

Efficiency of Fixed-Width Transect and Line-Transect-based Distance Sampling to Survey Red Junglefowl (*Gallus gallus spadiceus*) in Peninsular Malaysia

ABSTRACT

Reliable survey method is very important to estimate wildlife population. In this study, fixed-width strip- and line-transect samplings were simultaneously used to yield population estimates on oil palm plantation. The latter was found to be more accurate but less precise than the former based on the Per cent Relative Bias (hereafter PRB). Using the strip-transect, an overall density and abundance were estimated at 0.3237 birds/ha and $3\ 018 \pm 273$ birds (CV = 9.05%), respectively. An unbiased overall density generated by line-transect, $D \pm S.E. = 0.500 \pm 0.069$ birds/ha (95% CI: 0.38137 - 0.65521) and estimated total abundance, $N \pm S.E.$ was $4\ 661 \pm 644$ birds (95% CI: 3\ 556 - 6\ 109; CV = 13.81%) for the entire 9\ 323.53 ha study area. The former and latter method gave relative and absolute estimates, respectively.

Keyword: Density, Abundance, Fixed-width strip-, Line-transect, Per cent Relative Bias