Marine habitat mapping at Labuan Marine Park, Federal Territory of Labuan, Malaysia

Abstract

Marine habitat mapping has recently become essential in coastal marine science research. It is one of the efforts to understand marine ecosystems, and thus to protect them. Habitat mapping is integral to marine-related industries such as fisheries, aquaculture, forestry and tourism. An assessment of marine habitat mapping was conducted at Labuan Marine Park (LMP), a marine protected area in the Federal Territory of Labuan. It is surrounded by shallow water within its islands (Kuraman, Rusukan Kecil and Rusukan Besar) with an area of 39.7 km2. The objectives of the study are to identify the substrate and types of marine habitat present within the park. Side scan sonar (SSS) (Aquascan TM) was used to determine the substrates and habitat while ground truthings were done through field observation and SCUBA diving survey. Seabed classification and marine habitat was based on NOAA's biogeography program. Three substrate types (sand, rock, silt) were identified in this area. The major marine habitats identified are corals, macro algae and small patches of sea grass. The study area is an important refuge for spawning and juvenile fish and supports the livelihood of the coastal communities on Labuan Island. Therefore, proper management is crucial in order to better maintain the marine protected area. The findings are significant and provide detailed baseline information on marine habitat for conservation, protection and future management in LMP.