ABSTRAK

Perairan Laguna Segara Anakan (LSA) Timur, Kabupaten Cilacap dipengaruhi oleh faktor alami dan antropogenik yang berpotensi menimbulkan degradasi ekologis. Faktor tersebut diduga menyebabkan akumulasi makronutrien yang mengakibatkan tingginya status trofik di perairan dalam kategori eutrofikasi. Tujuan penelitian ini yaitu mengetahui status trofik dengan indikator ukur menurut Volenweider *et al.,* 1998 antara lain makronutrien TN TP, klorofil-a, dan DO saturasi. Penelitian dilakukan secara temporal pada Musim Timur (Juli) dan Peralihan II (Oktober) di 6 stasiun dengan karakteristik yang berbeda. Metode penelitian yang digunakan *purposive sampling*. Pengukuran klorofil-a (spektofotometri), pengukuran TN TP (Kjedahl), DO saturasi (Titrasi), dan penetuan status trofik berdasarkan indeks TRIX. Data dianalisis untuk penentuan status trofik. Hasil menunjukkan pada Musim Timur konsentrasi TN 1,31-5,35 mg/L; konsentrasi TP 2,63-6,74 mg/L; Klorofil-a 0,0001-18.205 mg/L; DO saturasi 0,23-0,48%. Musim Peralihan II konsentrasi TN 2,80-5,60 mg/L; TP berkisar 1,25-2,47 mg/L; Klorofil-a 2.626-14.417 mg/L; DO saturasi 0,20-0,59%. Selanjutnya status trofik Musim Timur berkisar 0,10-5,28 pada kategori *oligotrofik* hingga *eutrofik*, sedangkan pada Musim Peralihan II berkisar 4,27-5,02 pada kategori *eutrofik*. Perlu menjadi perhatian khusus bagi pemerintah dan stakeholder setempat dalam meminimalisir terjadinya eutrofikasi dengan melakukan monitoring lingkungan secara berkelanjutan.

Kata kunci: Laguna Segara Anakan Timur, Status Trofik, Indeks TRIX, Total Nitrogen, Total Fosfat.

ABSTRACT

The waters of the East Segara Anakan Lagoon (LSA), Cilacap Regency are influenced by natural and anthropogenic factors that have the potential to cause ecological degradation. These factors are thought to cause accumulation of macronutrients resulting in high trophic status in waters in the eutrophication category. The purpose of this study was to determine the trophic status with measuring indicators according to Volenweider et al., 1998, including the macronutrients TN TP, chlorophyll-a, and DO saturation. The research was conducted temporally during the East Season (July) and Transition II (October) at 6 stations with different characteristics. The research method used was purposive sampling. Chlorophyll-a measurement (spectophotometry), TN TP measurement (Kjedahl), DO saturation (Titration), and determination of trophic status based on the TRIX index. Data were analyzed for determination of trophic status. The results showed that in the East Season the concentration of TN was 1.31-5.35 $mg.L^{-1}$; TP concentration 2.63-6.74 $mg.L^{-1}$; Chlorophyll-a 0.0001-18.205 $mg.L^{-1}$; DO saturation 0.23-0.48%. Transition Season II TN concentration 2.80-5.60 $mg.L^{-1}$; TP ranged from 1.25-2.47 $mg.L^{-1}$; Chlorophyll-a 2,626-14,417 $mg.L^{-1}$; DO saturation 0.20-0.59%. Furthermore, the trophic status of the East Season ranges from 0.10 to 5.28 in the oligotrophic to eutrophic category, while in the Transitional Season II it ranges from 4.27 to 5.02 in the eutrophic category. Special attention needs to be given to the government and local stakeholders in minimizing the occurrence of eutrophication by conducting environmental monitoring on an ongoing basis.

Keywords: East Segara Anakan Lagoon, Trophic Status, TRIX Index, Total Nitrogen, Total Phosphate.