An Analysis on Biodiversity in Western Waters of the South China Sea

Vo Si Tuan
Institute of Oceanography
Viet Nam
vosituan@gmail.com

ABSTRACT

The outputs regarding biodiversity of the sub-component on habitat degradation of the UNEP/GEF Project namely *"Reversing environmental degradation trends of the South China Sea and Gulf of Thailand"* are analyzed and synthesized to provided key features of marine ecosystems and species richness in western waters of the South China Sea.

Mangroves, coral reefs and seagrass beds are the most important tropical habitats in western waters of the South China Sea with their estimated areas respectively being 156,600; 110,000 and 18,500ha in Viet Nam; 72,350; 2,800 and 33,810ha in Cambodia; 62,620; 90,000 and 2,550ha in Thailand; and 3,500; 43,400 and 220ha in the east coast of Malaysian Peninsular. Habitat structures are quite diverse and different among latitudinal regions from north, central and south Viet Nam; Gulf of Thailand and Malaysian Peninsular.

The initial figure of richness of "habitat building" species indicates diversity variance among coastal waters bordering western coast of the South China Sea. The "true mangrove" species is most diverse in Mekong delta with 34 species, hermatypic corals are riches in south central Viet Nam with more than 350 species belonging to 71 genera. Meanwhile, 18 and 14 seagrass species were recorded in Malaysia and Viet Nam respectively. An inventory of species composition at the site level indicates the fact that studies on taxonomy of habitat – associated species have scarcely conducted in almost countries bordering western coast of the South China Sea.

Characteristics of marine biodiversity in western waters of the South China Sea are influenced by physical forcing, including *inter alia*: geological seabed history, monsoon current and circulation, latitudinal temperature variance, and river run-off.

Based on data on area scale and species richness, and analysis of physical forcing, the target areas for prioritization in regional cooperation are suggested, including: Mekong delta and north coast of Gulf of Thailand for mangroves; south central Viet Nam and east coast of Malaysian Peninsular for coral reefs; and east waters of Gulf of Thailand for seagrass beds. Besides, a point of view in conducting science based management is discussed aiming improvement of management effectiveness.

南海西岸海域的生物多樣性分析

Vo Si Tuan
Institute of Oceanography
Viet Nam

摘 要

研究目的是將關於聯合國環境規劃署/全球環境基金的棲地劣化研究專案中稱為「徹底轉變南海與暹羅灣的環境劣化趨勢」的子計畫研究結果，進行分析並加以綜合，以便提出南海西海域的海洋生態系與物種豐度的主要特性。

紅樹林、珊瑚礁，與海草床是南海西海域最重要的典型棲地，面積估計分別是，越南佔 156,600、110,000，18,500 公頃；柬埔寨 72,350、2,800 與 33,810 公頃；泰國有 62,620、90,000 與 2,550 公頃；以及馬來半島東岸的 3,500、43,400 與 220 公頃。從越南的北部、中部到南部的不同緯度地區，以及暹羅灣與馬來半島的各種棲地結構十分多樣，也都各不相同。

由「形成棲地」的物種豐度初步指數，可以顯示南海西岸週邊沿海海域中多樣性的變異。湄公河三角洲的「真正紅樹林」物種最具多樣性，總計有 34 種之多，造礁珊瑚在越南中南部沿海也很豐盛，共有 71 個屬，總計 350 種以上。同時，馬來西亞與越南也分別有 18 種與 14 種海草的記錄。以地區性所觀測到物種組成的種類數量顯示，南海西岸的所有週邊國家，幾乎都未進行過相關物種的棲地分類研究。

南海西海域中海洋生物多樣性的特性受物理外力的影響，尤其是海床地質的演變史、季風氣流與環流、緯度氣溫變化與河水逕流。

根據區域、物種豐度，以及物理外力分析資料的建議，區域合作優先目標地區包括：湄公河三角洲與暹羅灣北岸的紅樹林；越南中南部與馬來半島東岸的珊瑚礁；以及暹羅灣東海域的海草床。另外，為了要改善管理效率，科學化管理的概念也一併被討論。