FISH AND BENTHIC COMMUNITIES WITHIN CORAL REEF AREAS OF PULAU MARAH, TERENGGANU, MALAYSIA

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The purpose of this study is to determine the abundance of fish and benthos, inside and outside coral areas in Pulau Karah, Terengganu. The abundance of the organisms was also compared between pre monsoon (September – October) and post monsoon (April – May). Seven stations were selected where Station 1 and 2 were inside coral area while Station 3 to 7 was outside coral area.

The most dominant type of coral at Station 1 (10m depth) was found to be branching Acropora (ACB) while encrusting form of non-Acropora (CE) was the most dominant at Station 2 (15m depth). Station 1 has higher percentage of live coral (59.24%) compared to Station 2 with only 30.26% of live coral. Station 1 can be classified as in 'fair' condition and 'poor' condition was suitable to classify 'health' status of coral at Station 2.

A total of 47 species belonging to 21 families of reef fishes were recorded in both stations. The survey enumerated a total of 9585 individuals; 6427 individuals in post monsoon and 3158 individuals in pre-monsoon. Pomacentridae was the most abundant for both monsoons (57.31% and 93.20%). The rarest recorded species were Tetradontidae and Dasyatidae with only once each recorded.

The abundance of reef fish is higher in area with higher live coral coverage than the area with lower percentage of live coral. Station 1 with 59.24% of live coral recorded a total of 6934 fishes for both pre-monsoon and post-monsoon seasons. Meanwhile there were a total of 2651 individuals recorded at Station 2 which was covered by 30.26% of live coral.

Overall, Polychaeta was the most dominant group of macrobenthos (50.63 %) and the least dominant was Nematoda (1.07 %). Polychaeta was also recorded as the most dominant in all stations and for both monsoon phases as well. Macrobenthos density was highest in Station 1 (10,096.6 inds. m^{-2}) and lowest density (3,440.0 inds. m^{-2}) recorded at Station 7, which was the furthest station from the shoreline. Seasonal comparison showed macrobanthos recorded a higher number in pre-monsoon (25,836.8 inds. m^{-2}) compared to post-monsoon phase (21,573.1 inds. m^{-2}).

Meanwhile meiobenthos was also found in higher abundance in pre-monsoon (137,496 inds. m^{-2}) compared to post-monsoon season (100,404.6 inds. m^{-2}). Harpacticoida was found to be the most dominant group which accounted for

42% while the second most dominant group was Nematoda with 31%. Only 2% of other groups were recorded in this study. Harpacticoida was found in highest number in all the stations except at Station 1 which was dominated by Nematoda with 39.1%.

This study had proved the importance of coral to fish and benthos when these organisms were found to be more abundant in coral area and decreased further away from coral area. Different monsoon seasons also affected fish abundance when there was a higher percentage (67%) recorded in post monsoon compared to pre monsoon (33%). Monsoon seasons nonetheless did not affect benthos density. There was recorded a little variance in term of percentage between post monsoon (45.5%) compared to pre monsoon (54.5%).