

## ANALISIS KESESUAIAN HABITAT *MANGROVE* PADA KAWASAN *MANGROVE* BUATAN DI BAROS, BANTUL, DAERAH ISTIMEWA YOGYAKARTA

### INTISARI

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*Mangrove* memerlukan persyaratan tempat tumbuh yang khusus seperti kondisi substrat, salinitas payau, suhu, pH, dan oksigen terlarut. Kawasan *mangrove* Baros yang terletak di Muara Sungai Opak memiliki kondisi hidrologi khas yang mempengaruhi kondisi habitat di hilirnya, salah satunya dengan membawa muatan bahan kasar berupa pasir dari Gunung Api Merapi. Penelitian ini bertujuan untuk mengetahui (1) kondisi fisik kimia habitat *mangrove* Baros, (2) struktur dan komposisinya serta (3) kesesuaian habitat *mangrove* berdasarkan perbandingan kondisi fisik kimia, struktur dan komposisi *mangrove* Baros dengan *mangrove* rehabilitasi Pemalang serta hutan alam *mangrove* di Marosi dan Air Saga.

Kawasan dikelompokkan ke dalam empat blok, tiga blok merupakan daerah dengan tanaman dan satu blok mewakili kondisi habitat alami sebelum penanaman. Empat plot 5x5 m dibuat di setiap blok di sepanjang tepi sungai. Parameter fisik kimia perairan yang diukur meliputi suhu, pH, salinitas, oksigen terlarut, ketebalan lumpur, kandungan bahan organik dan tekstur substrat. Struktur dan komposisi vegetasi yang diamati meliputi jumlah spesies, DBH, tinggi pohon. Parameter-parameter habitat yang diamati dianalisis dengan menggunakan uji statistik hipotesis komparatif.

Hasil penelitian menunjukkan bahwa parameter suhu dan pH memenuhi baku mutu air yang diperbolehkan untuk pertumbuhan *mangrove*, sedangkan parameter salinitas, oksigen terlarut, dan bahan organik relatif rendah, tekstur tanah termasuk dalam klasifikasi *sandy loam* (lempung berpasir), ketebalan lumpur rata-rata adalah  $22,10 \pm 14,95$  cm. Jumlah spesies yang ditemukan di kawasan *mangrove* adalah 5 spesies dengan indeks diversitas 0,685. DBH dan tinggi masing-masing adalah  $4,80 \pm 2,57$  cm dan  $3,93 \pm 1,66$  m, menunjukkan pertumbuhan *mangrove* yang lambat dibandingkan dengan *mangrove* rehabilitasi Pemalang untuk pohon dengan usia hampir sama. Hal ini diduga karena salinitas air dan oksigen terlarut yang tidak cocok untuk pertumbuhan *mangrove*.

**Kata kunci:** *mangrove*, kesesuaian habitat, Baros, Laguna Opak

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**MANGROVE HABITAT SUITABILITY STUDY  
ON THE ARTIFICIAL MANGROVE AREA IN BAROS, BANTUL,  
DAERAH ISTIMEWA YOGYAKARTA**

**ABSTRACT**

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Mangroves require particular habitat characteristics to grow well such as substrate, level of water salinity, temperature, pH, dissolved oxygen. The mangrove area of Baros is located in Opak estuarine which has specific hydrologic conditions which affect the mangrove habitat condition at the downstream, due to is coarse materials carried such as sand from Merapi Volcano. This study aims to identify (1) the physical-chemical conditions of mangrove vegetation habitat Baros, (2) the structure and composition of Baros mangrove, and (3) the mangrove habitat suitability based on comparisons of the aquatic physical-chemical, vegetation structure and composition between Baros with Pemalang rehabilitation of mangrove and the mangrove natural forests on Marosi and Air Saga.

The area was grouped into four blocks which three blocks represent areas with mangrove plants and one block represents the natural habitat condition before plantation. Four plots of 5x5 m were established in each block along the river banks. The physical-chemical aquatic parameters were measured such as temperature, pH, salinity, dissolved oxygen, mud thickness, organic matter content and substrate texture. The vegetation structure and composition were also observed such as the number of species, DBH, height of the mangrove trees. The habitat parameters observed was then analysed statistically using hypothesis comparison test.

The results showed that temperature and pH parameters were appropriate the water quality standards that is allowed for the mangrove growth; while the parameters of salinity, dissolved oxygen, and organic matter content were relatively low, soil texture was classified into sandy loam, the thickness of mud average was  $22.10 \pm 14.95$  cm. The number of species found in the mangrove area was 5 species with diversity index of 0.685. The DBH and height were  $4.80 \pm 2.57$  cm and  $3.93 \pm 1.66$  m respectively, which showed a slow growth mangrove trees compared to the rehabilitation mangrove on Pemalang for trees with similar age. This is might be due to unsuitable water salinity and dissolved oxygen for the mangrove to grow well.

**Keywords:** mangrove, habitat suitability, Baros, Opak

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