SPATIAL DISTRIBUTION AND SEAGRASS MAPPING AT SETIU WETLANDS, TERENGGANU

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FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
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SPATIAL DISTRIBUTION AND SEAGRASS MAPPING AT SETIU WETLANDS, TERENGANU

By

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Bachelor of Science (Marine Biology)

Research Report submitted is partial fulfilment of the requirement for the degree of Bachelor of Science (Marine Biology)

Department of Marine Science

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DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:

Spatial Distribution and Seagrass Mapping at Setiu Wetlands, Terengganu by Rustam Bin Morat, Matric No. UK 18112 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree of Science (Marine Biology), Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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Finally, I hope the knowledge and experience that I gain from this study will become useful to the others.

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g	-	Gram
mm	-	millimetre
ppt	-	part per thousand
cm	-	centimetre
s.e	-	standard error
mg	-	milligram
L	-	Litre
°C	-	degree Celsius
km	-	kilometre

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ABSTRACT

There is no study regarding to seagrass distribution at Setiu Wetlands for a long time period. Because of that reason, this study was conducted. The main objective of this study is to identify the seagrass species present at Setiu Wetlands and also to map its distribution. Sampling were designed and conducted to collect the seagrass and sediment samples, brought back for further analysis and identification work at the laboratory. In-situ data such as hydrological parameters and seagrass patch coordinates were also recorded. Four species of seagrass from sixteen stations were identified: *Halodule pinifolia, Halophila beccarii, Halophila ovalis* and *Halophila minor. Halophila minor* is a rediscovered species while *Halophila beccarii* is first reported for Setiu Wetlands. Furthermore, there are two varieties of *Halophila ovalis* identified: small and big leaved variant. Based on the seagrass distribution in 2003, there is no variant of *Halophila ovalis* identified. The dominant seagrass species in this study is *Halodule pinifolia*, where this species also consist of two variants: long and short leaved variant. A study on biomass showed that the biomass of belowground for both species (*Halophila* species and *Halodule pinifolia*) has the higher value compare to biomass of above ground. The use of technology in mapping has help a lot in conservation work and to monitor at the same time.

Pemetaan Rumput Laut Dan Taburan Ruangan Di Tanah Lembab Setiu, Terengganu

ABSTRAK

Kajian berkaitan taburan rumput laut dijalankan di tanah Lembab Setiu, Terengganu. Tujuan utama kajian ini dijalankan adalah untuk memeta taburan rumput laut selain bertujuan mengenalpasti spesies-spesies rumput laut yang terdapat di kawasan tersebut. Koordinat dan data in-situ seperti pH, oksigen terlarut dan suhu turut dicatat semasa kajian dijalankan. Sampel rumput laut yang dikutip akan dibawa pulang ke makmal untuk proses pengecaman dan penamaan. Secara keseluruhannya, terdapat empat spesies rumput laut di kawasan ini iaitu, *Halodule pinifolia*, *Halophila beccarii*, *Halophila minor* dan *Halophila ovalis*. *Halophila beccarii* adalah rekod baru manakala *Halophila minor* adala penemuan semula dalam kajian ini. Spesies dominan di Tanah Lembab Setiu adalah *Halodule pinifolia* dan adalah dicadangkan bahawa keadaan persekitaran di Tanah Lembab Setiu adalah sesuai untuk spesies ini membiak. Kajian biojisim turut mendapati bahagian bawah tanah (below ground) akan memberikan nilai biomass yang lebih berbanding bahagian atas tanah (above ground). Ternyata penggunaan teknologi dalam kerja-kerja pemetaan amat menbantu dalam memastikan usaha pemuliharaan rumput laut dapat dijalankan dengan lebih cekap dan efisyen.