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## ASSESSMENT OF BIODIVERSITY IN THE MUTHURAJAWELA WETLAND SANCTUARY

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Muthurajawela wetland, located as the west coast of Sri Lanka is the largest coastal peal bag of the island. At present, the biodiversity of Muthurajawela is threatened by unplanned development activities and growing human population. Therefore, an ecological survey was carried out in order to assess the present status of biodiversity in Muthurajawela, and also to identify critical habitats for the conservation and sustence of biodiversity. Field monitoring of fauna and flora was carried out at fortnightly intervals, using scientifically accepted rapid biodiversity assessment techniques (fauna - line transects; flora - plots, Braun-Blanquet cover), The data was analysed using ecological indices (diversity/species richness), and critical habitats were identified using avifauna as a correlate of biodiversity. Ground truthing of vegetation maps was carried out to document changes of major vegetation communities.

The study enabled to identify 192 species of flora, distributed over seven major vegetation communities at Muthurajawela; marsh, lentic flora, reed swamp, short grassland, scrubland, stream bank flora and mangrove swamp. The vertebrate fauna documented included 40 species of fish, 14 species of amphibians, 31 species of reptiles, 102 species of birds and 22 species of mammals. Among the total vertebrate species documented, 17 are endemic, 26 are considered as nationally threatened, while 36 are new records to Muthurajawela. The selected invertebrate species documented consisted of 48 species of butterflies and 22 species odonates, the latter which turned out to be a useful indicator of habitat quality. The threats documented included direct exploitation (poaching, cutting of trees), habitat degradation/modification (land reclamation, dumping of garbage, clearing of natural vegetation, pollution and eutrophication) and the spread of several alien invasive species (including unmanaged domestic animals). The northern part of the marsh serve as an ecotone, with a mixture of the above plant communities/habitat types which were relatively undisturbed. Analysis carried out using ecological indices highlighted the northern region as a high biodiversity zone, which is critical for the conservation and future sustenance of biodiversity at Muthurajawela. Ground truthing of vegetation maps, supported with results of the vegetation survey showed that the composition of dominant flora has changed over a period of 10 years, in most places in the Muthurajawela Wetland, as a result of human disturbances. Data on the avifauna also highlighted a considerable decrease in migrant birds at Muthurajawela, possibly due to habitat deterioration. The findings have important conservation and management implications, in particular greater emphasis need to be placed on the more ciritcal areas of the marsh. An important policy implication would be the need to avoid any conversions of these critical habitats which harbour rich biodiversity

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