

ABSTRAK

Kerapatan vegetasi mangrove berhubungan dengan kandungan fosfat (PO_4^{3-}) dan nitrat (NO_3^-) dalam sedimen. Senyawa tersebut dimanfaatkan langsung untuk metabolisme yang sangat penting bagi pertumbuhannya. Penelitian ini bertujuan untuk mengetahui kandungan fosfat dan nitrat pada sedimen, kerapatan mangrove dan hubungan kandungan fosfat dan nitrat dengan kerapatan mangrove. Penelitian observasi ini menganalisis kandungan fosfat dan nitrat dalam sedimen, mengidentifikasi spesies mangrove dan menganalisis hubungan kandungan fosfat nitrat dalam sedimen dengan kerapatan mangrove. Stasion penelitian dibedakan berdasarkan dominasi spesies *Rhizophora apiculate* (st. 1), *Nipa frutican* (st. 2) dan *Avicenia marina* (st.3). Fosfat dan nitrat dianalisis menggunakan spektrofotometri. Penelitian dilaksanakan pada bulan September sampai Desember 2021 di kawasan mangrove Segara Anakan, Tritih Kulon, Cilacap. Kandungan fosfat dalam sedimen di lokasi dengan vegetasi mangrove yang didominasi oleh *Rhizophora apiculate*, *Nypa frutican* dan *Avicenia marina* berurutan diperoleh 20,96, 19,90 dan 21,88 mg/kg. Sedangkan kandungan nitrat diperoleh 26,50, 26,02 dan 35,57 mg/kg. Spesies mangrove yang diperoleh *N. frutican*, *R. apiculata* dan *A. marina*. *R. mucronata*. Kerapatan mangrove semakin jauh dari daratan diperoleh semakin rendah, yaitu 1113 ind/ha, 966 ind/ha dan 666 ind/ha. Hubungan fosfat dan nitrat terhadap kerapatan mangrove diperoleh hubungan yang kuat dan sangat kuat. Eksistensi vegetasi mangrove sangat didukung oleh kandungan fosfat dan nitrat yang selanjutnya berhubungan dengan keragaman biotik yang berasosiasi dengan kawasan mangrove.

Kata Kunci : kerapatan mangrove, fosfat dan nitrat, Tritih Kulon.

ABSTRACT

The density of mangrove vegetations are related to the phosphate (PO_4^{3-}) and nitrate (NO_3^-) contents in the sediment. These compounds are used directly for metabolism which is very important for their growth. This study aims to determine the content of phosphate and nitrate in the sediment, mangrove density and the relationship between phosphate and nitrate content with mangrove density. This observational study analyzed the phosphate and nitrate content in the sediment, identified mangrove species and analyzed the relationship between the phosphate and nitrate contents in the sediment and the mangrove density. The research stations were distinguished based on the dominance of *Rhizophora apiculate* (st. 1), *Nipa frutican* (st. 2), and *Avicenia marina* (st. 3) species. Phosphate and nitrate were analyzed using spectrophotometry. The research was conducted from September to December 2021 in the mangrove area of Segara Anakan, Tritih Kulon, Cilacap. Phosphate content in sediments at locations with mangrove vegetation dominated by *Rhizophora apiculate*, *Nypa frutican* and *Avicenia marina* were found 20.96, 19.90 and 21.88 mg/kg. While the nitrate contents were obtained 26.50, 26.02 and 35.57 mg/kg. The mangrove species were obtained *N. frutican*, *R. apiculate*, *A. marina* and *R. mucronata*. The farther from the mainland, the mangrove density was obtained the density become less, namely 1113 ind/ha, 966 ind/ha and 666 ind/ha. The relationship of phosphate and nitrate to the density of mangroves obtained a strong and very strong relationship. The existence of mangrove vegetation is strongly supported by the content of phosphate and nitrate which in turn is related to the biotic diversity associated with mangrove areas.

Keywords : density, mangroves, phosphate and nitrate, Tritih Kulon.