

Are Raptors Successful in Adopting to Urban Landscapes? A Case Study from Bolgoda North Lake, Sri Lanka

M. A. Y. N. Weerasinghe^{1*}, Deepthi Wickramasinghe¹, T. S. P. Fernando²

¹ Department of Zoology and Environment Sciences, Faculty of Science, University of Colombo, Sri Lanka

² Department of Zoology, Open University of Sri Lanka

*yuganinayanathara@gmail.com

Growth of human population and developmental pressure alter natural habitats. Birds are sensitive to environmental changes and respond to habitat alterations. Raptors usually occupy top levels of a food web and serve as important bioindicators. Yet, this important group of birds has not gained adequate attention in Sri Lanka. This study focuses on the abundance, species richness and the distribution of raptors in Bolgoda North Lake (BNL), the largest freshwater wetland in Sri Lanka which is situated in the highly populated Western Province. Bird survey was carried out in six study sites within the BNL representing three sites with human-alterations and the rest relatively undisturbed, focusing on three habitats in each site i.e., vegetated sites, edge habitats marking the interface between human-altered and natural habitats, and open water habitat. The study was carried out using the line-transect method from January to May 2021, two hours each in the morning and evenings using direct observations and bird calls. The frequency of occurrence, abundance, species richness, and Shannon diversity index were calculated. Raptor community in the study area comprised of 10 species belonging to two families. The *Haliastur indus indus* (brahmini kite) was the most abundant species while *Ictinaetus malayensis perniger* (black eagle) and *Pernis ptilorhynchus* (oriental honey buzzard) were rarely observed in all sites. One endangered (*Falco tinnunculus* – common kestrel) and two Near- threatened (*Ictinaetus malayensis* and *Pernis ptilorhynchus*) species were recorded. Twenty-two percent of species recorded were rare, 55% were common and 33% were very common. The highest raptor abundance (irrespective of species) and the species richness were recorded in the edge habitats in human-altered study sites with a significantly high species diversity compared to undisturbed study sites (One-way ANOVA; $P < 0.001$). Raptors tend to use human-altered areas both as random sites and permanent sites for feeding, breeding, and nesting. Novel habitats created in human-altered sites because of human activities act as a positive factor for attraction of raptors. Our results indicate that raptors prefer edge habitats with human interventions which could be related to the availability of preferred feeding and perching habitats. While enhanced protection for avifauna of BNL is a current need, more investigations are essential on the biology and ecology of raptors.

Keywords: Raptors, Urban wetlands, Human-alterations