

## Preliminary survey of the damages by Cyclone Val to the Namu'a Ocean Nursery;

AIM : Aims examined in this survey are as follows :-

- (a). Examine and assess changes of the physical and biological parameters of the Nursery due to Cyclone val.
- (b). Assess the loss in Nursery stock.
- (c). Account for any changes in marine biota of site and surrounding lagoon area.
- (d). Determine and assess damages to seaweed lines.
- (e). Recommend ways for Nursery and seaweed rehabilitation.

## INTRODUCTION

Tridacna gigas, Tridacna squamosa, Tridacna maxima and Hippopus hippopus all of varying ages were of the four different clam species that were grown in the Namu'a Ocean Nursery. The shells are grown in plastic mesh trays and placed on steel bar racks. Racks are continuously covered with water at low tide.

Because of the cyclone recently experienced on December 6-10 of 1991, a survey was initiated to analyse for any changes to the ocean nursery site and assess the losses incurred. This was undertaken on 5/2/92.

Physical and biological parameters of the Namu'a Ocean Nursery and surrounding lagoon area were assessed through measurements of salinity, current pattern, water clarity and a descriptive account of the bottom profile of the areas. Three sites were surveyed, the clam site (site 1) and two other sites within the Aleipata lagoon (site 2 and site 3). Eucheuma seaweed lines are in Sites 2 and 3. Refer map for sites surveyed.

## METHODOLOGY

A salinity refractometer "S-100" was used to measure salinity of the sites. Current pattern, depth and water clarity were also noted for the sites. The bottom profile of the sites were analysed by snorkelling through the site along a transect line of approximately 10m.

In describing the marked changes in the areas directly related to the cyclone such as the presence of broken and dead corals, etc. emphasis was placed on any

## RESULTS

### SITE 1 : CLAM SITE

Salinity counts were taken for surface, rack and bottom levels within the clam site. All counts were consistent at 35‰. Current was fairly light and depth at about 0.5m. (Measurements were taken at low tide). Water clarity was good.

No live clams were found within site when surveyed with very few dead shells. Steel bar racks were firmly in the ground. All of the coral life are alive with an insignificant amount broken possibly as a result of the cyclone. Two species of Holothurians with various species of reef fishes were found amongst the corals. Some areas of seagrass beds are covered with fine grain sand, indicating sand being deposited within the site during the cyclone. Overall, no marked changes were in clam site environment in relation to its biological and physical parameters.

### SITE 2 : APPROX NNW OF CLAM SITE

This site was found to have salinity count of 36‰ with relatively good movement of water. Water clarity was extremely good and with water depth of approximately 0.3m. Lines and strands of Eucheuma weeds farmed in site prior to cyclone have been stripped leaving only mangrove posts. Sand grains dominate the bottom profile of area with seagrass beds, some of which are buried with sand.

### SITE 3 : APPROX SW OF CLAM SITE

Sand and diffuse distribution of Halophila seagrass and common sponge specie dominate profile of the area, partly buried and trimmed. Water current is moderately strong, with salinity of 36‰ and depth of 0.5m. Strands of branching Eucheuma weeds were found still attached to lines. Very little rubble was present in area.