



# Abundance and composition of solid waste in Bellanvila-Attidiya sanctuary in Sri Lanka

L.S.P.Malalanayake<sup>1</sup>, P.M.S.S.Kandakkulama<sup>1</sup>, H.P.S. Jayapala<sup>1,\*</sup> and H.B Jayasiri<sup>1</sup>

<sup>1</sup> Department of Coastal and Marine Resources Management, Faculty of Engineering and Management, Ocean University of Sri Lanka

\* Corresponding author email: sajeewaniej@ocu.ac.lk

**Abstract:** The Bellanvila-Attidiya Sanctuary is listed in the directory of Asian Wetlands by the IUCN in 1989 and situated within the upper catchments of the Bolgoda River basin covering an area of 372ha. This study was conducted to quantify and categorize the solid waste in the sanctuary. Based on the land use, sanctuary areas were divided into four areas and that are industrial area, residential area, bird sanctuary area (wetland area) and paddy field area. Among these four areas, a total of 10 sites were selected for the survey. From that, around the Nadimala Canal, seven sites from the residential area and three sites from the bird sanctuary area were selected for the survey. Line transect method was used to collect the data. Each site consists of three belt transects with the size of  $4 \times 10\text{m}^2$ . The distance between transects is 50m. Data analysis was performed by using SPSS version 21. A total of  $1200\text{m}^2$  were investigated from study areas which include  $840\text{m}^2$  of residential area and  $360\text{m}^2$  of bird sanctuary area. Solid waste abundance of this area is 34 items per  $100\text{m}^2$ . Solid waste cover varied significantly between 10 sites ( $p=0.002$ ) and significantly high solid waste abundance was reported in the residential area in Bellanvila-Attidiya Sanctuary. The results showed that, residential area was highly polluted with solid waste than that of the bird sanctuary area. Because of the improper disposal of solid waste by residential and non-residential people. This preliminary study provides the solid waste abundance and composition in Bellanvila-Attidiya Sanctuary.

**Keywords:** Consumer waste, Packaging items, Solid waste