D 230

Recent status of two fringing reef sites at Polhena and Weligama of Southern Sri Lanka

The current status of two fringing reefs located in Polhena (Matara) and Weligama in Southern Sri Lanka was investigated with respect to their hydrography and water quality. Percent cover of sessile benthic communities and diversity ofsea grasses sea grass beds were determined by using Line Intercept Transect Technique and 25x25 cm3, grided quadrates respectively, Water samples were obtained for water quality analyses. Out of the total coral cover at Polhena and Weligama (52.94 % and 59.91% respectively)40.6% and 30.88% were dead, 12.34% and 29.03%were live and 2.16% and 1.27% were soft corals (*Sinularia abrupta*) respectively. Among the live hard corals *Acropora formosa* was the dominat (32.19% and 30.64% respectively in Polhena and Weligma). In Weligama15.19% and 2.45% respectively were broken fragments and recovering A. formosa appeared as luminous purple apical tips) while no recoveries were observed in Polhna reef. In Polhena and Weligama, 15.51% and 18.34% respectively were covered with algae and sea grass beds, Cymodocea sp. (21.438) and 26.15% respectively), Halodule sp (24.37 and 7.07% respectively) and Halophila sp., (4.88 and 1.12% respectively), were present in both sites. Temperature (T) Dissolved Oxygen (DO), Turbidity (Tb), pH, Salinity (S) Conductivity (C) Dissolved Nitrate (NO_3) and Mean depth (Dp) at Polhena and Weligama were 28.41 ±0.66 and 28.67 ±1.25, 8.86± 0.94 and 7.91 ±2.26mgL^{-1}, 4.16 ±2.88 and 5.03 ±4.01 NTU, 8.21 ±0.10 and 8.21± 0.09, 32.42 ±2.85 and 30.81 ±1.5mgL^{-1}, 45.72± 4.34 and 51.11± 0.93mS cm^{-1}, 8.12 ±3.57 and 4.25 ±1.89 µ gL^{-1} and 1.57 ±0.85 and 3.0± 0.63 m respectively.

Remarkably higher percentage of live and recovering A. formosa and algae at Weligama could be attributed to its location within the bay, greater depth ($P<0.05$) and to lesser disturbances by anthropogenic activities. High DO at Polhena could be due to wave action and also the significantly high Salinity, Conductivity and NO3- values ($p<0.05$) due to its shallowness and also due to discharges from Nilwala River. Latter could be a reason for the considerably large sea grass cover at Polhena.