

MAPPING OF MANGROVE FORESTS DISTRIBUTION
IN DUNGUN, TERENGGANU

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**MAPPING OF MANGROVE FORESTS DISTRIBUTION IN
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BY

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ABSTRACT

Mangrove forests in East Coast of Peninsular Malaysia are in danger because overexploitation and conversion to other uses. Although small in size, it still important in ecosystem and sustainability. The forest status is lack of information such as location, distribution, species composition and area coverage. This study was done by using air photo interpretation technique, which in a scale 1: 40,000 taken in 1983 and field work sampling. Air photo interpretation is a proven method in inventory existing this forest. Fieldwork sampling is important as a check for the photo interpretation. Result shows that mangrove distributions are located at the river mouths, Sungai Pimpin, Sungai Paka, Sungai Rengit and Sungai Dol until the sea water influence. Species composition is divided into three group, major elements, minor elements and mangrove associates. Major elements are dominant than other groups. Four forest types are identified: *Rhizophora-Bruguiera*, *Avicennia-Sonneratia*, *Nypa* and mix mangroves with 87% of correct interpretation. The mangrove area coverage is 245.92 ha. The highest stand density is found at Sungai Paka with 4332 trees/ha, followed by Sungai Pimpin with 4063 trees/ha, Sungai Dol with 2095 trees/ha and Sungai Rengit with 1056 trees/ha. Thus, it can be concluded that mangrove forest can be delineated, classified and mapped by using this method. This technique can be very useful for proper mangrove forest and coastal zone management. Latest technology and new techniques of interpretation using computerised equipments and larger scale photographs can be used in future studies for even better resolution.

ABSTRAK

Hutan paya bakau di pantai timur Semenanjung Malaysia dalam keadaan bahaya ditukarkan dan dieksploitasi kepada lain-lain kegunaan. Walaupun saiznya kecil ia tetap mempunyai banyak kepentingan dari segi ekosistem dan menstabilkan alam sekitar. Statusnya ialah kekurangan maklumat asas seperti lokasi, taburan, komposisi spesis dan keluasan. Kajian dijalankan dengan menggunakan teknik penafsiran foto udara berskala 1: 40,000 yang diambil pada tahun 1983 dan kaedah penyampelan di lapangan. Kaedah penafsiran foto udara telah diakui sebagai kaedah yang berkesan di dalam inventori kewujudan hutan ini. Kerja penyampelan di lapangan adalah penting sebagai pengesahan kepada penafsiran foto udara. Keputusan menunjukkan bahawa taburan hutan paya bakau terdapat di muara-muara Sungai Pimpin, Sungai Paka, Sungai Rengit dan Sungai Dol sehingga kawasan yang dipengaruhi oleh air masin. Komposisi spesis telah dibahagikan kepada tiga kumpulan iaitu bakau benar, komponen minor dan bakau bersekutu. Kumpulan bakau benar adalah lebih dominan berbanding kumpulan yang lain. Terdapat empat kumpulan hutan iaitu: Rhizophora-Bruguiera, Avicennia-Sonneratia, Nypa dan campuran spesis hutan ini dengan peratusan interpretasi betul sebanyak 87.0%. Keluasan keseluruhan kawasan yang diliputi oleh hutan jenis ini ialah 245.92 ha. Kepadatan dirian tertinggi di dapati di Sungai Paka dengan 4332 pokok/ha, diikuti Sungai Pimpin dengan 4063 pokok/ha, Sungai Dol dengan 2095 pokok/ha dan Sungai Rengit dengan 1056 pokok/ha. Keputusan kajian adalah dipercayai amat berguna untuk tujuan pengurusan hutan ini dan zon pesisiran pantai. Teknologi terkini dan teknik-teknik baru dalam proses interpretasi dengan menggunakan alatan berkomputer dan skala foto udara yang lebih besar adalah dicadangkan digunakan dalam kajian seperti ini di masa hadapan dan juga bagi mendapatkan keputusan yang lebih baik.