



**The College of Graduate Studies and the College of Science Cordially Invite You
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Master Thesis Defense

Entitled

*SPATIAL AND TEMPORAL VARIATIONS IN ABUNDANCE AND COMPOSITION OF BENTHIC
MACROFAUNA ASSOCIATED WITH SEAGRASS BEDS IN ABU DHABI.*

By

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Abstract

This study compared the seasonal variations of macrofaunal communities found within the seagrass beds of protected areas and non-protected areas in Abu Dhabi. The study took into consideration the spatial and temporal differences of the sites and seasons as well as other environmental factors, like trace metals concentrations, water temperature, sediment composition, salinity and pH. The main objective and aim of this study is to investigate changes in the community structure of macrofauna with changes in location and seasons. Environmental parameters and biological samples were collected in-situ and analyzed at UAEU labs from both sites, during both seasons (winter and summer). All data have analyzed according to standardized techniques. The results showed that there was a temporal and spatial difference in the macrofaunal communities. Some of the findings showed that the Non-protected area has a slightly higher diversity, due to the increase of Polychaeta populations, than in the protected area, which highlights the need of better management plans for all seagrass beds, in and out of protected areas. The study has also shown that, until no enough studies have carried out on seagrass in Abu Dhabi. Moreover, it shed light on the species diversity within the seagrass community with both spatial and temporal variations.

Keywords: Seagrass, Macrofauna, Protected Area, Non-Protected Area