

ABSTRACT

CHANGE ON A JAMAICAN NORTH COAST REEF: variations in coral community structure to a depth of 46m

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Jamaican reefs were once healthy, diverse and spatially complex. They are now dominated by algae and considered degraded although some locations may exhibit signs of a phase shift recovery. This study documents the current structure of a Jamaican north coast coral assemblage; identifies coral species responsible for temporal and spatial changes in the community and assesses species-specific coral bleaching and recovery following the 2005 pan-Caribbean bleaching event. Assemblage data were collected from a March 2005 video survey of a section of Discovery Bay reef (to -46m) while peer-reviewed publications provided past assemblage data. Bleaching data were collected from November 2005 to August 2006 photo-transects of specific depth contours and tagged corals established on this reef. Detailed analyses of community composition and spatio-temporal similarity were carried out with PRIMER-E and SPSS software. Mean coral cover from all depths was 16.6% from 38 species of coral. *Acropora palmata* was absent from the shallow *Palmata* zone. At mid-water depths, coral cover was low. In deep water, high coral cover was dominated by *Agaricia* and *Montastrea* spp. Change in the coral assemblages was attributable to increased numbers (or biomass) of select species. Species replacement occurred over the reef's depth profile.