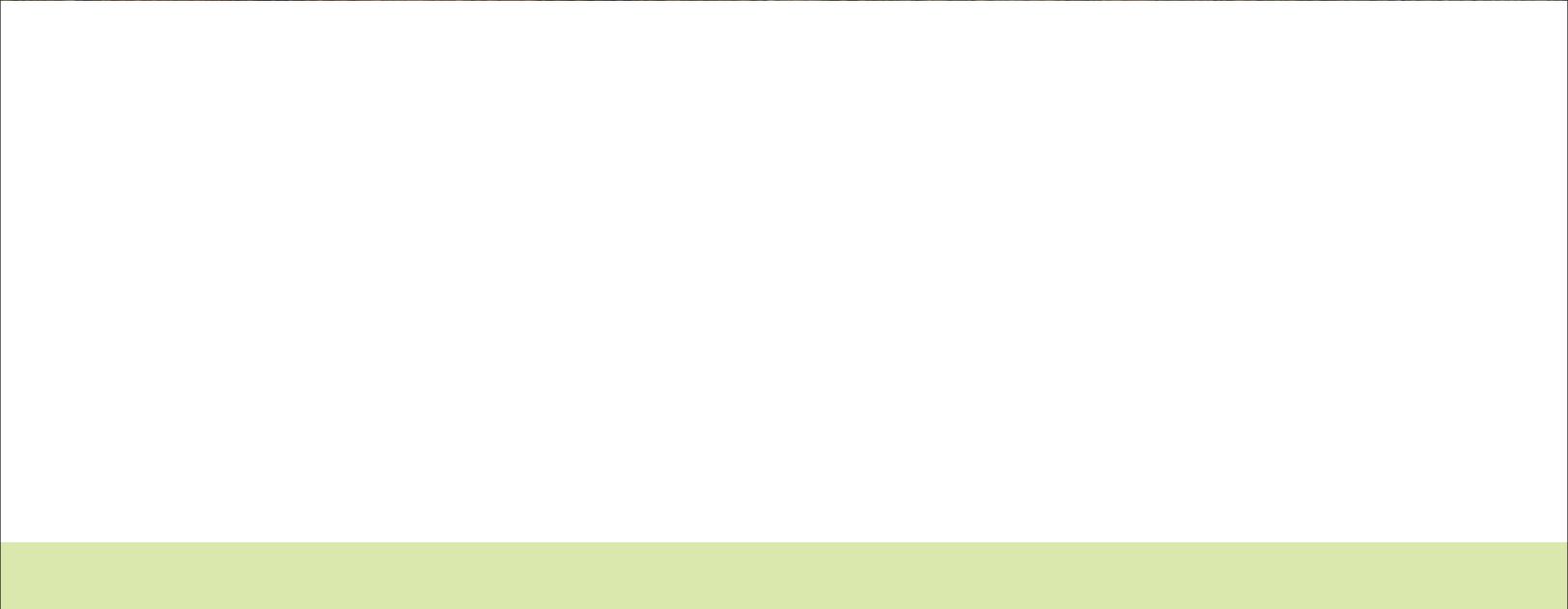
5.1 Area explored during the bird survey

During the course of the survey, various places were visited, different habitats were studied and details were noted with reference to the tasks in hand. The hospots noticed have been discussed in subsequent paras.

5.2 Field visits

During the visits discussions were made with senior officers as well as with the frontline officials and other staff, beat guards and their Van majoors, drivers, guides of gypsies, and last but not the least, STPF Guards and officers, regarding birds and their presence in various areas under their respective jurisdiction. Discussions were also made with tourists visiting the area for safari. This helped gain more knowledge of the area and resulted in a healthy exchange of views.







TASKS UNDERTAKEN





6.0 TASKS UNDERTAKEN

6.1 Preparation of checklist of the birds seen in the area in all the four seasons along with status

The Bird checklist was updated by actually visiting the various hotspots in the PTR, covering all the four seasons.

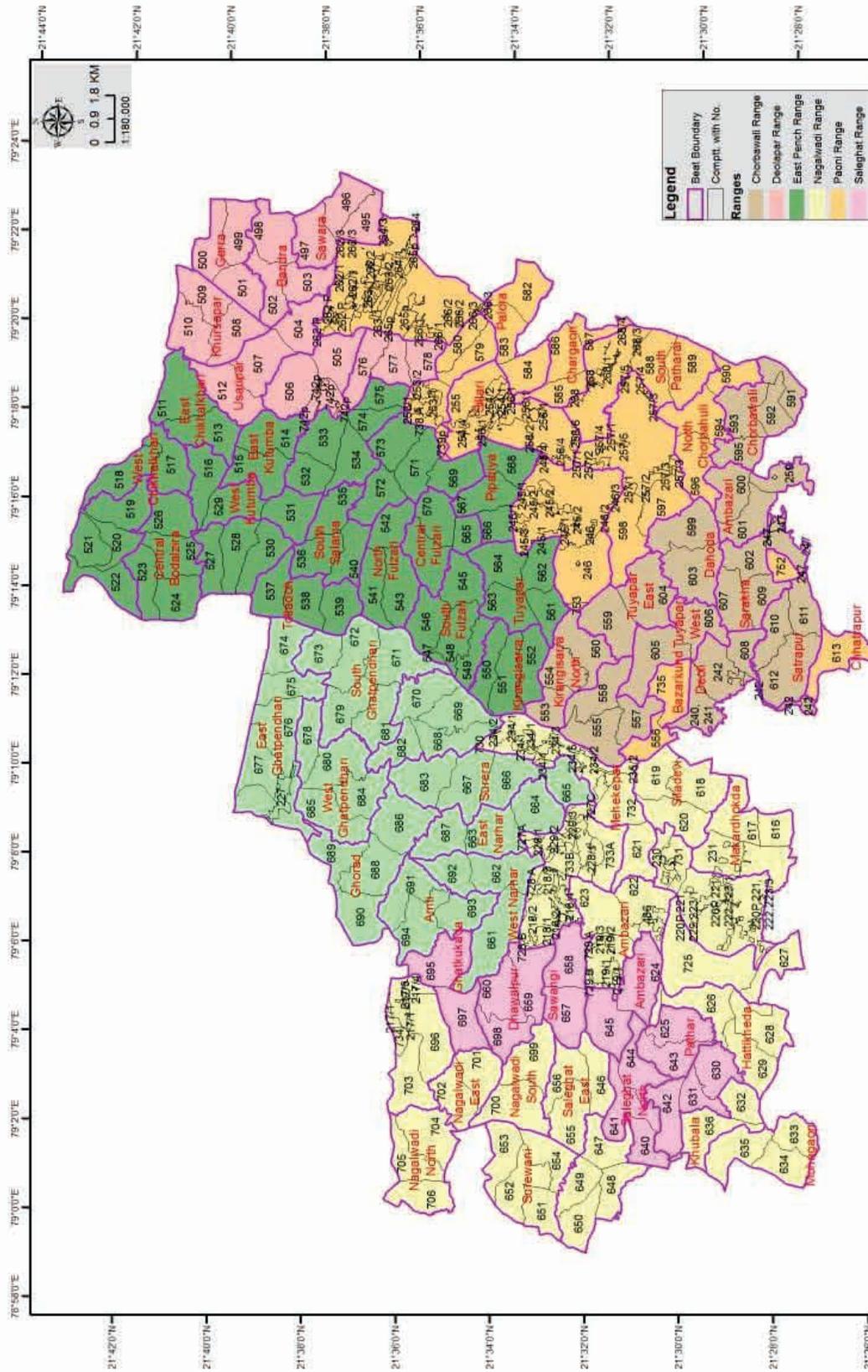
6.1.1 Methodology

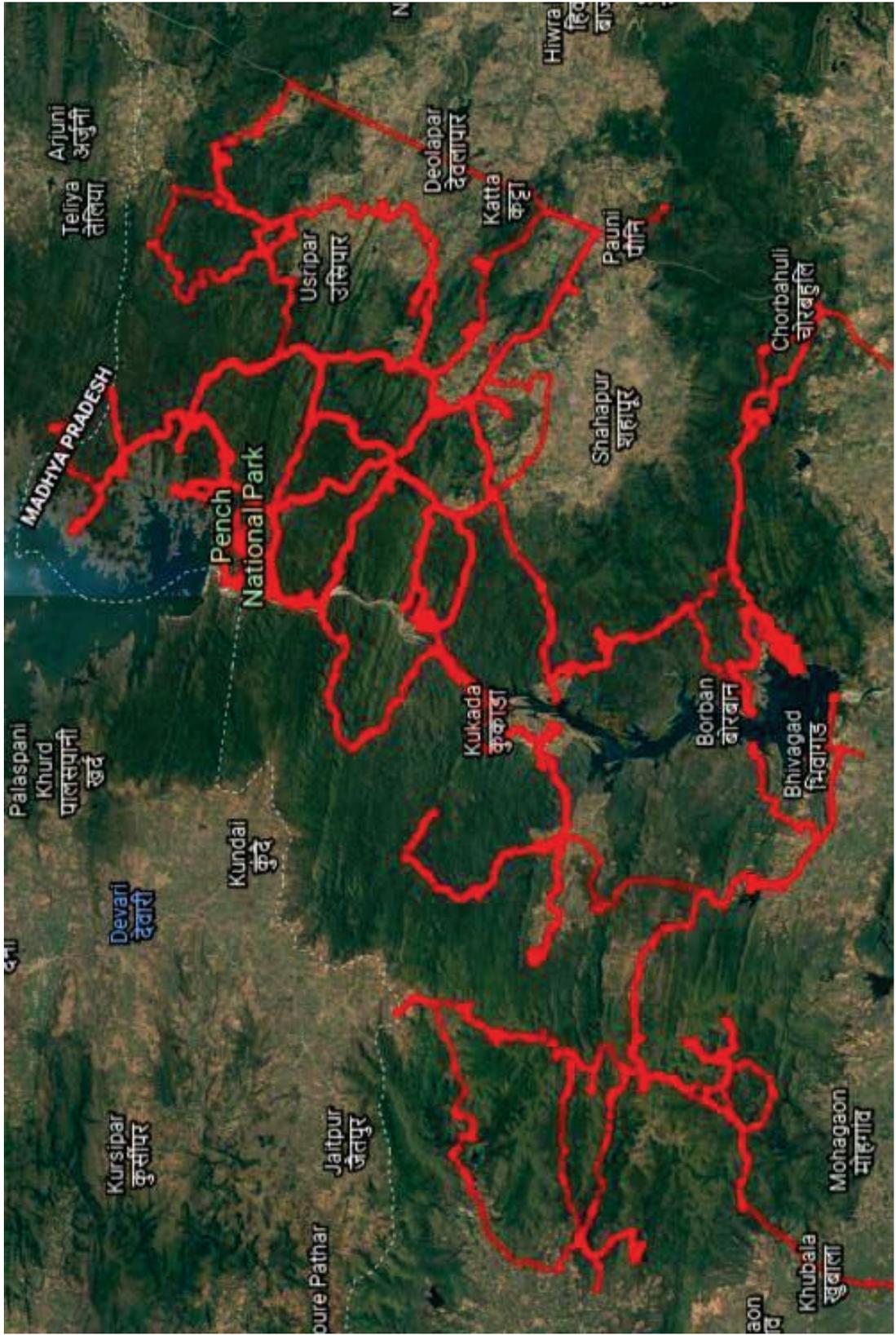
During the course of survey a **total 42 visits were made** and the area under PTR was covered by using transects, travelling on foot, in Departmental vehicles, or sitting at strategic places and on watch towers. It was also seen that the PTR has some important key species of birds for different type of habitat, for example:

- Wetland– River Lapwing, Grey headed Fish Eagle, Darter, Asian Open bill, Osprey, Ferruginous duck
- Grassland - Red Jungle Fowl, Peacock, Black Eagle
- Riparian - Monarch Flycatcher, Ultramarine Flycatcher, Red Breasted Flycatcher, White throated Kingfisher, Blue rock Thrush
- Forest – Jungle Owlet, Grey Hornbill, Brown headed Barbet, Racket Tailed Drongo, Forest Wagtail



COMPARTMENT MAP OF PENCH TIGER RESERVE





Areas visited during the survey



Since the aim of the project was to **update the existing checklist of 168 birds** (as listed in Tiger Conservation Plan- Pench Maharashtra 2015-22) and also to sensitise the field and frontline officers of the department about birds and their identification, two checklists have been made in the following formats –

Checklist with Scientific names –

Sr. No.	Name of the bird			IUCN Status	Residential Status
	Family Name				
	Common name	Scientific Name	Marathi Name		
1	Malabar pied Hornbill	<i>Anthracoceros coronatus</i>	मलबारीकवड्या धनेश	NT	Resident

The detailed checklist of the birds seen till date is being enclosed separately as an Annexure to this report. (**Annexure-**)

Another Checklist that is being prepared would be for regular **use by the Frontline officials** of the Forest Department (having birds with family names) in the following format:

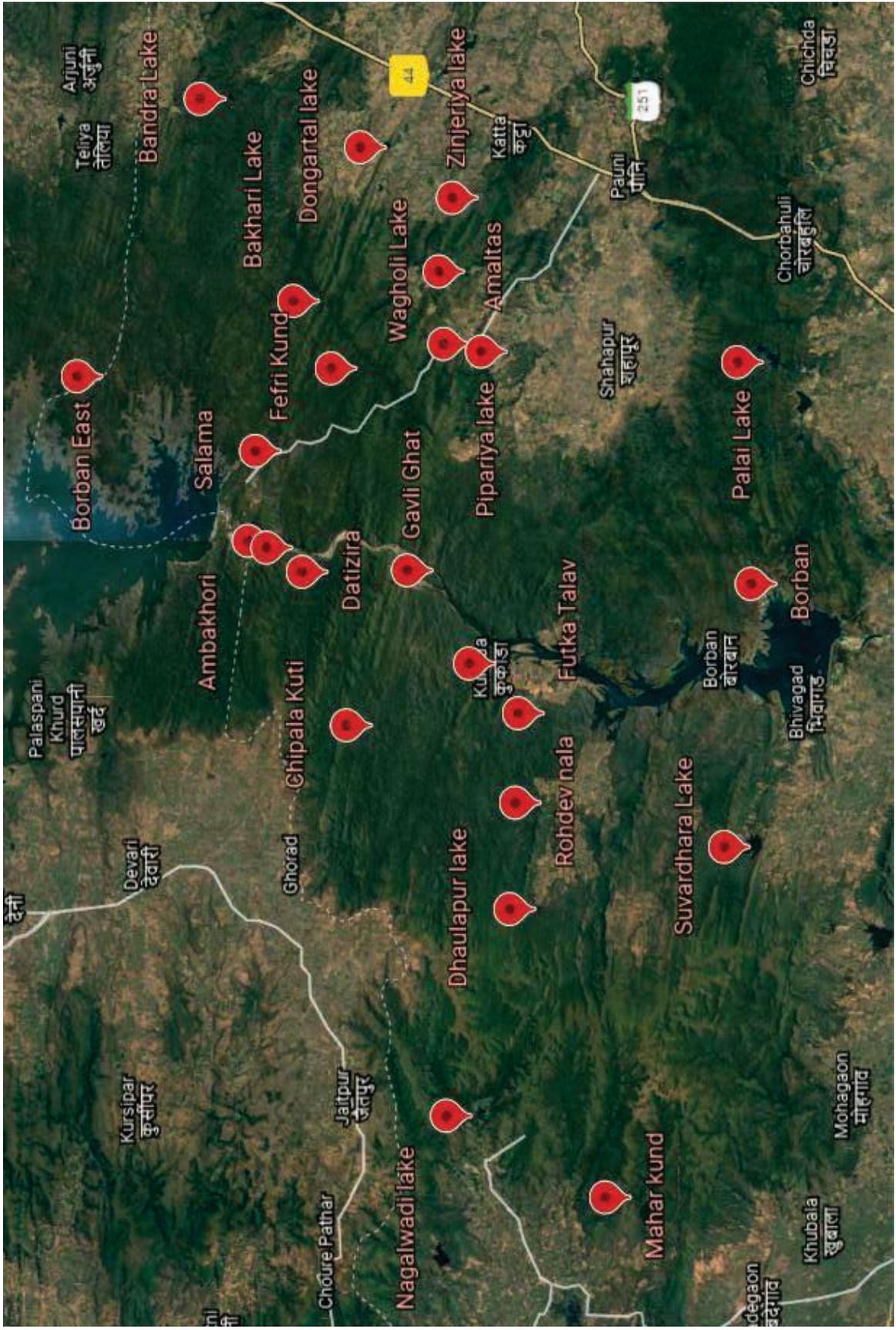
Sr. No	Name of the bird			IUCN Status	Residential Status	Pointers for identification
	Common name	Scientific Name	Marathi Name			
1	Malabar pied Hornbill	<i>Anthracoceros coronatus</i>	मलबारीक वड्या धनेश	NT	Resident	Black patch on casque, black neck, white edged black tail, White underbelly

The entire checklist is enclosed to the report as (**Annexure-**)

6.1.2 Results and Observations

At the end of the survey the number of **birds in the list has almost doubled**. The updated checklist now has a total number of **308 birds**.

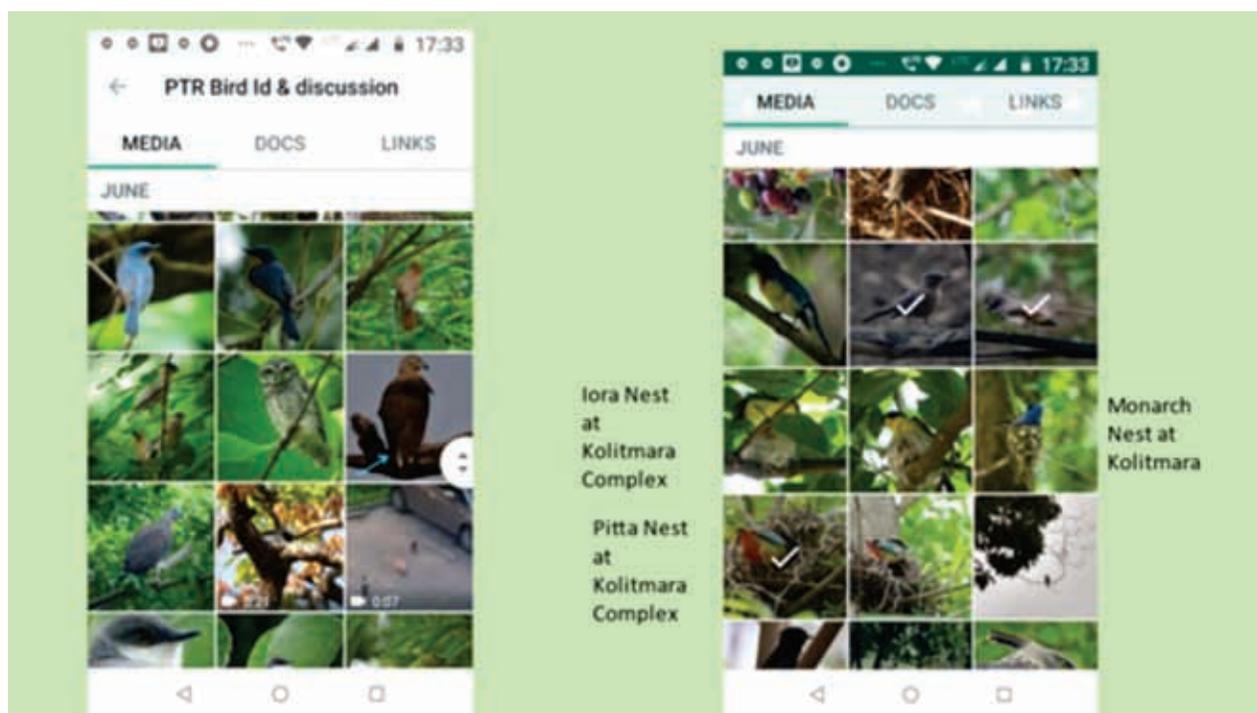
Out of these the birds which were not seen during the survey but whose sightings have been recorded by CIBA members and other birders are **marked in asterix** in the first column.



A map of bird hotspots of the area



- It is noteworthy to mention that the impact of training imparted during the survey helped a lot in making of the list
- Officers residing near Kolutmara Complex, Khurspar, Borban, Sillari, Nagalwadi made the maximum use of the **WhatsApp group in posting photos, asking for IDs, confirming the ids, and most importantly identifying the nesting sites of various birds.**
- This was a result of the training imparted and also the liking and interest shown by the officers.
- The following slides show a glimpse of the exchanges of photos and information made in the whatsapp group exclusively created
- Further the bird ID app named Forestly made by the TERN team of CIBA was also introduced to the frontline officers and were guided as to how to use the same.



Screenshots of the media shared on the WhatsApp group created for imparting training to the frontline staff.

A few important sightings of the birds are as under –

- Forest Wagtail – Saleghat road
- Blue capped Rock thrush – Gangazari
- Black Eagle – Bakhari Lake ,
- Greater Spotted Eagle – Borban Lake,
- Bar-headed Goose – Chargaon Lake,
- Osprey – Palai lake,
- Ferruginous Pochard- Bandra 1 lake
- Cinnamon Bittern – Bandra 1 Lake
- Black Stork – Bor ban
- Brown Crake – Ambakhori
- Red Jungle Fowl in large numbers – NAFCC area
- Sirkeer Malkoha - NAFCC
- Malabar Pied Hornbill – NAFCC
- Grey hornbill – commonly seen
- River Lapwing – Kolutmara
- Tickell' Thrush – Bandra
- Pygmy Woodpecker – Khursapar
- Jungle Owlet – increased presence
- Western Crowned Leaf Warbler - Bandra



Some common birds sighting of which were seen in less numbers are Sparrow, Crow, Common Myna, Spotted Owlet, Jungle Myna

Some birds which were seen prominently were – Orioles, Jungle Owlet, Brown Headed Barbet, Jungle Babblers, Red-vented Bulbuls, White throated Kingfishers, Racket-tailed Drongos, Black Drongos, Grey Hornbills

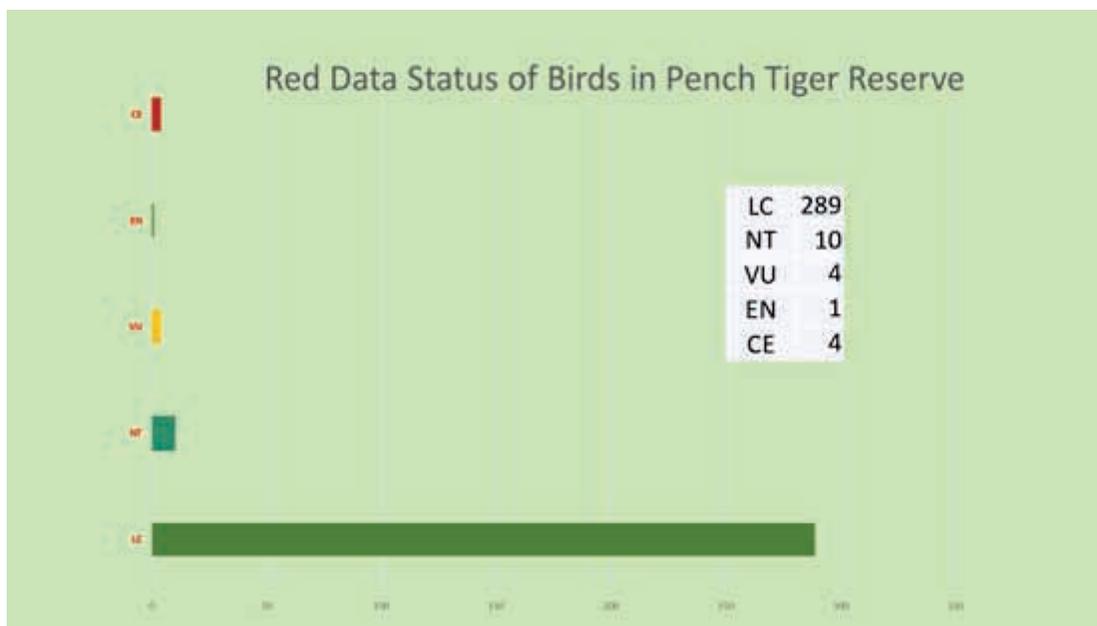
Prominent birds seen

- Asian Openbill Storks – Large number of molluscs (snails) – lake - Borban
- Northern pintails and shovellers, garganey Pochards, – indicator of presence of good number (of seeds from) aquatic plants, worms, snail crustaceans, aquatic insects, and grains – Wagholi, Borban
- Lesser Whistling ducks and spot billed ducks – weeds in lakes near shore. Presence of aquatic vegetation and also shallow water
- Plovers, Lapwings, Snipes, Stint, Wagtails, Pratincoles, Sandpipers – indicate a good shoreline with wet soil, and presence of costal insects, crabs etc.
- Fish Eagles – Fish, Deep water, Clear Water, Forest margin around the lake.
- Bee Eaters – Mudflats, perches around the water bodies, grass lands adjacent to water bodies, presence of shallow waters
- Pipits, and Larks – grassland near water bodies
- Swallows, swifts, martins – presence of muddy areas for nests and also presence of old abandoned buildings nearby lakes, bridges, canopies etc.
- Osprey – migratory bird, indicates presence of a good depth of fresh water body, with fish. Fish presence is also indicative of good food , aquatic plants and insects, larvaes etc.
- Fish owl – dense vegetation around water body at lower levels and presence of fish
- River terns – shallow waters with fish
- Purple heron, grey heron - larger fish, snakes at times, reeds, a good coast line, knee deep water at many places
- Black Headed Gull, Pratincoles.









- ### Vulnerable Near Threatened
- | | |
|---|--|
| <ul style="list-style-type: none"> Greater spotted Eagle Indian spotted Eagle Common Pochard Wolly-necked Stork | <ul style="list-style-type: none"> Oriental Darter Grey-headed Fish-eagle Malabar Pied Hornbill Black-headed (White) Ibis River Lapwing Alexandrine Parakeet Ferruginous (Whiteeyed) Pochard Painted Stork River Tern Great Thick Knee/ Great Stone Plover |
|---|--|



6.2 Exploring the existence of Forest Owlet in Pench Tiger Reserve, Maharashtra

The Forest Owlet was earlier considered to be extinct. But in 1997 its sightings were reported at Melghat. Thereafter its sightings were also reported from other adjoining areas and towards Western Parts of Satpuda.

6.2.1 Forest Owlet Ecology

6.2.1.1 Habitat

The studies indicate that the Forest Owlet prefers to dwell mostly in teak dominant plots, adjoining open spaces in forests near agricultural fields. In most places where its presence has been recorded the ornithologists have also recorded the presence of Spotted Owlet and Jungle Owlets and occasionally Scops Owl, Indian Eagle Owl or Barn Owl. It is also to be noted that it can be seen at a height ranging from 7 to 12 feet on horizontal branches near trunk during day time preferably in sparsely wooded areas of forest, less dense forests near agricultural areas, meadows and when breeding it prefers old but sparsely wooded forest having trees with cavities (Jathar and Rahmani, 2004)

6.2.1.2 Description

The Forest Owlet can be distinguished from the Spotted Owlet by the absence of spots on its forehead, a straight white eyebrow-line connecting left and right eyebrows, mostly active in the morning and evening hours, with the calls and lastly a bit larger in size than the Spotted Owlet. The Forest Owlet is capable of making five different calls/ sounds:

- (1) Song Call – At first it resembles a Asian Koel call but is higher in pitch and it makes about 10-15 times usually, and can be repeated multiple times, The time lag between the first “*wu hu SS*” and the second “*wu huuu SS*” can be 5 to 10 seconds . this call normally is not heard during breeding season. The same is mostly made by both the male and the female to indicate presence.
- (2) Hissing Call – It is usually made when it feels threatened. One may mistake it for a call of an Indian roller.
- (3) Territory Call – This call is said to be made to announce its territory or to alert an intruding individual. The same sounds like a call of an engine heard from a distance which goes like .. quanck..quanck..., quanck..quanck and last normally till 9 seconds. It rises in crescendo and subsides in the end. A gap of 15 to 20 seconds is noticed between the two calls.
- (4) Contact Call – is made for communication , especially while bringing food for the female in the nest (cavity) it is also sometimes lime sr no. 3 above or *Kee SS yah SSS ki hi* .
- (5) Begging Call – At times when chicks are in the cavity and see a parent approaching with food they make such calls, or when female in the cavity needs food she makes such calls – the same sound like *KiEEEE SS.. KEE SS k*

6.2.1.3 Habits

We often see Spotted owlets' family sitting close to each other, either four or five in



numbers. The Forest Owlet does not show this tendency. It feeds mostly on rats, gerbils, skinks, lizards, forest agama, insects and grasshoppers and is totally carnivorous. It is active mostly during day time unlike other owls and Spotted owlet.

6.2.2 Methodology and Search of Forest Owlet in Pench

Based on the above studies search operation for Forest Owlet was carried out using circular transect technique and playing calls of the bird at strategic places, the description of which matched with the ones given in the studies conducted at Madhya Pradesh (Baitul) and Maharashtra (Melghat).

The areas in which the search was conducted are villages on the fringes of the PTR as well as those in the vicinity of sparsely wooded teak plots such as Fulzari, Khapa, Surewani, Nagalwadi, Maharkund, Kunwara Bhiwsen, Dongartal, Narhar , Bandra, Pipariya, Bor Ban, Road from the Dargah of Mor baba to Khursapar gate as well as ---- area near kuti at Khursapar etc. as these areas have mixed scrub and teak and have agro-forestry near villages in which rodent population is abundant.

Reliance was placed on the studies conducted on the forest owlet by Jathar *et. al.* (2004) their reports were made basis for searching it in a scientific manner.

A group was created on social media i.e Whats-app to remain in touch with the frontline officers and to respond to their queries regarding the calls heard / sightings. With the regular interaction with all those on field on the group, we hope to get some concrete result in addition to the onsite training given during the course of visits.

The points as mentioned in the presentation by Dr Jayant Wadatkar and in Dr Girish Jathar Report were also kept in mind

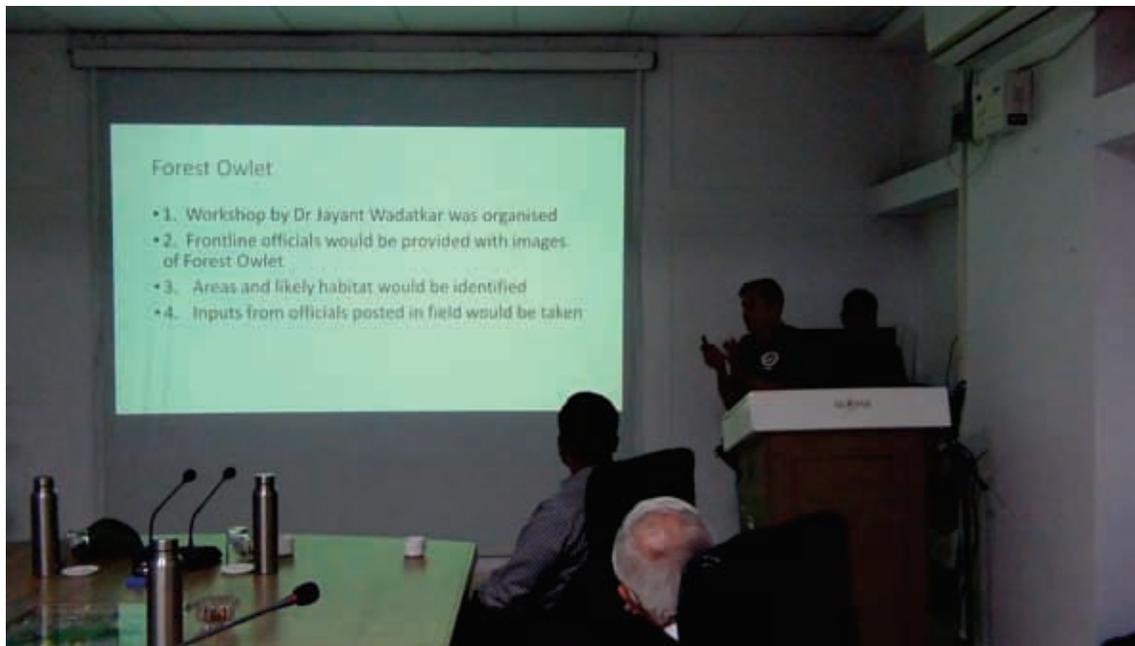
The search was made while travelling in a vehicle as well as on foot at some places and calls were played at the frequency specified in the reports published *ibid.*

Village people as well as wan majors staying at all VanKutis in PTR were contacted and attempt was made to get some useful information from them by showing photograph and playing calls before them to know if they had heard or seen the bird previously

- Workshop by Dr Jayant Wadatkar was organised
- Frontline officials provided with images of Forest Owlet
- Areas and likely habitat identified
- Inputs from officials posted in field were taken from time to time
- Works of Sh Girish Jathar , Dr Jayant Wadatkar, Prachi Mehta on Forest Owlet were referred .



Field officers sensitised by holding an indoor training session and inviting expert on Forest Owlet



Photograph showing comparison of Owlets



Large Trees with cavities were explored for breeding places.



Spotted Owlet home destroyed by storm. Owlets are known to stay at a place years on.





6.2.3 Result and Observation

- Circular Transect technique method was adopted
- Calls were played using recorder at strategic places
- The villages on the fringes of the PTR as well as those in the vicinity of sparsely wooded teak plots such as Fulzari, Khapa, Surewani, Nagalwadi, Maharkund, Kunwara Bhiwsen, Dongartal, Narhar, Bandra, Pipariya, Bor Ban, Road from the Dargah of Mor baba to Khursapar gate as well as ---- area near kuti at Khursapar
- Contacts were made with locals, farmers on fringes
- The villagers are unaware of the existence of Forest Owlet, they are aware about Scops Owl, Barn Owl, Eagle Owl
- Photographs were shown to all concerned showing difference between Forest Owlet, Jungle Owlet, and Spotted Owlet
- The efforts can be continued in future also to explore the existence of the Forest Owlet in the area as the habitat is similar to the one in Melghat.

6.3 Identification of Breeding sites of Malabar Pied Hornbill

6.3.1 Malabar Pied Hornbill Ecology

The Malabar Pied Hornbill is an important indicator bird for the PTR. It prefers well wooded areas having riparian zones and huge trees including those having cavities for nesting. It does well in areas where there are abundant fruiting trees and in summer when food is scarce the figs of Ficus provide food. PTR is therefore its true home where it continues to thrive.

The bird is categorised under Near Threatened Category by IUCN. It is a black coloured bird with huge casque (horn) has white belly, throat and some portion near eye is white. Females have white orbital skin which is not seen in males. Young ones do not have the casque.

Images



Pic - Male has a red eye & large casque Female has a white circle around eye



6.3.2 Methodology used

For identification of the breeding sites of this bird the procedure adopted by Dr Gajanan Wagh was followed. Large Trees with good girth, big cavities were identified near the probable places and were watched regularly. The bird is active early in the morning and roosts early in the evening.

In order to ascertain the breeding sites of the Malabar Pied Hornbill, selection of the areas frequented by the bird was made on the basis of its studied habits by Wagh *et. al.* (2015).

The areas having riparian zone and high trees were searched. Emphasis was given more on the areas such as Rani doh, Ambakhori, Gauli ghat, Lamandoh, Dati Zira to Ghugus garh road, Bodal Khapda, etc.

These areas have a high density of old and huge trees of Arjuna, banyan, pakhud, mango, jamun which are all fruiting trees suitable for the survival of the fruit eating hornbill. Further during the breeding season the hornbills turn non-vegetarians and have lizards, small birds, grasshoppers, snails rats, etc on their menu. This could be attributed to make up for the protein requirement for the female and chicks.

The breeding season of the Hornbills start from the month of March onwards and the pairs search for huge trees having suitable cavities, preferably near water sources.

The trees selected for cavity nesting are mostly large sized Arjuna, Moha, Behada, Dhawda, Dhoban etc.

The area near Gauli Ghat seemed very much a suitable place and was kept under surveillance during the visits. In one visit the team members spread out and kept watch of the movement of the bird. In the afternoon calls of the Malabnar Pied Hornbill were heard and a pair came near the site on the far side of the funnel area from where the water comes out of the gates of the dam. The pair was very vocal and was making courtship display, male bringing leaves, fruits, and other items with every visit it made and the female kept calling continuously. The pair flew from one tree to another and settled on a large Arjuna tree having cavities. It seemed that the pair had almost finalised the area, however suddenly from nowhere a Crested Serpent Eagle and a Crested Hawk eagle came on the scene one after the other and perched exactly on the same tree where the pair was courting. This caused the pair to fly away from the tree. Later the male went to Lamandoh side crossing the river and female followed soon after. Similarly at one point near Hatti Gota an individual Male was noticed on a Ghost Tree (Karu Tree) having cavities in it. Further two more places one near Dati Zira and other near Lamandoh seemed to be very likely places where breeding can take place as the same showed continued presence of the Malabar hornbill during visits made. Further progress in this regard was unfortunately hampered due to the pandemic situation and some crucial days have been lost to identify sites of breeding of the bird. However the season is still on and we are hopeful to get success in identifying the exact places.



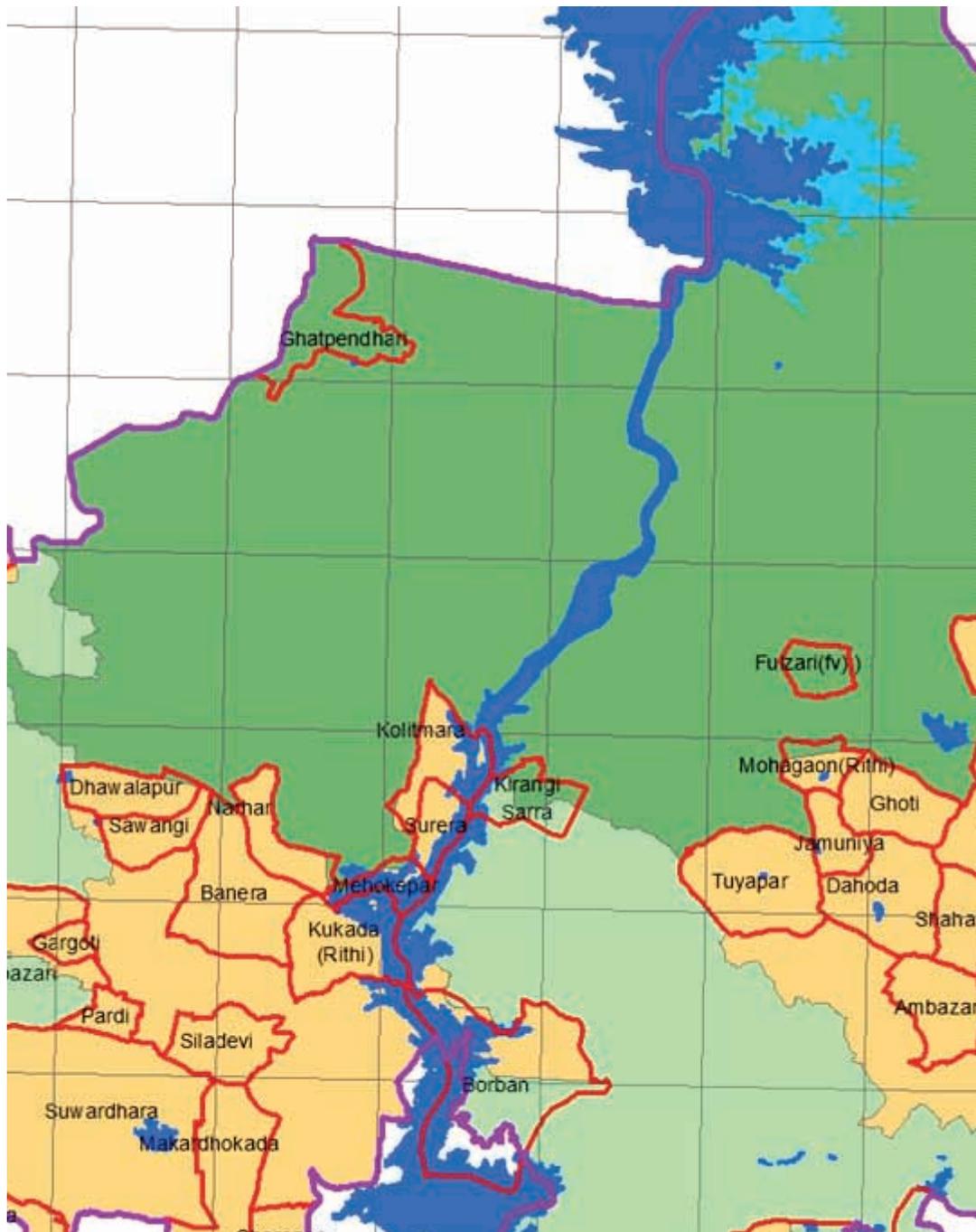
Efforts were also made to search area other than PTR Maharashtra (i.e. Pench MP) where this bird also has a sizeable presence. During the first week of April , 2021 the female had entered the cavity and the male was seen ferrying to the nest and feeding its family. The tree in which they made a nest was a Mahua Tree and the height of the nest was about 25 feet from the ground.

- Workshop by Dr Gajanan Wagh was organised for sensitisation of all,
- Places identified as possible breeding sites -Ambakhori, Rani Doh, Bodal Kahpda, Kolutmara at Lamandoh
- Photos circulated on whats app group created for interaction with field officers in this regard
- Difference between male and female was explained to the Field Officers, their habits, preferred habitats were explained



6.3.3 Result and Observation

There are large trees on the either banks of PENCH River, having cavities on the upper altitudes, i.e. near Totladoh dam till Ambakhori-Lamandoh area Malabar Pied Hornbills have abundant fruiting trees available, Umbar, Peepal, Banyan , Pakhudi, Jamun, etc. in the area



Denotes locations of sightings of Malabar Pied Hornbill during breeding season



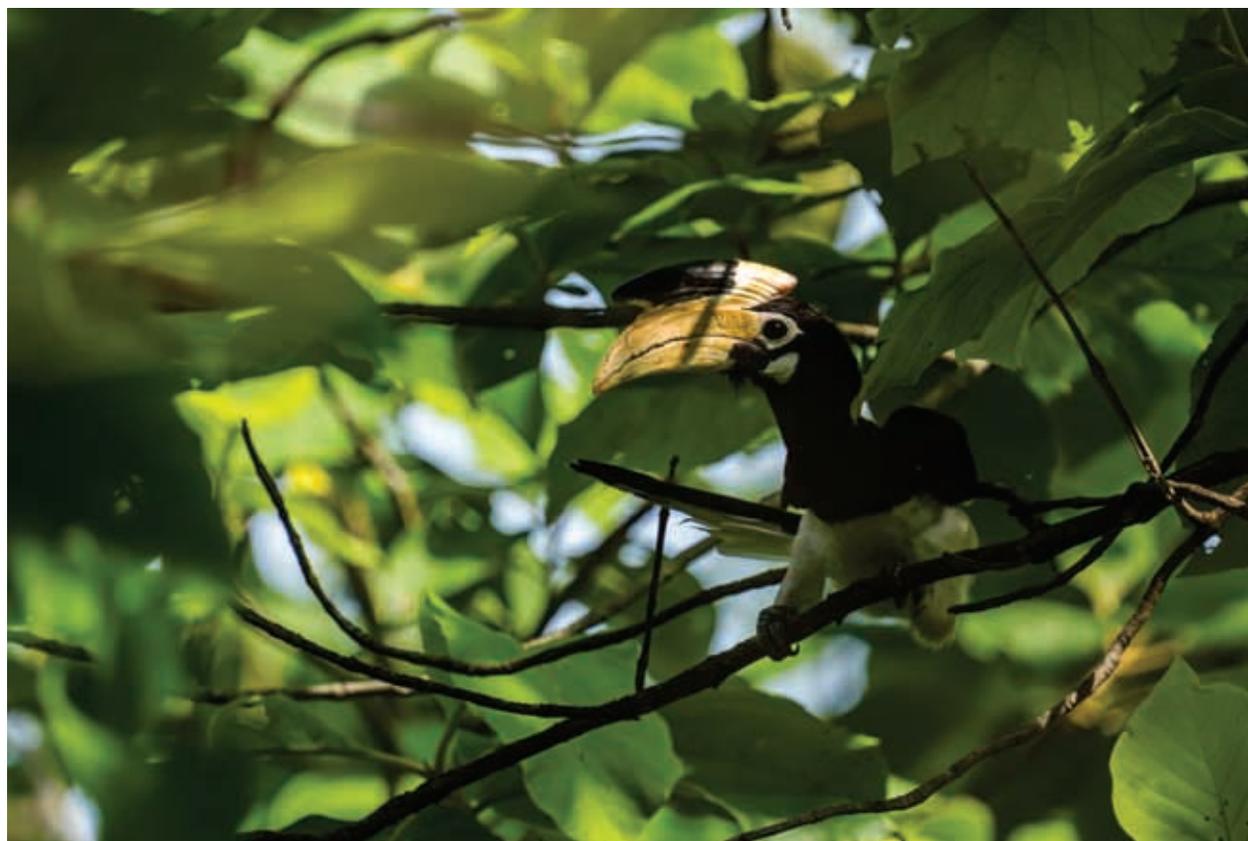
Presence of Malabar Pied Hornbill during breeding season was found in the following areas-

1. Lamandoh
2. Gawli Ghat
3. Rahi Doh
4. Tiger Top
5. Ambakhori

Due to pandemic during the crucial time of breeding, the efforts were affected.

Breeding site identified in Pench Tiger Reserve, Madhya Pradesh, on 5th April, 2021 on Mahua Tree.

Juvenile seen near Nagalwadi by jurisdictional Forest Guard One of our Forest Guards could locate a juvenile of Malabar Pied Hornbill with parents in Nagalwadi. This is very encouraging in two ways. Firstly, that our frontline officers have started taking interest in birds and birdwatching. Secondly, it also shows that the sensitisation and training in birds has started showing its effect.





6.4 Study of birds and their varied habitat usage in Navegaon Khairi and Totladoh

6.4.1 Habitat Description

In order to analyse the contrast situation of the presence of a larger number of birds at Navegaon Khairy as against those at upper Totladoh dam, observations are being made by visiting the areas so as to observe flora, fauna, altitudinal difference, density of trees, gradient of land mass from the water body, anthropological activities, fishing, presence of farms, vicinity of villages nearby and the observations have been summed up in the subsequent paras.

6.4.1.1 Anthropological presence

It is observed that Totladoh dam is a huge reservoir having lot of water depth and is also surrounded by forest from all sides with little existence of any human settlement nearby. In view of the same it can be seen that the birds usually found in the company of human settlement such as Myna, Crow, Dove, Pigeon, Sparrow, Munia, Parakeet, Baya are seen in less number and forest birds are mostly seen and the number of species is also less as compared to that seen in Navegaon Khairy.

The area around Navegaon Khairy is surrounded by clusters of villages and agriculture fields. The birds prefer such areas which have a combination of both the forest as well as farms and open spaces. The birds usually seen in urban areas are found here in addition to the birds of forest and this is one of the reasons why the checklist of the area shows a greater diversity as compared to the upper areas of the dam.

The agricultural lands and activities carried out thereon by farmers attract more birds in search of caterpillars and pests on the crop. Even when farmers burn stubble in fields some birds visit the burning areas in search of insects etc. which are mostly Drongos, Bee eaters, and Rollers. Grazing cattle would attract cattle egrets and so on.

It is also observed that at Navegaon Khairy area fishing activity is vigorous and birds come to feed on fish either caught by fishermen or thrown away as refuse and hence we see more birds, Terns and Kingfishers to name a few. Waters being shallow at Navegaon Khairy, the small fish are abundant. Further scavengers birds as also Fish Eagle prefer such areas. We recorded four numbers of Fish Eagle in one single visit to Bor Ban area. They were also seen when we took small fisherman boat and went from Kunwara Bhiwsen.

6.4.1.2 Water depth, topography of the area

Another important factor which plays an important role is that the water at Navegaon



Khairy is shallow and is preferred by waders which are abundant and this explains a longer list of birds frequenting the said area. The topography of Navegaon Khairy can be explained as an area having shallow water, followed by open spaces and vast grassy patches leading to gradual slopes and then hills covered by forest, as an illustration - Borban. Further Suwardhara, Narhar etc are satellite lakes which allow the birds to fly from one place to another in search of better food availability and they also need a neighbouring lake to shift to, in case of threat perception on any account. The presence of such sites makes the habitat around Navegaon Khairy a sought after place for birds over Totladoh Dam area which is located at higher altitude than Navegaon Khairy.

No doubt there are a few good lakes in Totladoh but the same have forest around them. With some exceptions of Pipariya and Wagholi lake where bird population was significant other lakes are not preferred by most birds for the reasons stated hereinabove.

It is observed that the area near Navegaon Khairy has more marshes, all types of habitat and more meadows. Thus all factors being suitable the bird activity is more on this side of the area.

We noticed River lapwing, at Namdeo Kuti which was also seen in Gauli ghat, where the water from dam makes its exit. Cormorants and little egrets with pond herons were also seen at both places. Further the area at Navegaon Khairy also had presence of Darter yet another bird categorised under 'Near Threatened'.

6.4.1.3 Preference for roosting

An interesting development that has been noticed during the last few visits to the area is that a huge congregation of Indian Cormorants numbering about 1000, fly from south i.e. Navegaon Khari towards upper dam i.e. Totladoh and return in the evening. Thus it is interesting to note that the birds have a definite preference to the Navegaon Khairy as compared to upper dam for roosting. Further it also shows that the food availability in upper reservoir is enough to support a huge bird population. We also noticed a large heronry on the national highway near Amdi, on a couple of Tamarind Trees.

6.4.2 Methodology

Methodology adopted to arrive at the reasons for the above was by study of micro habitat and ecosystem in the areas around villages visited, vegetation as well as the insects and crustaceans which are preferred by birds were noted. It was seen that in Navegaon Khairy the number of snails, and other crustaceans which are mostly eaten by Asian Openbill Stork were found in great quantities. Presence of silt and mud was also



noticed which is useful for waders of small size as well as swifts and swallows which make nests of mud pellets. Besides remnants of old historical buildings and inner ceilings of the dams walls provide them adequate places to make nest.

It is also worthwhile to mention that the area lying to the North-West of the Totladoh does not fall under PTR Maharashtra and hence the same is not considered for making observations for the present project.

We also noticed a nest of Vulture near old Boat Camp. However the same was not occupied during the day of visit. The old known nesting places also were not found occupied.

6.4.3 Results and Observations

Both are wetlands and riparian zones yet the number and diversity of the birds recorded during the visits at Navegaon Khairi is much more than those seen in Totladoh side. We recorded our observations during visits and the same are summarised as under –

There is altitude difference between the two places of about 100 metres

The depth of water is more in Totladoh than in the most are of Navegaon

Navegaon Khairi has more shores and flats

The Totladoh had a colony of irrigation and is surrounded by dense forest as compared to Navegaon Khairi hence more Forest birds and birds of prey are seen which are very rarely seen in Navegaon Khairi, for example, Crested Serpent Eagle, Vultures, Malabar Pied Hornbill.

As against this the waders, Terns, Gulls, Storks, Plovers, Darters, Pratincoles, Sandpipers, Stint, Stilt, Whistling ducks, Teals, Snipes, find easy food in the shallow areas of Navegaon Khairi.

The fishing activity in Navegaon Lake also helps birds to find food. This explains the presence of Fishing Eagles as well as Osprey in good numbers in the area.

Since there is a good grass cover in the Bor Ban area on Chorbauli side, passerine birds are found in large numbers, such as Munias, Bayas, Larks, and even swallows, martins and swifts. They also find it a suitable place for breeding.

The lower areas of Navegaon Khairi are well connected to the farmlands and villages and hence the birds which are usually associated with human settlements are also found. Totladoh once had a colony but now it is core area and uninhabited by human settlements.

Presence of food such as crustaceans, fish, molluscs in abundance explains the presence of Storks on a large scale.



6.5 Imparting training to the field / frontline officials of forest department and their capacity building regarding birds

6.5.1 Methodology

6.5.1.1 Indoor Training

Indoors training sessions using Power Point Presentation were organised showing various birds found in PTR. Besides this, the plant and bird relationships were also discussed in the PPT. Further clues regarding look alike birds and their pointers for identification were also included in the presentations. Some intricacies of the birds were also made known in the said presentations. Further sessions from experts on Malabar Pied Hornbill and Forest Owlet were also organised to make the personnel conversant with various birds and their habits and habitats.

Forestry App introduced for bird identification:

The officers were trained to install and use the app for bird identification which has been designed by Sh Omkar Kekre, Sh Rohit Hazare and Ms Srushti Mehatkar. The app is named as Forestly and is available on Play Store. The field officers were being encouraged to use it more and more so that identification of the bird was not an issue.

- Indoor Training sessions – bird id, bird habitats, important birds, calls, breeding plumages etc.
- Field Training
- App named Forestly made by TERN a team of young Engineers and members of CIBA for bird id made available and explained
- Creation of a group on social media exclusively for birds identification
- The training yielded good results, the officers started making discovery of nests of various birds, would take interest in knowing calls, helped in finding various hot spots
- They were trained about various types of habitat, riparian zones, birds of closed canopy, grassland birds, migratory birds, water fowls
- Bird field guides were distributed for the ease of identification

6.5.1.2 On Field training

In addition to this, those officials who accompanied CIBA team members during their field visits were also imparted onsite training as and when the birds sighting were noted and in addition some special characteristics of such birds were also mentioned in order to make them understand bird behaviour. Further discussions were also made about various habitats of birds and micro and macro habitats were explained to them.

Such teams were in small groups and included STPF guards, some of whom were very much interested and enthusiastic in knowing birds, as also a few lady officers who were seen to take keen interest. It is also noteworthy mention that some of the beat guards have good cameras and binoculars and are actually using them. One of the guards has also showed us a PPT on birds made by him. We would insist during our visits that such officers accompanied us. Not to lag behind is one driver, who stopped the vehicle when he sighted a Malabar Pied hornbill on his side of the vehicle. The response received by us is overwhelming.



To make the officers familiar with birds field guides were also shared and photographs taken during visits were showed in close up to show them detailed features of the birds seen.

We also encouraged van majoors staying in the kutis to join us and they too were briefed about birds, plants and conservation.

With the active support of all those on the field we could explore new areas in vehicle as well as on foot and got good results in the form of a good number of bird sightings. As an illustration at Contra utaar nala side while on foot and in dense bamboo plantation we could sight an Emerald Dove and other birds with the help of van majoors.

It was heartening to note that in a short span the training efforts are bearing fruits and it can be said that the officers are very much sensitised, are taking interest in birds and it is learnt that a few of them are doing bird watching sessions on their own. This could happen only due to the fact that the present set of officers at PTR are all very much keen to learn the jungle, are well read, they are referring books and the results of training sessions have started to show. It is hoped that in the days to come more and more officers would get conversant with the subject.

The only big handicap faced was the lockdown situation due to COVID pandemic. Undeterred with this, we initiated formation of a WhatsApp group, a no-nonsense group to deal with only birds and their photographs. The same has also been well received and a few officers are posting the photographs of the birds clicked by them.





6.6 Study of birds in the totladoh colony & nearby under NAFCC project

It is noticed that the area under NAFCC was earlier a colony of the personnel deployed for construction of dam and was set up on forest land. The land was not under cultivation prior to the setting up of the colony.

It is also seen that the said colony was evacuated during 2003 and till 2019 the same remained uninhabited and in ruins. Earlier, since there was no farming activity done in the said area, the birds which are usually associated with the agricultural activity and human settlement were not present at anytime in the past and till today. The said area could at the best be termed as a past Township and related birds such as Myna, Barbet, Asian Koels were seen but not baya, laughing doves etc. If we compare older villages around PTR it can be seen that the same have been under cultivation traditionally and hence the farm associated / village associated population of birds is noticed in the areas near such villages, but not in NAFCC.

6.6.1 Methodology adopted

We met Shri Girish Vasisht Sir, Retd DFO and looking after the project of NAFCC who gave his valuation inputs in the matter and also advised to meet the representatives of WII. We had discussion with Sh Yash Dabholkar and Sh Purohit, both WII researchers, on various aspects and have tried to align our rapid survey findings with their studies.

6.6.2 Result and Observation

6.6.2.1 Bird potential

It is felt that the area under NAFCC has a tremendous potential for birds as a large number of insects and butterflies were seen. Putting up of artificial nests can also be considered. While booking safari – routine booking would have 30 mins of interpretation centre, those who are not inclined to avail may be charged more to encourage birds related tourism. Creation of bird trails for bird watching in the NAFCC area can also help attract people towards bird tourism and tourist may return with information about the forest and birds and animals. The habitat is suitable for trail.

It is seen that the Grey Hornbills have made the back side of the Irrigation Rest house and back side their favourite place for roosting and we could count about 50 individuals in the evening. This could be attributed to the fact that there are a large number of huge Ficus and Arjuna trees and water is abundant. It is a major foraging ground for both Malabar Pied Hornbill and Indian Grey Hornbill.

6.6.2.2 Vegetation and plants

A study of the area indicated that it has a good vegetation and old plants which are very much



conducive for birds. There are a few flowering plants near temple, such as Nerium, bitti, eranthymum etc where Sunbird, Common Myna, Robins are easily seen alongwith winter migratory birds like various flycatchers. The place where a Miawaki plantation is taking shape has a couple of ponds for birds which need to remain filled even in summer for birds and their prey – butterflies, flies, bees, etc. The area also has flowering plants and plants of Drumstick, Chichbilai, Aroni (*Zizyphus oenoplea*), and other *Zizyphus* sp., fruit/fig bearing trees, Palas, which are helpful for inviting birds to the area throughout the year

6.6.2.3 Water availability

It is strongly felt that the old streams, undulations and natural ponds may be maintained and the terrain may also be maintained instead of levelling to enable movement of cursorial birds and other birds as well.

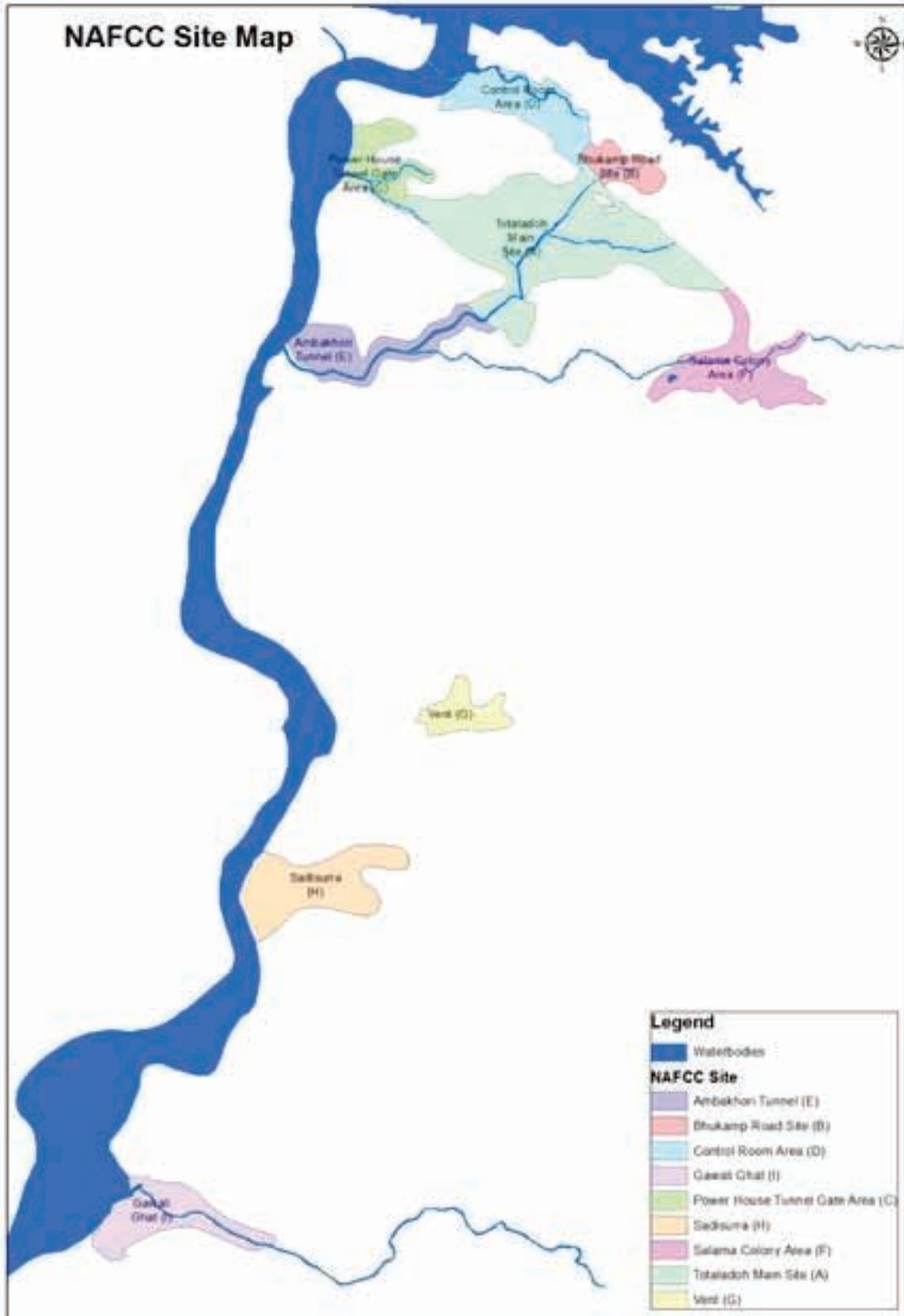
During the initial period of the rapid study demolition of the edifices at the irrigation colony was in progress and there was lot of disturbance and hence less number of birds were seen. However as the same was over subsequently the bird activity resumed.

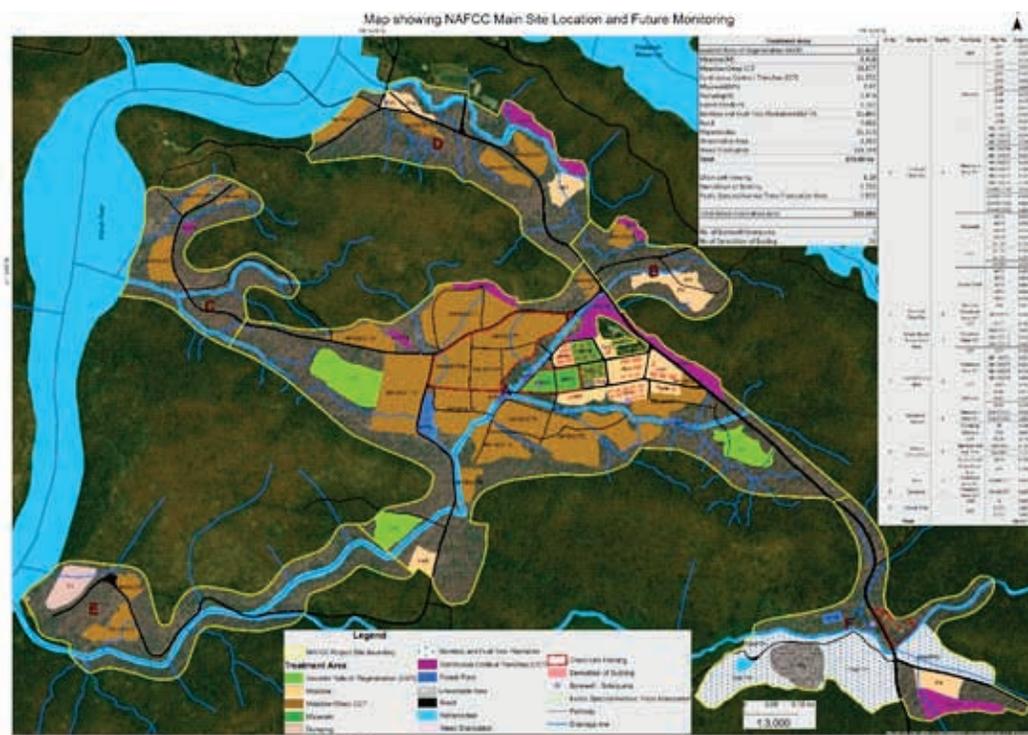
Visits paid to the areas indicated that after the demolition of civil structures, the birds which used to share human habitat, viz. sparrow, myna, robins, etc have become rare and their place is being taken by Barbets, flycatchers. Roosting of Malabar Pied Hornbill is also seen, so also Grey hornbills (40) We also saw Rudy Shelduck pair.

Good habitat for birds throughout the year. Creation of small ponds invited flycatchers, warblers, loras, etc. alongwith bigger birds such as peacock. Hariyals also seen. Red Jungle Fowls were also seen in a congregation of about 50 plus at a place.

The area has a good number of peacocks as well.

Presence of large trees and bamboo in the adjoining areas and the riverside in the neighbourhood makes the place a good habitat.

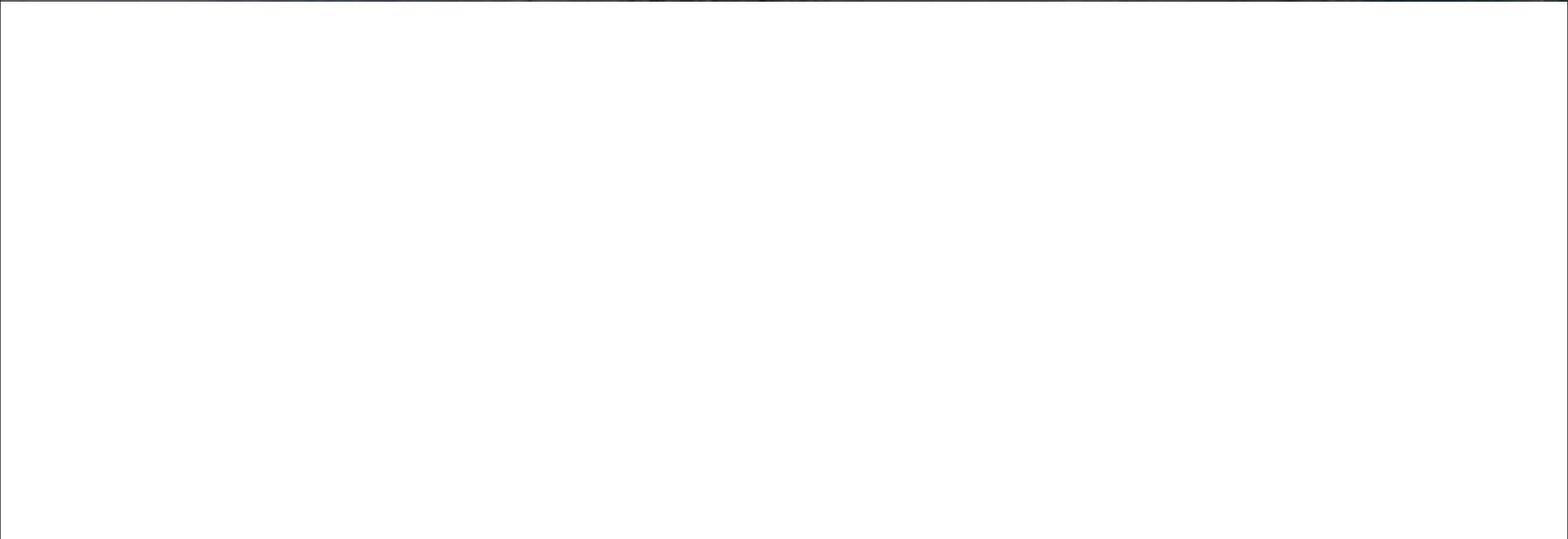




6.6.4 Summary of observations

- The area has a varied habitat, stream, river, high elevations, traces of human habitat
- There are a few temples, Sai Baba, Lord Mahadeo, Lord Hanuman and at these places some exotic plants were planted which are still flowering and fruiting providing a different habitat for small birds such as Prinias, Tits, Yellow Throated Sparrow etc. as well as Drongos and Kingfishers
- There are large Ficus Trees in the surrounding areas which attract Barbets, Hornbills
- The area is a roosting place for Hornbills. We saw about 50 Grey Hornbills past dusk and in the dark hours roosting near the MP Irrigation Guest House
- The Miyawaki plantation started and the areas has become lush green
- It has already started attracting birds for roosting, especially small birds, munias, prinias, tailor birds, Yellow eyed Babblers, Sunbirds which also find Drumstick, Chichbilai, Aroni (Zizyphus oenoplea), and other Zizyphus varieties, fruit/fig bearing trees, Palas and babools a favourite foraging place.
- A large number of butterflies were observed and were mudpuddling .
- Flycatchers were found in good numbers feasting on butterflies and bees and so were bee eaters.
- Quails, Francolins were also seen
- The creation of ponds with adequate water has helped retaining the local birds for the whole year. **Season's first sighting of Black Redstart was noted by us at Miyawaki plantation.**
- It is noticed that a few old structures have been retained at the site. The same can be converted into interpretation centres where tourists can rest during safaris and can watch documentaries or presentations on birds, so as to create awareness about bird conservation.







SUGGESTIONS AND RECOMMENDATIONS



7.0 SUGGESTIONS AND RECOMMENDATIONS

i) Preparation of checklist of the birds seen in the area in all the four seasons alongwith status

Checklist of the birds of any area is a dynamic list and needs to be updated constantly. In order to ensure that the list is always updated we suggest following steps: The Beat Guards, Tourist Guides and Vanmajoor are the persons who visit the forest more often than anyone else. Hence if there is any significant bird sighting by them and if such sighting is reported to a nodal person specifically nominated for the purpose, it will help ascertain the veracity of the sighting of the birds and the list can be updated after due verification.

The tourists can also be asked to report any significant sightings of the birds at the end of the safaris, and leave their contact details so that after due verification of the information provided by them the birds list can be updated.

The data of birds checklist can be further made use of for the purpose of conservation work and / or detailed study.

ii) Exploring the existence of Forest Owlet in Pench area

The habitat of Pench is very much suitable and conducive for the Forest Owlet especially the areas near the fringes of forest and villages, which are having teak plantations.

If villagers and our frontline officers are further sensitised and encouraged to keep watching and looking for the Forest owlet, more inputs will be available.

iii) Identification of the breeding sites of Malabar Pied Hornbill

The pairs of Malabar Pied hornbill are seen frequenting the banks of Pench River and hence efforts to locate their breeding areas are needed to be taken on either side of Pench. On the east side the area from Rani doh to Gauli Ghat till Ambakhori and on the West side the area from Dati Zira to Lamandoh are needed to be watched during the breeding season.

It is also felt that the patrolling teams of frontline officers can play a vital role in locating the places of roosting of the Malabar Pied hornbill.

iv) Study the birds and their varied habitat usage in Totladoh as against that in Navegaon Khairi

The area at Navegaon Khairi is having abundant population of birds. The same is required to be kept sanitised from tourist visits to ensure that the birds do not get disturbed. Some important birds such as Greater Grey-headed Fish Eagle, Storks, Darters etc are regularly seen at the place.

It was also seen that huge flocks of Indian Cormorants travel towards Totladoh lake in the month of June-July daily from the Southern side. In order to have a heronry/nesting site of egrets, storks and other similar birds plantation of tamarind, wood apple can be considered at places within two to three km radius of the lakes so that the bird population at the lakes is retained .



v) Imparting training to the field / frontline officials of Forest Department and their capacity building regarding birds

The effect of training to the frontline officers yielded good results. The officers could locate nests of Pitta, reported sightings of Malabar Pied Hornbill juveniles and were able to locate the nest of Coot near Pipariya. Thus training proved to be very useful tool. However, it is felt that if the same is made a regular event, once a month and on important days, the officers would benefit immensely. It is further felt that onsite training helps the officers to improve the identity of the birds and indoor training improves their knowledge about the birds seen on field.

Training on regular basis would also take care of the changes in the postings of the frontline officers and would provide adequate opportunities to them to get acquainted with the birds of the region and would help in forming a vision in planning for conservation of forests.

The officers who received training and took active interest have started birding on their own. If a suitable entry in their Annual Appraisal Report can be made in this regards, it will not only encourage them to learn more and it would also facilitate identification of trained officers.

vi) Study of birds in the Totladoh colony and nearby under National Adaption Fund for Climate Change project

The area is rapidly changing into a good green cover and attracting butterflies, insects and small birds already. There are various ponds and large trees as well as canopies. From Flycatchers to Green Pigeons to Red Jungle fowls, all birds have already made this place their home.

It is felt that regular monitoring of the area from bird point of view would be a good subject to study as the landscape of the area is changing fast.

It is suggested that if a public bio diversity register is kept at the place where tourists, locals etc can mention their finds of birds , medicinal plants etc it would serve as a database. Birds too use medicinal plants and hence training of the officers in this regard would come useful in conservation planning.

Other Suggestions

It is felt that if a bird related nodal office is created for information, data collection and bird study, it would be beneficial from the bird conservation point of view.

Establishment of Joint Forest Management and Biodiversity Committees: No project is successful without the involvement of the locals. The sense of ownership of the forest and its resources amongst the villagers is very important. In order to make the make the plantation successful it is suggested to involve the locals. This can be done by establishing Joint Forest Management and Biodiversity Committees in the nearby villages. This will also help to understand the indigenous knowledge of the locals and accordingly the plantation of locally important trees and shrubs which attract birds can be carried out. The committee will also be responsible for sensitizing the locals for increasing their knowledge about birds and their importance. The committee will give special emphasis on sensitization of locals for Forest Owlet and Malabar Pied Hornbill



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Note – Covid has created a few obstacles in the smooth functioning and due to the lockdown the work has been hampered and may require more time period to achieve proper result effective as we lost important days of bird breeding.

Annexures – Checklists

CHECKLIST OF BIRDS OF PENCH TIGER RESERVE						
Sr. No.	Bird Name Family name / Common name	Scientific Name	Red Data	Resident Status	Marathi Name	
Podicipedidae (1)						
1	Little Grebe	<i>Tachybaptus ruficollis</i>	LC	R	टिक्कली	
Phalacrocoracidae (2)						
Cormorants/Shags						
2	Great Cormorant	<i>Phalacrocorax carbo</i>	LC	LM	मोठा पाणकवडा	
3	Indian Shag (Cormorant)	<i>Phalacrocorax fuscicollis</i>	LC	R	भारतीय पाणकवडा	
4	Little Cormorant	<i>Microcarbo (Phalacrocorax) niger</i>	LC	R	छोटा पाणकवडा	
Anhingidae (3)						
Darters						
5	Oriental Darter	<i>Anhinga melanogaster</i>	NT	LM	निरनर	
Ardeidae (4)						
Hérons, Egrets, Bitterns						
6	Cattle Egret	<i>Bubulcus coromandus (B. ibis)</i>	LC	R	गाय कण्ठा	
7	Great Egret	<i>Egretta alba (Casmerodius albus)</i>	LC	R	मोठा कण्ठा	
8	Intermediate Egret	<i>Egretta (Mesophou) intermedia</i>	LC	R	मध्यम कण्ठा	
9	Little Egret	<i>Egretta garzetta</i>	LC	R	छोटा कण्ठा	
10	Black-crowned Night-heron	<i>Nycticorax nycticorax</i>	LC	R	रात डीकरी	
11	Grey Heron	<i>Ardea cinerea</i>	LC	R	ग्राही कण्ठा	
12	Indian Pond-heron	<i>Ardeola arauii</i>	LC	R	डीकरी	
13	Purple Heron	<i>Ardea purpurea</i>	LC	R	जंभडा कण्ठा	
14	Striated (Little Green) Heron	<i>Butorides striata</i>	LC	R	डिक्की डीकरी	
15	Black Bittern	<i>Dupetor flavicollis</i>	LC	R	काळा तामस	
16	Chestnut (Cinnamon) Bittern	<i>Ixobrychus cinnamomeus</i>	LC	R	बदामी तामस	
17	Yellow Bittern	<i>Ixobrychus sinensis</i>	LC	R	पिवळा तामस	
Ciconiidae (5)						
Storks						
18	Asian Openbill (Stork)	<i>Anastomus oscitans</i>	LC	R	अमुडा चौकीचा कडकोचा	
19	Black Stork	<i>Ciconia nigra</i>	LC	WM	काळा कडकोचा	
20	Painted Stork	<i>Mucrobia leucocephala</i>	NT	R	मलिन कडकोचा	
21	Wolly-necked Stork	<i>Ciconia episcopus</i>	VU	R	गाढ्या कानेचा कडकोचा	
Threskiornithidae (6)						
Ibises Spoonbills						
22	Black-headed (White) Ibis	<i>Threskiornis melanocephalus</i>	NT	R	कडवा डोक्याचा शरटी	
23	Glossy Ibis	<i>Plegadis falcinellus</i>	LC	WM	गौर शरटी	
24	Indian Black (Red-naped) Ibis	<i>Pseudibis papillosa</i>	LC	R	काळा शरटी	
25	Eurasian Spoonbill	<i>Platalea leucorodia</i>	LC	R	सप्या	
Anatidae (7)						
Swans, Geese, Ducks						
26	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	LC	R	छाट्टी-बुकू बडक	
27	Knob-billed (Comb) Duck	<i>Sarkidiornis melanotos</i>	LC	R	नक्रा बडक	
28	Lesser Whistling-duck (Teal)	<i>Dendrocyana javanica</i>	LC	R	अर्दी	
30	Ruddy (Brahminy) Shelduck	<i>Tadorna ferruginea</i>	LC	WM	भडगाक	
31	Bar-headed Goose	<i>Anser indicus</i>	LC	WM	गारभस	
32	Common Teal	<i>Anas crecca</i>	LC	WM	नक्राग बडक	
33	Cotton Teal (Cotton Pygmy-geese)	<i>Nettapus coromandelianus</i>	LC	R	कणक बडक	
34	Eurasian Wigeon	<i>Mareca (Anas) penelope</i>	LC	WM	सगा बडक	
35	Gadwall	<i>Mareca (Anas) strepera</i>	LC	WM	मलिन बडक	
36	Garganey	<i>Querquedula (Anas) querquedula</i>	LC	WM	भुई बडक	
37	Northern Pintail	<i>Anas acuta</i>	LC	WM	सगरा बडक	
38	Northern Shoveller	<i>Spatula (Anas) clupeiata</i>	LC	WM	भाट्या बडक	
39	Common Pochard	<i>Authya farina</i>	VU	WM	छोटी लालसी	
40	Ferruginous (White-eyed) Pochard	<i>Authya nuroca</i>	NT	WM	नरवारी बडक	
41	Red-crested Pochard	<i>Netta (Rhodonessa) rufina</i>	LC	WM	सोडी लालसी	
42	Tufted Duck (Pochard)	<i>Authya fuligula</i>	LC	WM	गोडी बडक	
Accipitridae (8)						
Hawks, Eagles, Buzzards, Old World Vultures, Kites, Harriers						
43	Oriental Honey-buzzard	<i>Pernis ptilorhynchus</i>	LC	R	सधुवज	
44	Black-shouldered (Black-winged) Kite	<i>Elanus caeruleus</i>	LC	R	काकणी चार	
45	Black Kite	<i>Milvus migrans quivinda</i>	LC	R	चार	
46	Grey-headed Fish-eagle	<i>Ichthyophaga ichthyaetus</i>	NT	R	ग्राही डोक्याचा मत्स्यखड	
47	Egyptian Vulture	<i>Neophron percnopterus</i>	EN	R	भाट्टी निगाड	
48	White-rumped Vulture	<i>Gyps bengalensis</i>	CE	R	गाढ्या पंढीचे निगाड	
49	Indian (Long-billed) Vulture	<i>Gyps indicus</i>	CE	R	गाढ चौकीचे निगाड	
50	Griffon Vulture	<i>Gyps fulvus</i>	CE	WM	सुनिलान निगाड	
51	Red-headed (King) Vulture	<i>Aegypius casus</i>	CE	R	गौर निगाड	
52	Short-toed snake Eagle	<i>Circus caillius</i>	LC	R	आवडू केटीचा सरीखड	
53	Crested Serpent Eagle	<i>Spilornis cheela</i>	LC	R	सैकाला सरीखड	
54	Western Marsh Harrier	<i>Circus aeruginosus</i>	LC	WM	दरवली भोक्या, दरवली हरिया	
55	Pallid Harrier	<i>Circus macrourus</i>	LC	WM	सोडका भोक्या	
56	Montagu's Harrier	<i>Circus puararus</i>	LC	WM	सोडक्या भोक्या	
57	Shikra	<i>Accipiter badius</i>	LC	R	शिखर	
58	Besra Sparrowhawk	<i>Accipiter virgatus</i>	LC	R	बेसरा चिगाणार ससागा	
59	Eurasian Sparrowhawk	<i>Accipiter nisus nisosimilis</i>	LC	WM	सुनिलान चिगाणार ससागा	
60	White-eyed Buzzard	<i>Buteo tessa</i>	LC	R	तिसा	
61	Black Eagle	<i>Ictinaetus malauensis</i>	LC	LM	काळा गरड	
62	Indian spotted Eagle	<i>Clanga (Aquila) hastata</i>	VU	R	छोट्या तिनक्याचा गरड	
63	Greater spotted Eagle	<i>Clanga (Aquila) clanga</i>	VU	WM	मोठा तिनक्याचा गरड	
64	Bonelli's Eagle	<i>Aquila (Hieraetus) fasciatus</i>	LC		बोनेलीचा गरड	
65	Booted Eagle	<i>Hieraetus pennatus</i>	LC	WM	सडक्या गरड	
66	Crested Hawk-Eagle	<i>Nisaetus (Spizaetus) cirrhatus</i>	LC	R	भोक्या	
67	Tawny Eagle	<i>Aquila rapax</i>	LC	R	शिखर गरड	
Pandionidae (9)						
Osprey						
68	Western Osprey	<i>Pandion haliaetus</i>	LC	WM	केकर	
Falconidae (10)						
Falcons						
69	Common Kestrel	<i>Falco tinnunculus</i>	LC	WM	सामान्य कहरि	
70	Red-headed Falcon	<i>Falco chicquera</i>	LC	WM	लाल डोक्याचा ससागा	
71	Eurasian Hobby	<i>Falco subbuteo</i>	LC	WM	भुस ससागा	
72	Peregrine Falcon	<i>Falco peregrinus peregrinator</i>	LC	WM	अरिणी ससागा / ग्राही ससागा	
73	Amur Falcon	<i>Falco amurensis</i>	LC	WM	अमूर ससागा	
Phasianidae (11)						
Pheasants, Francolins, Quails						
74	Painted Francolin	<i>Francolinus pictus</i>	LC	R	मलिन तित्तिर	
75	Grey Francolin	<i>Francolinus pondicerianus</i>	LC	R	ग्राही तित्तिर	
76	Common Quail	<i>Coturnix coturnix</i>	LC	WM	सामान्य लावा	
77	Rain Quail	<i>Coturnix coromandelica</i>	LC	R	भाक्याळी लावा	
78	Jungle Bush-quail	<i>Perdica asiatica</i>	LC	R	जंगल लावा	
79	Rock Bush-quail	<i>Perdica araoandah</i>	LC	R	खडका लावा	
80	Red Spurfowl	<i>Galloperdix spadicea</i>	LC	R	लाल बकरोडी	
81	Painted Spurfowl	<i>Galloperdix lunulata</i>	LC	R	मलिन बकरोडी	
82	Red Junglefowl	<i>Gallus gallus</i>	LC	R	लाल सनकोबडा	
83	Grey Junglefowl	<i>Gallus sonneratti</i>	LC	R	ग्राही सनकोबडा	
84	Indian Peafowl	<i>Pavo cristatus</i>	LC	R	सोरा	
Turnicidae (12)						
Buttonquails/ Bustardquails						
85	Small Buttonquail	<i>Turnix sylvaticus</i>	LC	R	सामान्य बडलावा	
86	Yellow-legged Buttonquail	<i>Turnix tanki</i>	LC	R	पिवळा पायाचा बडलावा	
87	Barred Buttonquail	<i>Turnix susciator</i>	LC	R	पंढी बडलावा	
Rallidae (13)						
Rails, Crakes, Moorhens, Coots						
88	Brown Crane	<i>Porzana akool</i>	LC	R	भारतीय चट्याकडी	
89	Eastern Bailon's Crane	<i>Porzana pusilla</i>	LC	WM	दिलसरी चट्याकडी	
90	Slaty-breasted (Blue-breasted) Rail	<i>Gallirallus striatus</i>	LC	R	पिवळा कडीली पाणकोबडी	
91	White-breasted Waterhen	<i>mourornis phoenicurus</i>	LC	R	गाढ्या कडीली पाणकोबडी	

92	Purple Swamphen (Moorhen)	<i>Porphyrio (porphyrio) poliocephalus</i>	LC	R	जोफरी पानकोबडी
93	Common Moorhen	<i>Gallinula chloropus</i>	LC	R	काली पानकोबडी
94	Eurasian Coot	<i>Fulica atra</i>	LC	R	नारको
Jacaniidae (14)					
Jacanas					
95	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	LC	R	लाल सेप्टीका कमलरानी
96	Bronze-winged Jacana	<i>Metopidius indicus</i>	LC	R	कमल-पंखी कमलरानी
Rostratidae (15)					
Painted-snipes					
97	Greater Painted Snipe	<i>Rostratula benahalensis</i>	LC	R	मोत पानलगा
Charadriidae (16)					
Plovers, Lapwings					
98	Pacific Golden-plover	<i>Pluvialis fulva</i>	LC	WM	सोम पिङ्गलगा
99	Little Ringed Plover	<i>Charadrius dubius</i>	LC	R	छोटा केशी पिङ्गलगा
100	Kentish Plover	<i>Charadrius alexandrinus</i>	LC	M	मोटा पिङ्गलगा
101	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	LC	R	माल्टिटी
102	Red-wattled Lapwing	<i>Vanellus indicus</i>	LC	R	टिडो
103	River Lapwing	<i>Vanellus duvaucelli</i>	NT	R	नदी टिडो
Scolopacidae (17)					
Sandpipers, Stints, Snipes, Godwits, Curlews					
104	Common Snipe	<i>Gallinago gallinago</i>	LC	WM	सामान्य पानलगा
105	Western Black-tailed Godwit	<i>Limosa limosa</i>	LC	WM	कमला सेप्टीका पानलगा
106	Spotted Redshank	<i>Tringa erythropus</i>	NT	WM	डिप्लोका टेलर
107	Common Redshank	<i>Tringa totanus</i>	LC	WM	सामान्य टेलर
108	Common Greenshank	<i>Tringa nebularia</i>	LC	WM	सामान्य पिङ्ग टेलर
109	Common Sandpiper	<i>Actitis hypoleucos</i>	LC	WM	सामान्य हलारी
110	Marsh Sandpiper	<i>Tringa stagnatilis</i>	LC	WM	पिङ्गली हलारी
111	Green Sandpiper	<i>Tringa ochropus</i>	LC	WM	हिली हलारी
112	Wood Sandpiper	<i>Tringa alareola</i>	LC	WM	डिप्लोका हलारी
113	Eurasian Curlew	<i>Numenius arauata</i>	LC	R	मोमिअन कोल
114	Little Stint	<i>Ereunetes (Calidris) minutus</i>	LC	WM	छोटा टेलर
115	Temminck's Stint	<i>Ereunetes (Calidris) temminckii</i>	LC	WM	टिडिका टेलर
Recurvirostridae (18)					
Avocets Stilts					
116	Black-winged Stilt	<i>Himantopus himantopus</i>	LC	R	गोकटा
Burhinidae (19)					
Stone-curlew, Stone-Plovers/Thick-knees					
117	Indian Stone Curlew (Indian Thick-knee)	<i>Burhinus indicus</i>	LC	R	भारतीय ककनक
118	Great Thick Knee/ Great Stone Plover	<i>Esacus recurvirostris</i>	NT	R	मोटा ककनक
Glareolidae (20)					
Courasers, Pratincoles					
119	Indian Courser	<i>Cursorius coromandelicus</i>	LC	R	भारतीय पारिक
120	Oriental Pratincole	<i>Glareola maldivarum</i>	LC	M	सूच्य अलारी
121	Small Pratincole	<i>Glareola lactea</i>	LC	R	छोटा अलारी
Laridae (21)					
Gulls, Terns, Noddies					
122	Brown-headed Gull	<i>Chroicocephalus (Larus) brunicephalus</i>	LC	WM	सर्पिकी डोकलगा कुल
123	River Tern	<i>Sterna aurantia</i>	NT	R	नदी सर
124	Little Tern	<i>Sterna albifrons</i>	LC	R	छोटा सर
125	Whiskered Tern	<i>Chlidonias hybridus</i>	LC	WM	कल्लेदार सर
Pteroclididae(22)					
Sandgrouse					
126	Chestnut-bellied Sandgrouse	<i>Pterocles exustus</i>	LC	R	मखली
127	Painted Sandgrouse	<i>Pterocles indicus</i>	LC	R	मोत पखली
Columbidae(23)					
Pigeons, Doves					
128	Rock Pigeon	<i>Columba livia</i>	LC	R	पका
129	Oriental Turtle Dove	<i>Streptopelia orientalis</i>	LC	WM	झुबेदार सेला
130	Laughing Dove	<i>Streptopelia senegalensis</i>	LC	R	छोटा सर्पिकी सेला
131	Spotted Dove	<i>Streptopelia chinensis</i>	LC	R	डिप्लोका सेला
132	Red Collared-dove	<i>Streptopelia tranquebarica</i>	LC	R	लालकेशी सेला
133	Eurasian Collared-dove	<i>Streptopelia decaocto</i>	LC	R	कमला सेला
134	Emerald Dove	<i>Chalcophaps indica</i>	LC	R	सूच्य सेला
135	Yellow-footed Green-pigeon	<i>Treron phoenicoptera</i>	LC	R	पिङ्गला गणनी हरीसे
136	Orange-breasted Green-pigeon	<i>Treron bincinctus</i>	LC	R	मालिनी छलीकी हरीसे
Psittacidae(24)					
Parakeets, Hanging-parrots					
137	Alexandrine Parakeet	<i>Psittacula eupatria</i>	NT	R	कमल पोटर
138	Rose-ringed Parakeet	<i>Psittacula krameri</i>	LC	R	पोटर
139	Plum-headed Parakeet	<i>Psittacula cuanoecephala</i>	LC	R	दुईका पोटर
Cuculidae(25)					
Cuckoos, Malkohas, Coucals					
140	Jacobin (Pied Crested) Cuckoo	<i>Clamator jacobinus</i>	LC	M	जानक
141	Common Hawk-cuckoo	<i>Hierococcus varius</i>	LC	R	पानका
142	Indian Cuckoo	<i>Cuculus micropterus</i>	LC	M	भारतीय कोकीड
143	Common Cuckoo	<i>Cuculus canorus</i>	LC	M	सामान्य कोकीड
144	Grey-bellied (Indian Plaintive) Cuckoo	<i>Cacomantis passerinus</i>	LC	M	कमल कोकीड
145	Square-tailed Drongo-cuckoo	<i>Sturniculus luabris</i>	LC	R	कोकाल कोकीड
146	Asian Koel	<i>Eudynamis scolopacea</i>	LC	R	कोकीड
147	Sirkeer Malkoha	<i>Taccocua (Phaenicophaeus) leschenaultia</i>	LC	R	लाल पीपीका मुलगा
148	Southern (Greater) Coucal	<i>Centropus (sinensis) parroti</i>	LC	R	भारत
Tytonidae (26)					
Barn Owls					
149	Common Barn-owl	<i>Tyto alba</i>	LC	R	गणनी पखड
Strigidae(27)					
Owls					
150	Indian Scops-owl	<i>Otus bakkamoena</i>	LC	R	केशी पिङ्गला पखड
151	Indian (earlier Eurasian) Eagle-owl	<i>Bubo bubo</i>	LC	R	गुपी पखड
152	Forest Eagle-owl/ Spot-bellied Eagle Owl	<i>Ketupa (Bubo) nipalensis</i>	LC	R	जल ह्या पखड
153	Dusky Eagle-owl	<i>Bubo coromandus</i>	LC	R	ककलार ह्या पखड
154	Brown Fish-owl	<i>Ketupa zeilonensis</i>	LC	R	सर्पिकी सक्कलपखड
155	Mottled Wood-owl	<i>Strix ocellata</i>	LC	R	सुंठी पखड
156	Brown Wood-owl	<i>Strix leptogrammica</i>	LC	R	सर्पिकी सक् पखड
157	Jungle Owlet	<i>Glaucidium radiatum</i>	LC	R	छोटा पिङ्गला
158	Spotted Owlet	<i>Athene brama</i>	LC	R	डिप्लोका पिङ्गला
Caprimulgidae (28)					
Nightjars					
159	Indian Jungle Nightjar	<i>Caprimulgus indicus</i>	LC	M	गणलगा
160	Common Indian Nightjar	<i>Caprimulgus asiaticus</i>	LC	R	सामान्य गणलगा
161	Savanna (Franklin's) Nightjar	<i>Caprimulgus affinis</i>	LC	R	संक्रान्तिका गणलगा
Apodidae (29)					
Swifts					
162	Asian Palm-swift	<i>Cupsiusus balasiensis</i>	LC	R	गड पकोडी
163	Alpine Swift	<i>Tachymarpis melba</i>	LC	LM	सर्पिकी पकोडी
164	Little (House) Swift	<i>Apus affinis</i>	LC	R	घर पकोडी
Hemiprocnidae (30)					
Tree-swifts					
165	Crested Treeswift	<i>Hemiprocne coronata</i>	LC	R	सोवली सक्-पकोडी
Alcedinidae (31)					
Kingfishers					
166	Common Kingfisher	<i>Alcedo atthis</i>	LC	R	सामान्य शीर
167	Stork-billed Kingfisher	<i>Pelaraopsis (Halcyon) capensis</i>	LC	R	मालकोप पौर
168	White-throated (-breasted) Kingfisher	<i>Halcyon smurnensis</i>	LC	R	मोटा सर्पिकी पौर
169	Lesser Pied Kingfisher	<i>Cerulea rudis</i>	LC	R	ककलार शीर
Meropidae (32)					
Bee-eaters					
170	Little Green Bee-eater	<i>Merops orientalis</i>	LC	R	बेहारा
171	Blue-tailed Bee-eater	<i>Merops philippinus</i>	LC	M	पिङ्गला सेप्टीका सक्
Coraciidae (33)					
Rollers					
172	Indian Roller	<i>Coracias benahalensis</i>	LC	R	भारतीय नीलरुल
173	European Roller	<i>Coracias garrulus</i>	LC	M	युरोपियन नीलरुल
Upupidae (34)					
Hoopoes					
174	Common Hoopoe	<i>Upupa epops</i>	LC	R	हडद

262	Eastern Orphee Warbler	<i>Sylvia hortensis</i>	LC	WM	ककटोप चट्टक
Muscicapinae (49)					
Flycatchers					
263	Asian Brown Flycatcher	<i>Muscicapa latirostris (daurica)</i>	LC	M	जर्बिसी मारोमार
264	Brown-breasted Flycatcher	<i>Muscicapa mutui</i>	LC	WM	जर्बिसी शरतीना मारोमार
265	Red-breasted Flycatcher	<i>Ficedula parva</i>	LC	WM	लाल शरतीना मारोमार
266	Red-throated Flycatcher	<i>Ficedula albicilla</i>	LC	WM	लाल कंठवासी मारोमार
267	Ultramarine Flycatcher	<i>Ficedula superciliosa</i>	LC	WM	बिजा मारोमार
268	Verditer Flycatcher	<i>Eumias thalassinus</i>	LC	WM	बिजा मारोमार
269	Tickell's Blue Flycatcher	<i>Cuornis tickelliae</i>	LC	R	बिजावाला बिजा मारोमार
270	Grey-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>	LC	WM	गोबी डोमवाली बिजा मारोमार
Monarchinae (50)					
Monarch Flycatchers, Paradise Flycatchers					
271	Black-naped Blue Monarch (Flycatcher)	<i>Hypothymis azurea</i>	LC	R	ककडा मनिवा आकाशी मारोमार
272	Indian Paradise Flycatcher	<i>Terpsiphone paradise</i>	LC	R	स्वर्णि शरीक
Rhipidurinae (51)					
Fantail-flycatchers					
273	White-spotted Fantail (Flycatcher)	<i>Rhipidura alboalaris</i>	LC	R	माहना कंठवाला चणवा
274	White-browed Fantail (Flycatcher)	<i>Rhipidura aureola</i>	LC	R	माहना भुईसी चणवा
Paridae (52)					
Tits					
275	Cinereous Tit (Great Tit)	<i>Parus cinereus (Parus maior)</i>	LC	R	कवडी रामना
276	Indian (Black-lored) Yellow Tit	<i>Parus aponotus</i>	LC	R	बिजाडी रामना
Dicaeidae (53)					
Flowerpeckers					
277	Thick-billed Flowerpecker	<i>Pachyalosa (Dicaeum) aqile</i>	LC	R	जल चोरीना फूलटोका
278	Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchus</i>	LC	R	शिकलवा फूलटोका
Nectariniidae (54)					
Sunbirds, Spiderhunters					
279	Purple-rumped Sunbird	<i>Leptocoma zeulonica</i>	LC	R	आंधवाला फूलवा शिकी
280	Purple Sunbird	<i>Cinnurus asiaticus</i>	LC	R	आंधवा शिकी
Zosteropidae (55)					
White-eyes					
281	Oriental White-eye	<i>Zosterops palpebrosus</i>	LC	R	अंधवाला
Emberizinae (56)					
Buntings					
282	Crested Bunting	<i>Emberiza lathami</i>	LC	R	सुँवाला भरीट
283	Black-headed Bunting	<i>Emberiza melanocephala</i>	LC	WM	ककडा डोमवाला भरीट
284	Red-headed Bunting	<i>Emberiza bruniceps</i>	LC	WM	लाल डोमवाला भरीट
Fringillidae (57)					
Finches					
285	Common Rosefinch	<i>Eruthrina (Carpodacus) eruthrina</i>	LC	WM	गोली
Estrildidae (58)					
Munias (Estrildid Finches)					
286	Red avadavat(Munia)	<i>mandava amandava</i>	LC	R	लाल मुनेली
287	Indian Silverbill(White-throated Munia)	<i>Eudice malabarica</i>	LC	R	माहना कंठवाली मुनेली
288	White-rumped Munia	<i>Lonchura striata</i>	LC	R	माहना पट्टवाली मुनेली
289	Scaly-breasted (Spotted) Munia	<i>Lonchura punctulata</i>	LC	R	शिकलवाली मुनेली
290	Tricoloured (Black-headed) Munia	<i>Lonchura malacca</i>	LC	R	ककडा डोमवाली मुनेली
Passerinae (59)					
Sparrows					
291	House Sparrow	<i>Passer domesticus</i>	LC	R	बिजावा
292	Yellow-throated Sparrow (Chestnut-shouldered Petronia)	<i>Gymnoris xanthocollis</i>	LC	R	बिजावा कंठवाली बिजावा
Ploceinae (60)					
Weavers					
293	Indian Baya Weaver	<i>Ploceus p. philippinus</i>	LC	R	सुपना
Sturnidae (61)					
Starlings, Mynas					
294	Grey-headed (Chestnut-tailed) Starling	<i>Sturnia malabarica</i>	LC	LM	ककडा डोमवाली मैना
295	Brahminy Starling	<i>Sturnia pagodarum</i>	LC	R	भारवादी मैना
296	Rosy Starling	<i>Pastor roseus</i>	LC	M	सुपनी मैना
297	Asian Pied Starling	<i>Gracupica contra</i>	LC	R	कवडी मैना
298	Common Myna	<i>Acridotheres tristis</i>	LC	R	सालुडी
299	Bank Myna	<i>Acridotheres cinainianus</i>	LC	R	सुप मैना
300	Jungle Myna	<i>Acridotheres fuscus</i>	LC	R	अमली मैना
Oriolidae (62)					
Orioles					
301	Indian Golden Oriole	<i>Oriolus kundoo</i>	LC	R	हलवा
302	Black-naped Oriole	<i>Oriolus chinensis</i>	LC	WM	सुप हलवा
303	Black-hooded Oriole	<i>Oriolus xanthornus</i>	LC	R	सुरवापरी हलवा
Dicruridae (63)					
Drongos					
304	Black Drongo	<i>Edolius macrocerus</i>	LC	R	कोरवाला
305	Ashy Drongo	<i>Edolius leucophaeus</i>	LC	R	कोरवाला
306	White-bellied Drongo	<i>Edolius caerulescens</i>	LC	R	माहना पीटावा कोरवाला
307	Greater Racket-tailed Drongo	<i>Dienunus paradiseus</i>	LC	R	भुपान कोरवाला
Corvidae (64)					
Crows, Jays, Treepies, Magpies					
308	Rufous Treepie	<i>Dendrocitta vaagabunda</i>	LC	R	डकवाली
309	House Crow	<i>Corvus splendens</i>	LC	R	ककडा
310	Indian Jungle Crow	<i>Corvus macrorhynchus culminatus</i>	LC	R	डोमवाला
Abbreviations used:-					
		1 LC - Least Concern			
		2 NT - Near Threatened			
		3 VU - Vulnerable			
		4 EN - Endangered			
		5 CE - Critically Endangered			
		6 R - Resident of India			
		7 LM - Local Migrant			
		8 M-- Migrant			
		9 WM- Winter Migrant			

55 Pallid Harrier	<i>Circus macrourus</i>	LC	WM	पाण्डुरा, भौंरवा	Head whitish, whitish male, black on primaries
56 Montagu's Harrier	<i>Circus pygargus</i>	LC	WM	मोंटगुया, भौंरवा	Rufous streak on belly and underwing coverts
57 Shikra	<i>Accipiter badius</i>	LC	R	शिक्रा	Orange barred underparts, faint grey collar stripe
58 Eurasian Sparrowhawk	<i>Accipiter nisus</i>	LC	R	असुरा शिक्रापार सलगा	Greyish head, orange streaks on breast and bars belly
59 Eurasian Sparrowhawk	<i>Accipiter nisus nisosimilis</i>	LC	WM	यूरेशियन शिक्रापार सलगा	lacks collar stripe, bars on underparts,
60 White-eyed Buzzard	<i>Bufo tesa</i>	LC	R	किता गजस	White iris in adults, black in young
61 Black Eagle	<i>Ichneutes malauensis</i>	LC	LM	उदुवा शिक्रापार गजस	Yellow legs and beak, wide wingspan, tail long and squared in flight, Black colour
62 Indian spotted Eagle	<i>Clansea (Aquila) hastata</i>	VU	WM	मोटा शिक्रापार गजस	Short and broad wings, six primaries prominently seen
63 Greater spotted Eagle	<i>Clansea (Aquila) clanga</i>	VU	WM	मोटा शिक्रापार गजस	Whitish under parts, White mantle patch, dark carpal and a black band at the tail end
64 Bonelli's Eagle	<i>Hieraaetus (Hieraaetus) fasciatus</i>	LC	WM	बोनिली गजस	White shoulder patches like headlights seen when head on
65 Hooded Eagle	<i>Hieraaetus pennatus</i>	LC	R	सुरेडमार गजस	Crest, brown streaked chest
66 Crested Hawk-Eagle	<i>Nisaetus (Nisaetus) cirrhatius</i>	LC	R	मिडार गजस	Oval nostrils, S-shedline ends level with centre of eye
67 Tawny Eagle	<i>Aquila rapax</i>	LC	R	केकर	Head whitish, dark eye strip, brown breast band
Pandionidae (9)	<i>Pandion haliaetus</i>	LC	WM		Male has a grey head and female has rufous dark wings
68 Western Osprey		LC	WM		Rufous crown and nape, barred below,
Falconidae (10)		LC	WM		streaked below white cheeks
69 Common Kestrel	<i>Falco tinnunculus</i>	LC	WM	सामान्य ऊरुकि	prominent moustachial stripes, rufous thighs and undertail coverts
70 Red-headed Falcon	<i>Falco chinnuro</i>	LC	WM	लाल शेरुकिवा सलगा	Darker than grey francolin, pale chestnut sides of head, brown crown stripe
71 Eurasian Hobby	<i>Falco subbuteo</i>	LC	WM	पुस सलगा	Buff throat with dark necklace, reddish legs
72 Peregrine Falcon	<i>Falco peregrinus peregrinator</i>	LC	WM	बर्डी सलगा / गार्डिन सलगा	Black anchor mark on throat in most males
73 Amur Falcon	<i>Falco amurensis</i>	LC	WM	अमुर सलगा	vocal during rainy season, black breast in male and a patterned head
Phasianidae (11)		LC	R		Red throat patch
74 Painted Francolin	<i>Francolinus pictus</i>	LC	R	रंगीत तिलिर	Lacks chestnut brow, dull spots on back
75 Grey Francolin	<i>Francolinus montezianus</i>	LC	R	ग्रे फ्रान्कोलिन	beak and legs red, rufous
76 Common Quail	<i>Coturnix coturnix</i>	LC	WM	सामान्य लवा	Spotting on body, fine barring
77 Rain Quail	<i>Coturnix coromandelica</i>	LC	R	पावसाळी लवा	Rufous head, neck and back, dark belly and tail
78 Jungle Bush-quail	<i>Perdix asiatica</i>	LC	R	जंगल लवा	spangled grey neck, back and belly
79 Rock Bush-quail	<i>Perdix rockii</i>	LC	R	खडक्या लवा	small sized, rufous mantle, pointed tail
80 Red Spurfowl	<i>Gallus erythropterus</i>	LC	R	लाल चकोरी	yellow legs and beak, black spots on coverts
81 Painted Spurfowl	<i>Gallus pictus</i>	LC	R	रंगीत चकोरी	Prominent black bars on throat and chest, beak grey
82 Red Junglefowl	<i>Gallus gallus</i>	LC	R	लाल रामकीबा	Plain brown above, grey below, greenish beak
83 Grey Junglefowl	<i>Gallus sonnerati</i>	LC	R	ग्रे रामकीबा	Rufous brown above, white barred flanks
84 Indian Peafowl	<i>Pavo cristatus</i>	LC	R	मोर	Barred red bill, chestnut cap and nape
Turnicidae (12)		LC	R		White breast, red cere, rufous vent, red spot on forehead
85 Small Buttonquail	<i>Turnix suluensis</i>	LC	R	सुला बटनी पायकंबडी	Purple body, Red bill and forehead
86 Yellow-legged Buttonquail	<i>Turnix tanki</i>	LC	R	तानकी पायकंबडी	Red bill and forehead, white lies on flanks
87 Banded Buttonquail	<i>Turnix susitor</i>	LC	R	पट्टी लवा	Black colour, white bill and forehead
Rallidae (13)		LC	R		Phasant like tail tips, Yellow nape, white wings with black tip
88 Brown Crane	<i>Porzana alcocki</i>	LC	R	तारुशिरा पयकंबडी	White eyebrow, black under parts, bronze coloured wings
89 Eastern Balmite Crane	<i>Porzana pusilla</i>	LC	WM	असुरा शिक्रापार सलगा	Bill curved downwards gently, female has a maroon head
90 Slaty-breasted (Blue-breasted) Rail	<i>Gallinula striatula</i>	LC	R	लॉब शेरुकिवा सलगा	Golden plumage, white underwing coverts, axillaries
91 White-breasted Waterhen	<i>Tringa erythropus</i>	LC	R	कान्दुवा-शेरुकिवा सलगा	Yellow ring around eye, necklace like black ring, round the neck
92 Purple Swampphen (Moorhen)	<i>Porphyrio porphyrio poliocephalus</i>	LC	R	पॉटुया शेरुकिवा पायकंबडी	Rufous cap, white ring on neck
93 Common Moorhen	<i>Gallinula chloropus</i>	LC	R	साडी पायकंबडी	Black cap, yellow beak and wattle
94 Eurasian Coot	<i>Fulica atra</i>	LC	R	काररी	Red wattle and beak, Black throat, black breast
Jacantidae (14)		LC	R		Floppy black crest, black chin, black face, white cheeks
95 Bristle-tailed Jacana	<i>Hydrophasianus chinensis</i>	LC	R	लॉब शेरुकिवा सलगा	White trailing edge to wings, white band on underwing
96 Bronze-winged Jacana	<i>Melospiza indicus</i>	LC	R	कादुवा-शेरुकिवा सलगा	Long pink beak, black tail
Rostratidae (15)		LC	R		Bill gently curved upwards, Green legs
97 Greater Painted Shipe	<i>Rostratula benghalensis</i>	LC	R	रंगीत पायलवा	Brown rump and brown breast patches
98 Pacific Golden Plover	<i>Pluvialis fulva</i>	LC	WM	पॅसिफिक गोल्डन प्लवियर	Lanky, white below, green legs, fine bill
99 Little Ringed Plover	<i>Charadrius dubius</i>	LC	R	छोटा कंरी शिक्रापार	Green legs, pale eyebrow, dark underparts
100 Kentish Plover	<i>Charadrius alexandrinus</i>	LC	M	कॅन्टीन प्लवियर	A prominent long downwards curved bill and white rump
101 Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	LC	R	मळपट्टी	White eyebrow, grey breast sides
102 Red-wattled Lapwing	<i>Vanellus indicus</i>	LC	R	रिडली	
103 River Lapwing	<i>Vanellus duvaucelli</i>	NT	R	नदी रिडली	
Scolopacidae (17)		LC	WM		
104 Common Snipe	<i>Gallinago gallinago</i>	LC	WM	सामान्य पायलवा	
105 Western Black-tailed Godwit	<i>Limosa limosa</i>	LC	WM	कळवा शेरुकिवा पायलवा	
106 Spotted Redshank	<i>Tringa erythropus</i>	NT	WM	शिक्रापार शेरुकिवा	
107 Common Redshank	<i>Tringa totanus</i>	LC	WM	सामान्य शेरुकिवा	
108 Common Greenshank	<i>Tringa nebularia</i>	LC	WM	सामान्य शेरुकिवा	
109 Common Sandpiper	<i>Actitis hypoleucos</i>	LC	WM	सामान्य तुलारी	
110 Marsh Sandpiper	<i>Tringa stagnatilis</i>	LC	WM	शिक्रापार तुलारी	
111 Green Sandpiper	<i>Tringa ochropus</i>	LC	WM	हिरवी तुलारी	
112 Wood Sandpiper	<i>Tringa glareola</i>	LC	WM	शिक्रापार तुलारी	
113 Eurasian Curlew	<i>Numenius arvensis</i>	LC	R	सुडान कुरल	
114 Little Stint	<i>Breunites (Calidris) minutus</i>	LC	WM	कॅटा शिक्रा	



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