

The feasibility of using line-transect-based distance sampling to survey Red Junglefowl (*Gallus gallus spadiceus* Bonnaterra) in Peninsular Malaysia

ABSTRACT

Population management of exploited species requires information on absolute density and abundance through reliable survey methods available. The baseline information is further needed for population dynamics studies and to determine conservation status. In the case of gamebird management in Peninsular Malaysia, the current population size of Red Junglefowl (RJF) is totally unknown because no official attempt to estimate it has been made in previous years. In this study, line transect based Distance Sampling was used to yield population estimates in palm oil plantation. Data from aural and visual counts were combined to calculate overall estimates. Results indicated that an unbiased overall density and abundance of RJF generated by this method for the entire 9,323.53 ha study area., was estimated at, $D \pm S.E. = 0.500 \pm 0.069$ birds/ha (95% CI: 0.381-0.655) and, $N \pm S.E. = 4,661 \pm 644$ birds (95% CI: 3,556-6,109; CV=13.81%), respectively. The cluster size of the species was estimated at, $E(s) \pm S.E. = 2.471 \pm 0.144$ birds/flock (95% CI: 2.202-2.772; CV=5.82%).

Keyword: Absolute density; Abundance; Line-transect-based Distance Sampling; Aural detection; Visual detection