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Current Status of a Rising Feral Population of Spotted Deer (*Axis axis*) in Suburban Lowland Wet Zone of Sri Lanka**Muhandiram P.M.S.R.^{1*}, Hemachandra I.V.D.¹, Liyanagama S.², Dayawansa P.N.¹**¹*Department of Zoology and Environment Sciences, University of Colombo, Colombo, Sri Lanka*²*Department of Wildlife Conservation, Battaramulla, Sri Lanka***sanjeevarasika1994@gmail.com***Abstract**

Emerging deer populations are a common concern of suburban wildlife invasions worldwide. Although natural distribution of *Axis axis* (spotted deer) in Sri Lanka is recognized to be in Dry Zone, few populations are observed to rise from escaped captive animals, recently in suburbs of Wet Zone, interfering with livelihoods causing crop damage and motor accidents. Such a nuisance population of *A. axis* reported from Homagama Pradeshiya Sabha (PS) and Kaduwela Municipal Council (MC) areas of Colombo District was studied from October 2020 to April 2021. Field observations were made during daytime from 0630 h to 1800 h, and from 1900 h to 0130 h during night time. Block counts and line transects were conducted during daytime to determine population size, age structure, sex ratio and habitat utilization. Spotlight counts were performed to study habitat utilization during night time. Total population size was 393: Homagama PS; 231 and Kaduwela MC; 162. Age structure can be depicted as 46 adult males, 263 adult females, and 84 juveniles. Adult females to juvenile ratio was 1:0.27. Sex ratio of the population was 1:5.71 (♂:♀). Five different habitat types were identified: home gardens, paddy fields, rubber estates, scrublands, and grasslands. Scrublands were occupied frequently and had a significantly higher occurrence (Mean±SE: 63.00±14.54, One-way ANOVA, Tukey's HSD, $p=0.0001$) than other habitats during daytime. Grasslands were second highest (27.18±8.55) while home gardens (0.91±0.73), rubber estates (1.36±0.81) and paddy fields (2.00±2.00) had a very low frequency of occupancy. During night time, scrublands were the highest occupied (46.00±3.61) and grasslands the second highest (26.7±10.84). There was a significant difference in habitat utilization of scrublands with rubber estates (7.33±5.04) and paddy fields (no observations) during night time (One-way ANOVA, Tukey's HSD, $P=0.008$). The frequency of home garden utilization increased from a mean value from 0.91% to 23.33% as daytime transitioned to night. Polygynous mating system of *A. axis* with high abundance of adult females resulting in a skewed sex ratio, absence of a natural predator, and availability of luscious food resources in wet zone raise concerns for rapid growth of the population. Available habitats are heavily fragmented in this densely settled area. It was apparent that deer utilize human dominated lands more during night. The likelihood for *A. axis* to become overbearing and a "major pest" to the area in the future is reasonably high.

Keywords: Spotted deer (*Axis axis*), Feral, Population dynamics, Suburban, Wildlife invasion