

APPLICATION OF AERIAL PHOTOGRAPHY  
IN MAPPING DISTRIBUTION OF MANGROVE  
FOREST IN MARANG TERENGGANU

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TERENGGANU

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Application of aerial photography in mapping distribution of  
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**BY**

**HAIRIZAM BIN ALBUKHARI**

**This project Report is submitted in partial fulfilment of the  
requirement for the degree of Bachelor Science (Marine Science)**

**Faculty of Applied Science and Technology  
UNIVERSITY PUTRA MALAYSIA  
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1998**

*FOR THE MIGHTY ONE, MAK, ABAH ,ANGAH, BANG CHIK, WAN  
AND ALL MY FRIENDS .....*

*THANK.*

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Hairizam Albukhari.

## ABSTRACT

*The mangrove areas in Terengganu especially in Marang are in danger because the area have been left in their original states so that these ecosystem anytime can be covered or exploited to other uses. Even though this mangrove areas are small but they are still important in environmental stabilisation, natural buffer for the erosion and providing breeding places for marines faunas and in supplying nutrient. This study was done using aerial photograph with the help of field sampling to identify these mangrove species groups, to delineated their distribution and to quantify their coverage. Aerial photographs with a scale of 1:25000 taken in 1978, were used to delineated mangroves distribution in this are. Field sampling is important in this study because some of the study area is not covered by aerial photograph, and also as a check for the photo interpretation. Result shows that some species of three element mangrove forest was identified there are Major element likes Rhizophora species, Nypa Species Avicennia ,Sonneratia species, Brugeira species, Minor element likes Excoecaria and Associates mangroves. These can be delineated with 89.9 % correct interpretation. An area of 89.3 Hactare along Marang river covered by mangrove forests: 2.63% is made up of the Avicennia and Sonneratia types, 7.7 % by Rhizophora types, 19.2 % by Nypa types, Excoecaria types was the dominant species cover about 38.9 % at Marang river and stand density about 1358 trees/ Ha, 31.57 % was covered by others species and at Mercang river 6.1 % was made up by Avicennia and Sonneratia types, 29.8 % by Rhizophora types, 6.1 % by Brugeira types and Nypa types take a lead as dominant species cover about 32.3 % and stand density about 1117 trees/Ha at Mercang river and that mean 25.7 % was covered by others species . This method of study can be used as to delineated, classified and mapped in order for proper management and conservation of this ecosystem.*

## ABSTRAK

*Secara amnya hutan paya bakau di negeri Terengganu berada dalam keadaan yang terancam. Hutan ini telah menjadi terbiar serta tidak di pedulikan maka ekosistem ini pada bila-bila masa sahaja boleh di ubahkan statusnya untuk pembangunan. Walaupun kawasan ini adalah agak kecil namun ianya sangat penting terhadap keseimbangan alam semulajadi , sebagai penahan hakisan semulajadi serta menjadi tempat perlindungan serta membekalkan makanan pada hidupan laut. Kajian ini menggunakan kaedah foto udara dan kerja lapangan bagi mengenalpasti taburan hutan paya bakau dan spesiesnya. Foto udara berskala 1:25000 pada tahun 1978 digunakan untuk dalam kajian ini. Kerja lapangan adalah penting dalam kajian ini memandangkan kekurangan foto udara yang melitupi sebahagian kawasan kajian serta sebagai penentuan kejituan interpretasi foto udara. Keputusan menunjukkan taburan hutan paya bakau dan spesis tertentu seperti bakau benar boleh di tentukan seperti spesis *Rhizophora*, *Nypa* , *Brugeira*, *Excoecaria* bagi komponen minor dan bakau bersekutu. Hutan paya baku ini boleh ditentukan dengan 89.9 %. Keluasan hutan paya bakau di sepanjang sungai Marang kira-kira 89.3 hektar yang mana 2.63 %s dilitupi oleh spesis *Avicennia* dan *Sonneratia*, 7.7 % oleh spesis *Rhizophora*, 19.2 % oleh spesis *Nypa*. *Excoecaria* merupakan spesis yang paling dominan di sini iaitu melitupi 38.9 % dengan kepadatan 1358 pokok /ha dan 31.57 % oleh spesis lain. Bagi sepanjang Sungai Mercang spesis *Nypa* merupakan spesis yang dominan di sini iaitu melitupi kira-kira 38.9 % dengan kepadatan 1117 pokok/ha. Spesis *Avicennia* dan *sonneratia* pula melitupi 6.1 %, 19.2 5 % oleh spesis *Rhizophora*, 6.1 5 *Brugeira* dan selebihnya dilitupi oleh spesis yang lain. Secara keseluruhannya dapatlah disimpulkan bahawa kaedah ini dapat digunakan bagi mengenalpasti, pengkelasan dan memetakan taburan hutan paya bakau bagi tujuan pemuliharran serta pengurusan.*