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A Perspective on Management of House crow (*Corvus splendens*) in the City of Colombo

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Abstract

House crow (*Corvus splendens*) is considered as a nuisance animal in the City of Colombo. A roost count method was employed to determine the population size of house crow and their distribution in different wards of the city. Main and link roads of the 47 wards of the city were patrolled during early evening hours to take population counts. Also, direct observations were done to study the biological enemies of crows during day and night. In addition, day time census of house crow and assessment of availability of open garbage dumps was carried out in three selected wards. Current population size of house crow in the City of Colombo was estimated as 101,100 (2018). Using the previous population estimates of crows in the city; 1980-50,000 (Subasinghe and Samad); 1992-70,000 (Dayawansa and Kotagama); 2001-118,500 (Keeragala and Dayawansa), 2006-124,330 (Dayawansa *et al*.) and 2012-98,350 (Dayawansa unpublished); a population growth curve was constructed. Population growth depicted a logistic model and rate of growth (r) determined by a differential equation depicted three distinct phases on the sigmoid curve and a carrying capacity (K). A positive significant relationship between availability of food resources (garbage) and crow abundance was evident (Linear Regression $p < 0.05$). A positive correlation between availability of trees and crow abundance was evident, however, it was not statistically significant. Total number of roosts has increased significantly from 1992 to 2018 due to increased occurrence of small and medium roosts (One-Way ANOVA: $p < 0.05$). Ironically, there is a decrease of occurrence of very large roosts and large roosts. Variety of trees occupied as roosting sites has increased from 34 to 46 species from 1992 to 2018. House crow population has shown a logistic growth and reached a carrying capacity due to limited availability of resources such as food and breeding sites. It was observed that crows avoid occupying areas where Brown hawk owls inhabit. Control of population size of house crow could be satisfactorily done by manipulating the availability of food resources by implementing an efficient garbage management strategy in the city. In addition, augmenting the top levels of the trophic pyramid by supporting the abundance of nocturnal predators such as Brown hawk owl and Barn owl can reduce the crow populations. Implementation of artificial population control methods such as destroying eggs and culling of adults would be thoroughly unnecessary to control House Crow population in the City of Colombo.

Keywords: House Crow, Nuisance species, Logistic growth model, Population management

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