

Kanha Bird Survey Protocol

version 1.0 | 15 March 2017

Kanha Tiger Reserve hosts the Kanha Bird Survey with twin objectives in mind.

- A consolidated checklist of the birds found in each forest range.
- An assessment of the relative abundance of regular birds found in each forest range.

All participants are requested to carefully read the instructions below. Any questions you may have can be discussed at the briefing session at Khatia on 17 March.

Teams and basecamps:

- Every team of 3-4 members is assigned a basecamp. A basecamp may have 1-3 teams.
- Every team is expected to do about 7-8 hours of birding in a day, divided roughly equally between morning and afternoon. This may have to be modified to suit local conditions -- eg, morning light, fog, bird-activity, animal movements etc.

Transects and segments

- Each team will be assigned two 2km-long transects to survey. These will be accessible by foot, or by the vehicles provided. Across all transects walked by different teams, a mix of different habitats (see below for categories) will be represented. Transects will be chosen so that they are **away from ponds, waterholes and other wetlands**, as far as possible. Birds in these habitats will be surveyed separately (see below).
- For each team, Transect #1 should be walked twice (18th March, morning and afternoon), and Transect #2 should be walked twice (19th March, morning and afternoon).
- The team walks along the transect and records birds in 10 contiguous segments of 200 metres each (distance estimated as described below). Each segment should take roughly 15 min to complete. In this way 2km will be covered in about 2.5 hours. The starting times for the surveys will be between 0615 and 0645 hrs (morning trails) and between 1545 and 1615 hrs (afternoon trails). Teams should budget for transport time when deciding when to leave their basecamp. Please ensure that trails are concluded before dark. Please ensure that you reach your basecamp or vehicle before dark, even if it means abandoning your transect before the end.
- **Habitat.** Each 200m segment may fall within a single habitat, or may cut across multiple habitats. Please record all birds detected, regardless of the habitat they were seen in; and for each segment, write down a rough proportion for each habitat in a segment. Eg 100% Sal. Or 30% Mixed deciduous, and 70% Grassland. This information should be added to the Trip Comments. The three major habitat types in Kanha are Pure Sal Forest, Mixed Deciduous Forest, and Grassland.

Measuring 200m segments

- Accurately measuring 200m segments of the transect in order to decide when to start a new list is important, although it is OK if the distance deviates by a few metres. To help in this, please download the app [GPS Logger for Android](#) onto your smartphone before

coming for the survey. In the settings, click on **General Option--Coordinates display format**, and choose the lowermost option (-12.345678, ie all decimals). Again in the settings, click on **Logging details**, switch **off Log to GPX**, and switch **on Log to KML and Log to Plain Text**. Further on the same screen, tap on **New file creation**, and choose **Every time I start**. Again in settings, go to **Performance--Logging interval** and change **Time in seconds** to 10.

- One person in a team should be designated as the '**distance-keeper**'. At the beginning of each Transect, turn on your phone's GPS, open GPS Logger, wait for the latitude and longitude to appear and click on **Start Logging**. Write down the starting Latitude and Longitude in a notebook. As you walk along the segment please keep checking how much distance you have travelled, and alert the team when you reach 200m. Write down the Latitude and Longitude of the endpoint in your notebook. Do **not Stop Logging**, instead keep the app running, so that it keeps incrementing to 400m, 600m, etc until you reach 2000m (ie, 2km). At the end of each segment, write down the Latitude and Longitude in your notebook. Once you reach the end of the transect (2000m), click on **Stop Logging**.
- Please note that using GPS drains your phone's battery. Switching your phone to airplane mode when walking transects will help conserve battery. Also, the relevant distance is the distance **along the transect**, which may be more than the straight-line distance between the start and end points. If the person measuring distance moves back along the transect or to the sides, that gets added to the distance travelled. To avoid this happening, leave your phone on the transect (perhaps in a small bag) if you move away temporarily.

Counting birds on the transects

- On each transect, on the outward journey, teams will count the number of each species in each 200m segment. Each segment's list (plus counts) will be uploaded to eBird, preferably using the eBird app for smartphones (see below). One person from a team should be designated for this. In this way, each transect of 2km will result in 10 eBird 'travelling' and 'complete' lists (ie one per segment).
- Once you reach the end of a 200m segment, end the count for that segment and start a fresh list. It is Ok if there is a delay of a minute or two between the end of the count at one segment and the start at the next. Each segment is accompanied by a "fresh start", which means that ***all*** birds observed while walking that segment should be recorded and counted, even if the species or individual bird was observed earlier. Try not to count the same individual bird more than once **during** a single segment.
- When a bird cannot be identified to a species, observers should report the appropriate slashes or spufs. If a bird cannot be readily identified in the field, please take detailed field notes and/or photos to try and identify it later. In all cases, actual counts of birds should be recorded (ie, 6 -- not X). Counts should be carefully done to avoid over-estimating numbers. The counts should represent minimum numbers. Please list/count all birds seen, including those flying overhead.

Surveying birds away from transects

- **Wetland habitats.** Wetland habitats (ponds, waterholes, etc) will not be adequately covered during the transects. Instead, at any convenient time during the day, please separately visit such locations and survey them in a way that is most appropriate (no particular protocol, distance or duration specified). Please maintain a separate list/count

for each wetland and record all birds observed during the session, not only wetland birds. Use GPS Logger to record the Latitude and Longitude of each such wetland surveyed.

- **Nocturnal counts.** Daytime birding often misses important nocturnal species like owls and nightjars. Please familiarize yourself with the calls of nocturnal birds [from the ID resources](#). Each team should ideally conduct nocturnal counts just outside their basecamp, arranged into three 15-min Stationary counts: 1900-1915, 2000-2015, and 2100-2015. These should be carried out on each of the three nights spent at the basecamp. Additional such sessions can be carried out at the discretion of the team members. Use GPS Logger to record the Latitude and Longitude of any such additional counts, and add them to the Trip Comments section of your eBird list. Please always prioritize your safety and heed the instructions of Forest Department staff.

Using eBird and eBird Mobile

- All bird data collected during the survey is being collated on the online platform eBird. All participants are requested create [eBird accounts](#) and to install the eBird Mobile app on their phones (available for [iPhone](#) and [android](#)), and, when in network coverage (before arrival), start a dummy list by clicking on **Search Hotspots by Place**, then typing “Kanha” and choose “Kanha Tiger Reserve” from the list displayed. After this, two options will be shown -- again choose **Kanha Tiger Reserve**. On the next screen wait until “Start” appears on the top right, then tap “Start” to initialize a list. Once this has been done, your phone will have downloaded the list of Kanha birds. You can close the app at this point, but an inactive list will have been started. You can use this unsubmitted list to upload your first Kanha sightings, perhaps on 17th March. Subsequently, you can continue to use the app, even when offline, by selecting “Choose from Recent Location”, and then “Kanha Tiger Reserve”.
- When using the eBird app for the bird surveys, please ensure that you enter the correct date and start time, and in the Trip Comments, give your Team name, Basecamp, Transect name/number, and Segment number. For example TeamJabalpur--Mukki--Parsatola transect--Segment 1. (Later you can add the starting and ending Latitude and Longitude for each segment.) Don’t forget to add the habitat types (in percentages) that the segment passes through. For **wetland counts**, please give Team name, Basecamp, Wetland name in the Trip Comments.
- Birdlists stored on the mobile app should be submitted (ie uploaded) as soon as network is available. At the end of the survey, the designated team member maintaining the lists on his/her phone should share all their eBird checklists with all other team members, as well as the following eBird username: kanhabirdsurvey
- **Recording data on paper.** Although using the eBird app in the field is recommended, it is not compulsory. Teams can choose to record their bird lists/counts on paper if they wish. When doing so, please record, for each list, Team name, Basecamp, Transect name/number, Segment number, Start time, Duration (minutes), Habitat types (in percentages), start and end Latitude and Longitude, plus a list of all species seen with counts and any notes. Upon return to Basecamp, please record these lists in the eBird mobile app on a team member’s phone, so that the lists are ready for upload when network is available.

Miscellaneous

- Upon return to basecamp after each session, the person recording data should read out each list (plus counts of species) to all other team members so that any errors or misidentifications can be identified and corrected. Team members should together tick the day list in the printed checklist that will be provided. This PDF is also [available here](#).
- If some birds are seen outside survey hours, or while on the way to basecamps, or while having lunch etc, they should be entered as additional lists in eBird (Incidental lists for casual records; Stationary or Travelling lists if separate effort was made.)
- Needless to say, during the entire survey correctly identifying the species and counts should be given utmost importance. Digital resources for identifying Kanha birds by sight and sound have been provided to all participants in advance ([downloadable here](#)), which they are requested to study and download onto their phones for reference in the field.
- Camp leaders should please hand over the hard copy camp checklist at the end of the survey to the survey organizers.

Post-processing

- Forest range boundaries are superimposed on top of the eBird list locations shared by participants to create range/division-wise checklists and a total checklist for KTR.
- eBird complete lists are analysed to estimate the encounter rates of all dominant bird species in each range/division and across the entire forest.