

MAPPING OF MANGROVE FOREST IN KEMAMAN DISTRICT USING
AERIAL PHOTOGRAPH

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USING AERIAL PHOTOGRAPH**

BY

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Abstract

Mangrove forest in East Coast of Peninsular Malaysia has not been fully studied and gazetted as protected area. It is in danger of exploitation for other purposes. Mangrove forest functions in stabilizing the environment from erosion, habitat for flora and fauna and supplying raw material. This study was done to identify the species composition and area coverage of the mangrove forest. Aerial photograph with 1: 5000 scale was used in mapping of mangrove forest in Kemaman district. The 1: 25 000 scale aerial photograph and satellite images were used as secondary data. The study resulted that there are 14 classes of mangrove forest type namely: *Avicennia-Sonneratia*, *Bruguiera-Avicennia*, *Rhizophora-Bruguiera*, *Rhizophora* (old), *Rhizophora* (young), Mixed *Rhizophora*, Mixed *Bruguiera*, Mixed *Rhizophora-Avicennia*, Mixed *Ceriops*, *Kandelia*, *Lumnitzera*, *Nypa*, Mixed *Excoecaria*, Mixed *Bruguiera* and Mixed mangrove. The interpretations are 91.15% correct. Total mangrove area coverage interpreted using 1:5000 scale aerial photograph is 311.952ha. 9.69 % *Avicennia-Sonneratia*, 1.58% Mixed *Avicennia*, 0.25% *Bruguiera-Avicennia*, 10.96% *Rhizophora-Bruguiera*, 27.7% *Rhizophora*, 2.61% Mixed *Rhizophora*, 2.2% Mixed *Rhizophora-Avicennia*, 1.23% Mixed *Ceriops*, 0.47% *Kandelia*, 0.53% *Lumnitzera*, 1.62% *Nypa*, 2.28% Mixed *Excoecaria*, 0.91 Mixed *Bruguiera* and 38% Mixed Mangrove. The conclusion is that aerial photograph interpretation can be used in classification and mapping of mangrove forest. This technique is useful and accurate. It can be use in conservation and management of mangrove forest.

Abstrak

Hutan bakau di Pantai Timur Semenanjung Malaysia belum sepenuhnya dikaji dan diwartakan sebagai hutan simpan. Ianya dalam keadaan yang membimbangkan kerana dieksploitasi untuk pelbagai kegunaan. Hutan bakau berfungsi untuk menstabilkan alam sekitar dari hakisan, habitat bagi fauna dan flora dan membekalkan bahan mentah. Kajian ini dijalankan untuk mendapatkan keluasan hutan bakau dan komposisi spesies di kawasan hutan bakau. Foto udara dengan skala 1:500 digunakan dalam pemetaan hutan bakau di daerah Kemaman. Foto udara 1:25 000 dan imej satelit digunakan sebagai data kedua. Dari kajian yang dijalankan didapati 14 kelas hutan bakau iaitu: *Avicennia-Sonneratia*, *Bruguiera-Avicennia*, *Rhizophora-Bruguiera*, *Rhizophora* (tua), *Rhizophora* (muda), Mixed *Rhizophora*, Mixed *Rhizophora-Avicennia*, Mixed *Ceriops*, *Kandelia*, *Lumnitzera*, *Nypa*, Mixed *Excoecaria*, Mixed *Bruguiera* dan Mixed mangrove. Ketepatan interpretasi adalah 91.15%. Keluasan keseluruhan hutan bakau dari interpretasi menggunakan foto udara berskala 1:5000 adalah 311.952ha, 9.69 % *Avicennia-Sonneratia*, 1.58% Mixed *Avicennia*, 0.25% *Bruguiera-Avicennia*, 10.96% *Rhizophora-Bruguiera*, 27.7% *Rhizophora*, 2.61% Mixed *Rhizophora*, 2.2% Mixed *Rhizophora-Avicennia*, 1.23% Mixed *Ceriops*, 0.47% *Kandelia*, 0.53% *Lumnitzera*, 1.62% *Nypa*, 2.28% Mixed *Excoecaria*, 0.91% Mixed *Bruguiera* dan 38% Mixed mangrove. Kesimpulannya foto udara boleh digunakan dalam pengkelasan dan pemetaan hutan bakau. Teknik ini amat berguna dan tepat. Ianya boleh digunakan dalam pemuliharaan dan pengurusan hutan bakau.