

## **Marine profiling of Marudu Bay: Southwest Monsoon**

### **ABSTRACT**

Marudu Bay is a semi-enclosed bay located in the northernmost part of Sabah. It is located within the Tun Mustapha Park, and is a part of Malaysia's Coral Triangle. The primary aim of this study is to gather information for the marine profiling of Marudu Bay, including its coastline, during the northeast monsoon. However, due to unavoidable delays, surveys were conducted during the southwest monsoon. Thus, the surveys were conducted between June and December 2015, which coincided with the southwest monsoon. During this season, most afternoons are defined by rain beginning late October. In this report, we present the result of a comprehensive review of literature on the biota (fishes, marine invertebrates, other aquatic vertebrates i.e. marine mammals and marine reptiles, corals and coral reef indicators, seagrasses and mangroves) and abiotic factors (oceanographic parameters, water quality and marine pollutants) of Marudu Bay, and the results of the field surveys within the Bay. The primary database (raw data) of the biodiversity studies are appended to this report as an excel spreadsheet, and photographs of the species observed as jpeg files copied on to a compact disc. Generally, we recorded higher species diversity for the fishes (188 spp.), marine invertebrates (35 spp.), hard corals (168 spp.), seagrasses (4 spp.) and mangroves (26 spp.), compared to other previous studies. On the status of mangrove forests, mangrove species composition in Marudu Bay varies between the three surveyed areas: Kudat (5 species), Marudu (11 and 10 species in Sg. Matunggong and Bandau, respectively) and Pitas (18 species). The species include both mangrove-associated species and true mangrove species. Sungai Telaga in Pitas is also the location of Malaysia's largest but also controversial shrimp aquaculture farm. The farm is estimated to be at least 1,000 hectares, which is largely sited within a virgin mangrove forest. On the status of green mussel population, recent studies suggests the high relative abundance of phytoplankton Chaetocerotaceae in the Marudu Bay as the main limiting factor to the growth of the green mussels.