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Multidisciplinary approach to coastal management and enhancement in an urbanised and built-up Singapore

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Singapore's coastlines have been modified since the early 1900s. Despite extensive loss of coastal habitats and the continued coastline modification and utilization by various industries, 35 mangrove, 12 seagrass, 255 hard coral species and a great diversity of other marine fauna organisms can still be found in Singapore. However, the average Singaporean is largely unaware of the richness of our local marine habitats as the natural areas are usually not easily accessible. Apart from that, the majority of Singapore's coastline is protected by seawalls and other artificial structures. Despite being the most prominent feature of the coast, these artificial structures usually host very little marine biodiversity due to its unsuitability as a substrate. Recent investigations suggest that larval supply of marine organisms is not limited in Singapore; however suitable habitat availability is limited in many areas. Thus, National Parks Board has conducted many empirical researches to enhance biodiversity of these artificial structures, particularly seawalls and rock revetments. This paper aims at introducing some initiatives being implemented in Singapore to improve substrate availability of the artificial coasts in Singapore. Through the creation and installation of innovative structures that support the natural settlement and colonization of suitable marine organisms, marine biodiversity will be enhanced. The purpose-built structures also allow better accessibility for both residents and visitors to get close to and appreciate our marine environment. The conservation of our native biodiversity through enhancement of coastal and marine habitats will enable Singapore to demonstrate our efforts to balance development with conservation.

Biography

Nhung Nguyen obtained her PhD degree in Geography at Royal Holloway, University of London. Her research topic was about integrated coastal management with focus on local governance, and participatory mapping for coastal resource management. She studied the translation of international and national policies into local practices and vice versa. As part of the Coastal and Marine Branch at the National Biodiversity Centre at Singapore National Parks Board, she is currently focusing on implementing and developing Integrated Urban Coastal Management in Singapore. This involves bringing together and working with other stakeholders on cross-cutting issues of Singapore's coastal and marine environment. She also manages a couple projects related to coastal biodiversity enhancement and geographic database development.

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