

POSTER PRESENTATION: IMPACT OF RURAL-URBAN MIGRATION,  
AND THE ENVIRONMENTAL AND SOCIAL ECOSYSTEM

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Bottom topography mapping of Pulau Duyong Besar, Kuala  
Terengganu using sonarlite echosounder / Thayalan Mogana  
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PERPUSTAKAAN SULTANAH NUR ZAHIRAH  
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**BOTTOM TOPOGRAPHY MAPPING OF PULAU DUYONG BESAR, KUALA  
TERENGGANU USING SONARLITE ECHOSONDER**

**By,**

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**This project report is submitted in partial fulfillment of the requirement of the  
degree of Bachelor of Applied Science  
(Marine Science)**

**FACULTY OF MARITIME STUDY AND MARINE SCIENCE  
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**JABATAN SAINS MARIN  
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**PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PROJEK  
PENYELIDIKAN I DAN II**

Adalah diakui dan disahkan bahawa laporan penyelidikan bertajuk: Bathymetry Survey of Pulau Duyong Besar using Sonarlite Echo Sounder oleh Thayalan A/L Mogana Sundaram, No. Matrik UK 9739 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan sains Marin sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains (Sains Samudera) Fakulti Pengajian maritim dan Sains Marin.

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## LIST OF SYMBOL

<b>e.g.</b>	: Example
<b>Ha</b>	: Hectare
<b>kHz</b>	: Kilo hertz
<b>KUSTEM</b>	: Kolej Universiti Sains Dan Teknologi Malaysia
<b>m</b>	: meter
<b>UTM</b>	: Universal Transverse Mercator
<b>GPS</b>	: Global Positioning System
<b>DGPS</b>	: Differential Global Positioning System
<b>CARIS</b>	: software use to process the bathymetry map
<b>HydroPro</b>	: software use to draw the transect
<b>SURFER</b>	: software use to draw the bathymetry map

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## ABSTRAK

Kajian ini bertujuan untuk memetakan 'subsurface' atau dasar muara Sungai Kuala Terengganu yang berhampiran dengan Pulau Duyong Besar dengan menggunakan 'OHMEX Sonarlite Echo sounder'. Projek ini dilakukan dengan menggunakan teknik dan sistem 'bathymetry survey'. Tujuan utama kajian ini adalah untuk memetakan dasar Muara Sungai Terengganu yang berhampiran sungai Pulau Duyong Besar dan juga untuk mempelajari 'bathymetry survey'. Survey ini dilakukan pada 16 Februari 2007 pada pukul 3.30pm dengan menggunakan sebuah bot. Semasa survey dilakukan, 'transect' atau 'track line' dibuat dengan menggunakan perisian HydroPro dengan bot berjaya mengikuti disepanjang 'transect' dengan sempurna dan semua kawasan kajian dapat 'sounded' dengan baik. Kawasan kajian yang berkeluasan 922,000m<sup>2</sup> berjaya disurvey and semua data yang deperolehi direkodkan di dalam 'laptop' untuk diprosess dengan menggunakan perisian SUFFER versi 8.0 untuk menghasilkan peta dasar tapak kajian itu. Survey yang dijalankan menunjukkan bahawa teknik ini adalah alternatif yang paling baik jika dibandingkan dengan cara konvensional yang lain dari segi masa dan perbelanjaan. Dalam survey ini teknologi yang menggunakan "laser beam" untuk menentukan kedalaman sesuatu tempat. Ini membolehkan ia dilakukan dengan cepat dan lebih banyak "groundtruting" dilakukan dengan mudah.

## ABSTRACT

This study is aimed to map out the subsurface of the estuary area near Pulau Duyong Besar using 'OHMEX Sonarlite Echo sounder'. The project is done by using the bathymetry concept and technique which is part of this study. The main objective of the study is determining the bottom topography of Pulau Duyong Besar and also to study and learn the technique of hydrograph survey. The survey was done on the 16<sup>th</sup> February 2007 at around 3.30pm by using a small vessel. During the survey, transect of the survey area was made by using the HydroPro software and almost cover all the survey area perfectly. The vessel managed to follow the transect and all the survey area was perfectly sounded using the Sonarlite. An area of approximately 922, 000m<sup>2</sup> was covered. All the data then recorded in the laptop to processed later by using the SUFFER version 8.0 software to produce the subsurface map of the survey site. These surveys also point out that the technology use by this Echo sounder which use underwater laser beam is powerful enough to detect the seabed and enumerate the depth of that place. This enables faster and more accurate ground "trotting" and mapping become easy.