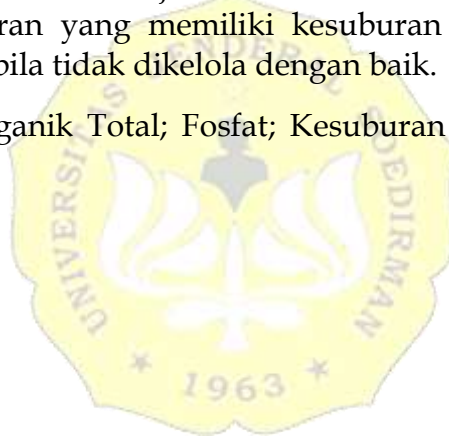


ABSTRAK

Ekosistem di wilayah pesisir Pantai Laguna Lembupurwo bersifat dinamis dan kompleks akibat adanya pengaruh daratan (terrestrial), sungai dan laut yang dapat menyebabkan proses dekomposisi bahan organik di perairan. Bahan organik penting digunakan sebagai indikator kualitas perairan dan faktor pendukung bagi kehidupan organisme di ekosistem mangrove. Bahan organik yang dapat dijadikan parameter untuk melihat kualitas perairan diantaranya Bahan Organik Total (BOT), nitrat dan fosfat. Penelitian ini dilakukan pada tanggal 5 dan 21 Maret 2023 saat pasang dan surut di Pantai Laguna Lembupurwo, Kebumen. Data yang diperoleh kemudian dianalisis dengan metode *Principal Component Analysis* (PCA) dan digambarkan sebarannya menggunakan software ArcGIS dengan metode *Inverse Distance Weighting* (IDW). Hasil penelitian menunjukkan adanya perbedaan konsentrasi BOT (14,985 mg/L dan 14,436 mg/L), nitrat (1,035 mg/L dan 1,033 mg/L), fosfat (0,269 mg/L dan 0,320 mg/L) pada saat pasang dan surut. Keterkaitan antara BOT, nitrat, fosfat dan parameter fisika-kimia menunjukkan hubungan erat dan saling mempengaruhi. Penelitian menunjukkan bahwa Pantai Laguna Lembupurwo termasuk dalam perairan yang memiliki kesuburan sedang dan berpotensi mengalami eutrofikasi bila tidak dikelola dengan baik.

Kata kunci: Bahan Organik Total; Fosfat; Kesuburan Perairan; Nitrat; Pantai Laguna Lembupurwo



ABSTRACT

Ecosystems in the coastal area of Lembupurwo Lagoon Beach are dynamic and complex due to the influence of land (terrestrial), river and sea which can cause one of them the process of decomposition of organic matter in the waters. Organic matter is important as an indicator of water quality and a supporting factor for the life of organisms in the mangrove ecosystem. Organic materials that can be used as parameters to see the quality of waters include Total Organic Matter (TOM), nitrate and phosphate. This research was conducted on March 5 and 21, 2023 during high and low tides at Lembupurwo Lagoon Beach, Kebumen. The data obtained were analyzed using the Principal Component Analysis (PCA) method and the distribution was described using ArcGIS software with the Inverse Distance Weighting (IDW) method. The results showed differences in the concentration of BOT (14.985 mg/L and 14.436 mg/L), nitrate (1.035 mg/L and 1.033 mg/L), phosphate (0.269 mg/L and 0.320 mg/L) at high and low tide. The relationship between BOT, nitrate, phosphate and physico-chemical parameters showed a close relationship and mutual influence. The research showed that Lembupurwo Lagoon Beach is included in waters that have moderate fertility and have the potential to experience eutrophication if not managed properly.

Keywords: Aquatic Fertility; Lembupurwo Lagoon Beach; Nitrate; Phosphate; Total Organic Matter

