

Distribution and Abundance of Marine Debris on Intertidal Zone at Three Selected Small Islands, Sabah

ABSTRACT

The issue of marine debris has become worldwide attention since it occurs almost everywhere globally. Thus, it is crucial to focus on this area to sustain the life below the water as stated by United Nations (SDG 14). This study evaluated the distribution, abundance, and composition of marine debris in three selected islands at Sabah namely Manukan, Mamutik and Sapi Islands. Marine debris was identified according to its categories as stated by the Department of Environment (DOE). The study was carried out to compare the waste abundance of three islands since the different beach types represent various activities that produce debris. The sampling design was conducted with two plot areas plotted and observed on each island for three consecutive weeks. Based on the assessment done, Mamutik Island recorded the most abundance of marine debris with 12.185 kg (66.2%) of debris found followed by Manukan Island with 5.487 kg (29.8%) of debris and Sapi Island with 0.746 kg (4.1%). It was observed that plastic debris especially plastic bags, plastic bottles, plastic straws, general plastics, polystyrene, and plastic cups were the main contributors to marine debris pollution. While among all the three islands studied, Sapi Island is considered the cleanest and smallest Island compared to others since the location of this island is quite far from the mainland. The solid and waste management on each island has been identified in order to formulate a new strategy to reduce the impact of marine debris on the intertidal zone especially on human health and the environment. These studies have provided a clear understanding of the distribution of marine debris in these islands. Several recommendations and suggestions have been listed to reduce and prevent marine debris pollution.