

## **Coral Reef Fishes in the Marine Protected Areas in Southern Cebu, Philippines**

**Authors :** Christine M. Corrales, Gloria G. Delan, Rachel Luz V. Rica, Alfonso S. Piquero

**Abstract :** Marine protected areas (MPAs) in the study sites were established 8-13 years ago and are presently operational. This study was conducted to gather baseline information on the diversity, density and biomass of coral reef fishes inside and outside the four marine protected areas (MPAs) of Cawayan, Dalaguete; Daan-Lungsod Guiwang, Alcoy; North Granada, Boljoon and Sta. Cruz, Ronda. Coral reef fishes in the MPAs were identified using Fish Visual Census Method. Results of the t-test showed that the mean diversity (fish species/250m<sup>2</sup>) of target and non-target reef fish species found inside and outside the MPAs were significantly different. Density (ind./1,000m<sup>2</sup>) of target species inside and outside the MPAs showed no significant difference. Similarly, density of non-target species inside and outside the MPAs also showed no significant difference. This is an indication that fish density inside and outside the MPAs were more or less of the same condition. The mean biomass (kg/1,000m<sup>2</sup>) of target species inside and outside the MPAs showed a significant difference in contrast with non-target species inside and outside the MPAs which showed a no significant difference. Higher biomass of target fish species belonging to family Caesonidae (fusiliers) and Scaridae (parrotfishes) were commonly observed inside the MPAs. Results showed that fish species were more diverse with higher density and biomass inside the MPAs than the outside area. However, fish diversity and density were mostly contributed by non-target species. Hence, long term protection and management of MPAs is needed to effectively increase fish diversity, density and biomass specifically on target fish species.

**Keywords :** biomass, density, diversity, marine protected area, target fish species

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