Soil Characteristics of Turtle Nesting Beaches in Southern Coast of Sri Lanka

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There are seven species of marine turtles living in the world and five of them are occurring in Sri Lanka. All those five species: Green Turtle (*Chelonia mydas*), Olive Ridley (*Lepidochelys olivacea*), Hawksbill (*Eretmochelys imbricata*), Loggerhead (*Caretta caretta*) and Leatherback (*Dermochelys coriacea*) are nesting on Southern coastal belt of Sri Lanka and it comprises with largest marine turtle rookeries. Although, many characteristics of beaches are affecting turtle nesting; sand composition, sand porosity, vegetation cover, debris composition, soil temperature and soil pH level are considered as majors. Here eight most prominent turtle nesting beaches on the Southern coast: Yala, Bundala, Rekawa, Kalamatiya, Ussangoda, Habaraduwa, Mirissa, and Kosgoda were selected to study the sand characteristics since there is a lack of studies regarding this. The studied characteristics are sand porosity, sorting coefficient (Sφ) and mean diameter (Mn φ) and sorting level of beaches by collecting sand samples using piston core sampler up to 50cm depth level. Average sand porosities of different sites were as 28.67, 43.86, 40.77, 50.56, 30.32, 42.51, 55.23 and 21.43% while average sorting coefficient were as 0.56mm, 0.45mm, 0.60mm, 0.60mm, 0.77mm, 0.33mm, 0.95mm and 0.32mm respectively. Average mean diameters of sands of different sites were as 0.45mm, 0.34mm, 0.48mm, 0.50mm, 0.70mm, 0.24mm, 0.97mm and 0.23mm while average sorting levels were as 1.09, 0.85, 0.91, 1.02, 0.97, 0.71, 0.87 and 0.69 respectively. Among these sites, Mirissa has the highest porosity, sorting coefficient and mean diameter of sands. Yala and Kalamatiya have poorly sorted soil and other sites have moderately sorted soil. According to the literature, Kosgoda and Rekawa have the highest turtle nesting frequency. However, other characteristics of beaches and different turtle populations have to be incorporated by conducting more researches to afford strong inference on turtle nesting.

Keywords: Species**,** Coastal characteristics, Sand, Rekawa, Turtle population of Sri Lanka