

ABSTRAK

Tumbuhan mangrove di ekosistem mangrove Muara Kali Ijo, Kebumen, memiliki tingkat adaptasi yang berbeda pada setiap zonasi mangrove dan dapat berpengaruh terhadap kerapatan mangrove. Mangrove mengalami proses dekomposisi yang menghasilkan nutrisi salah satunya, yaitu Nitrat (NO_3^-) dan Fosfat (PO_4^{3-}). Senyawa tersebut memiliki pengaruh terhadap tingkat kerapatan mangrove. Penelitian ini bertujuan untuk mengetahui tingkat kerapatan mangrove, konsentrasi nitrat dan fosfat, serta distribusi nitrat dan fosfat di ekosistem mangrove. Data yang diambil berupa kerapatan mangrove, sampel air, dan parameter kualitas perairan kemudian dianalisis dengan metode regresi linier. Metode untuk penentuan lokasi yaitu *random sampling* dan metode analisis sampel menggunakan metode standar SNI 6989.31:2021 dan IK-DR900.1/LABLH-KBM. Hasil penelitian didapatkan 5 jenis mangrove pada 7 stasiun, yaitu *Rhizophora stylosa*, *Sonneratia* sp., *Rhizophora apiculata*, *Rhizophora mucronata*, dan *Avicennia alba* dengan nilai kerapatan mangrove yang tinggi. Konsentrasi nitrat dan fosfat tertinggi sebesar 6,70 mg/L dan 0,165 mg/L. Berdasarkan PP No. 22 Tahun 2021, hasil tersebut berada di bawah baku mutu. Pengaruh nitrat terhadap kerapatan mangrove sebesar 4,08%, sedangkan pengaruh fosfat terhadap kerapatan mangrove sebesar 54,64%. Hal ini menunjukkan pengaruh yang lemah antara nitrat dan fosfat terhadap kerapatan mangrove dan terdapat faktor lain yang mempengaruhi nitrat dan fosfat seperti suhu, salinitas, dan pH.

Kata kunci: Mangrove, Muara Kali Ijo, Kerapatan Mangrove, Nitrat, Fosfat

ABSTRACT

Mangrove plants in the mangrove ecosystem of Muara Kali Ijo, Kebumen, have different levels of adaptation in each mangrove zone and can affect mangrove density. Mangroves undergo a decomposition process that produces nutrients, one of which is Nitrate (NO_3^-) and Phosphate (PO_4^{3-}). These compounds have an influence on the level of mangrove density. This study aims to determine the level of mangrove density, nitrate and phosphate concentrations, and the distribution of nitrate and phosphate in the mangrove ecosystem. Data taken in the form of mangrove density, water samples, and water quality parameters were then analyzed by linear regression method. The method for determining the location is random sampling and the sample analysis method uses the standard method SNI 6989.31: 2021 and IK-DR900.1/LABLH-KBM. The results obtained 5 types of mangroves at 7 stations, namely *Rhizophora stylosa*, *Sonneratia* sp., *Rhizophora apiculata*, *Rhizophora mucronata*, and *Avicennia alba* with high mangrove density values. The highest nitrate and phosphate concentrations were 6.70 mg/L and 0.165 mg/L. Based on PP No. 22 of 2021, these results are below the quality standards. The effect of nitrate on mangrove density was 4.08%, while the effect of phosphate on mangrove density was 54.64%. This shows a weak influence between nitrate and phosphate on mangrove density and there are other factors that affect nitrate and phosphate such as temperature, salinity, and pH.

Keyword: *Mangrove, Muara Kali Ijo, Mangrove Density, Nitrate, Phosphate*

