

**TEMPORAL VARIATION IN THE SUBTIDAL
MACROINFAUNAL COMPOSITION OF A NaGISA SEAGRASS
BED IN SOUTHERN GUIMARAS, PHILIPPINES BETWEEN 2015
AND 2016**

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ABSTRACT

Seagrass meadows are amongst the most abundant and diverse ecosystems when it comes to biodiversity but due to stress induced by natural and anthropogenic factors, a worldwide decline threatens the vital ecological functions of these habitats. Studying the infauna provides clues and information about the complexity of seagrass ecosystems and provides information that would facilitate better seagrass area management and associated conservation efforts. The NaGISA sampling protocol was conducted in Calaparan seagrass bed in TINMAR, Guimaras, Philippines between Sept. 2015 and 2016. Overall macrofaunal density was recorded at $21,954.80 \pm 36,109.62$ ind.m⁻² with macrofaunal density higher in 2015 than in 2016 albeit, insignificant except for capitellid polychaetes. Community structure analysis also found similarity in dominance patterns in the subtidal zone with other soft-bottom macrofaunal studies in the Philippines with polychaetes, nematodes, and crustaceans as the respective dominant macrofaunal groups observed. Dominant polychaete families were also found to be cosmopolitan and opportunistic. Granulometric analysis characterized the sediment as pebble to medium sand with mid phi values ranging from -3.69 to 1.10 but poor sorting in all sampling points was observed. Cymodoceaceans dominated the subtidal zone in both years (*Halodule pinnifolia* in 2015; *Cymodocea rotundata* in 2016). Correlation analysis showed macrofaunal densities to have a significantly strong negative relationship with sorting index and percent gravel while a strong positive relationship with percent seagrass cover. The poor sediment sorting, coarse sediment character, and seagrass cover were the primary factors influencing the observed decrease in macrofaunal density but the decrease is considered normal for the variability of macrofauna in the area. A clearer picture of macrofaunal interactions would be provided with comparison to intertidal macrofauna of the area in the sampling years and data on additional factors that were not measured in the study.