THE ABUNDANCE OF THE CROWN-OF-THORNS STARFISH *ACANTHASTER PLANCI* (LINNE, 1758) IN THE BAR REEF AND KANDAKULIYA AREAS, AND IMPLICATIONS FOR MANAGEMENT

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The Crown-of-Thoms starfish *Acanthaster planci* outbreaks is a relatively new phenomenon in Sri Lanka. Early infestations was reported by De Bruin, (1972). Population explosions of this starfish is known to reduce a healthy coral reef to mounds of coral rubble. The occurrence of a very small number of starfish on a healthy coral reef is insignificant. But its sudden proliferation can devastate a reef, this has been attributed to various human related factors. Removal of predators of the starfish, pollution and an increase of the sediment load into coastal waters are some of the causes that have been attributed to the survival of a greater number of larvae. Investigations in the Bar Reef and Kandakuliya areas from 1989 indicated that the starfish were present in considerable numbers, and the number of starfish counted within a given time period continued to increase until it reached epidemic proportions during 1993-1994. Sections of the Bar Reef which contained almost 100% live coral cover has now been reduced to almost 90% dead coral.

The present study is confined to the patch reefs of coral and sandstone within the Bar Reef Marine Sanctuary and at Kandakuliya. Fifty metre Intercept Line transects were used to measure the percentage of cover coral and the abundance of starfish. A total of fifty one transects were laid from shallow areas at an average depth of 3 metres to deep sandstone areas where the average depth was 20 metres. The highest number counted along a single transect that covered an area of 500 square metres was 39.

In 1991 and 1992 the main issues for management in the Bar Reef Marine Sanctuary was identified as destructive fishing methods, ornamental fish collecting and expanding fisheries activities from the Kandakuliya area. However, recent studies indicate that the Crown-of-Thorns starfish has become the main issue related to the management of reef resources in the northwest. The abundance of *Acanthaster planci* and its implications for management are presented.