

A RAPID BIODIVERSITY ASSESSMENT IN ETHALEIKULAM TANK IN BATTICALOA DISTRICT; A CASE STUDY FROM THE FIRST ENVIRONMENTAL PROTECTED AREA DECLARED IN THE EASTERN PROVINCE OF SRI LANKA

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An Environmental Protected Area is any area that is environmentally important and is threatened or with higher necessity of protection under the provisions of 24(C) and 24(D) of National Environmental Act No. 47 of 1980, amended by Act No. 53 of 2000 and Act No. 56 of 2008, declared and gazette by the relevant minister for the subject of Environment. The objective of the study was to investigate the species richness, potential threats, endemic and threatened species in selected fauna and floral groups and to identify different ecosystems in the area using scientific methods. This study assessed the species composition, species richness and species evenness in Ethaleikulam Tank (GPS Coordinates 7.592174, 81.770916/7°35'31.8"N 81°46'15.3"E). Both daytime and nighttime sampling was carried out for a period of two weeks. Visual encounter surveys were conducted for eight taxonomic groups, namely birds (line transect), mammals, amphibians, reptiles, fish, butterflies, dragonflies and flowering plants, which were selected for the survey. Both direct and indirect observations were recorded. Shannon-Wiener's diversity index was $H = 2.69$ and Pielou's evenness index recorded $E = 0.44$. This study highlights high biodiversity with a higher distribution of the number of species in the selected study area. Several species of migratory birds in considerable population sizes were observed. Therefore, a recommendation was provided to declare this site as an Environmental Protected Area due to its high biodiversity and due to the threats, this ecosystem face such as the existence of invasive alien species, records of animal poaching, solid waste dumping and land encroachment. Furthermore, this study provides novel insights to develop this site as an ideal location for bird watching. Thus, it may be possible to promote wildlife tourism in the area. In addition, a long-term in-depth study should be carried out covering all seasons to assess the biodiversity and ecological aspects of Ethaleikulam Tank.

Keywords: *Environmental protected area, Migratory birds, Species richness. Threats, Victim experiences.*