

Density and diversity of water birds and terrestrial birds at Paya Indah Wetland Reserve, Selangor Peninsular Malaysia

ABSTRACT

The main objectives of this study was to determine and compare the density and diversity of water birds and terrestrial birds using distance sampling point count method at Paya Indah Wetland Reserve, Selangor Peninsular Malaysia. A total of 13872 bird individuals from 100 bird species were recorded in the wetland reserve. Out of the total, 25 (22.26% of all detections) and 75 (77.74% of all detections) bird species belong to water birds and terrestrial birds respectively. The results showed that total bird density of the wetland reserve is 83.92 ± 4.53 birds ha⁻¹ and ranged from 75.40-93.41 birds ha⁻¹ (95% confidence interval). The terrestrial birds have higher density (70.26 ± 4.48 birds ha⁻¹) as compared to water birds (13.09 ± 1.78 birds ha⁻¹). The highest water bird density was recorded for Purple Swamphen (5.05 ± 0.89 birds ha⁻¹) and the lowest was Ballion's Crake (0.31 ± 0.13 birds ha⁻¹). The highest terrestrial bird density was recorded for Yellow-vented Bulbul (12.97 ± 1.05 birds ha⁻¹) and the lowest was Ashy Minivet (0.31 ± 0.18 birds ha⁻¹). The highest species diversity i.e. Shannon's index ($H' = 20.83$), species richness i.e. Margalef's index ($R1 = 7.97$) and species evenness, i.e., McIntosh's index ($E = 0.73$) was recorded in terrestrial birds. This study indicated that Paya Indah Wetland Reserve is a highly important habitat and provides diverse food, shelter, nesting and roosting sites for water birds as well as terrestrial birds.

Keyword: Wetland birds; Vegetation structures; Distance sampling; Food resources; Habitat diversity