USING SINGLE VIDEO CENSUS TO SURVEY CORAL REEF FISH

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By

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ABSTRACT

Unlike the commonly practiced Underwater Visual Census (UVC), the potential of using video for reef fish assessment is still not widely acknowledged. A study was designed to analyse the optimal dive time required in a video census survey, to investigate the advantages and disadvantages of utilising transect strip for video survey, and to identify the appropriate techniques of video census for coral reef fish survey. When transect is applied, a strip instead of a line was created (50 m x 2 m framework). For without-transect method, video were captured in a random line. Detectability curves showed that the transect method requires more sample (four to five samples) to obtain the maximum number of species than the no-transect method (two to three samples). The total abundance of species observed with the no-transect method is substantially higher and it gave more precise species counts than the transect method. Both within-site comparisons are highly correlated (Spearman's rho = 0.866 and 0.825). Meanwhile, both between-sites comparisons, although also highly correlated (Spearman's rho = 0.762 and 0.677), are lower than within-site correlations and still have significant differences ($p < 0.05$). Using single video to survey the reef fishes is practical to assess the changes of fish assemblages but require further technical improvements before being implemented.