

# Hierarchical Distance Sampling to Estimate Hornbill Densities in Cambodia

Nan NOURN      Jackson FRECHETTE      Ratha SOR  
Kimammara KHIEV      Vanna CHEA      Dan KRAMER

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We explore hierarchical distance sampling (HDS) analyses to estimate native wildlife densities in Cambodia. Specifically, we leverage wildlife occurrence and distance data collected from line transects to estimate Great hornbill (GH) *Buceros bicornis* densities within Prey Lang Wildlife Sanctuary (PLWS) in central Cambodia. Conservation International-Cambodia (CI) and the Cambodia Ministry of Environment (MoE) collaboratively manage a landscape-wide REDD+ project within the protected area of Prey Lang Wildlife Sanctuary, located in central Cambodia. REDD+ programs require biodiversity monitoring assessments to determine the impact of carbon conservation measures and its impact on deforestation efforts to conserve native flora and fauna. In accordance to this PLWS REDD+ project, CI deployed a baseline assessment of transect line surveys to determine baseline population densities for key biodiversity species inhabiting PLWS. Specifically, our objectives were to explore how HDS methods utilizing environmental covariates such as GH group size, tree canopy height, and human influence, determined GH density estimates within PLWS. Ultimately, we provide the first robust density and population estimates for GH in Cambodia.

To be updated, please contact [nan@msu.edu](mailto:nan@msu.edu) for new repo link and login credentials.