

PHYTOPLANKTON COMMUNITY STRUCTURE IN THE EAST PLAWANGAN OF SEGARA ANAKAN, CILACAP

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Abstract	<p>The East Plawangan waters of Laguna Segara Anakan (LSA), Cilacap are unique waters that are characterized by high biodiversity and are a meeting place for several rivers. It is thought that anthropogenic activities around waters will cause changes in ecological conditions. The organisms that first respond to these changes are phytoplankton. The aim of this research is to determine the structure of the phytoplankton community which includes abundance, diversity index, evenness index and dominance index, as well as to determine physical-chemical factors and the relationship between phytoplankton abundance and physical-chemical factors. The method used is a survey method with Purposive Random Sampling at 5 stations. The f test and Lackey Drop Microtransect Counting method were used to determine the abundance of phytoplankton. Principal Component Analysis (PCA) was used to determine the relationship between phytoplankton abundance and physical-chemical factors. The results showed that the abundance of phytoplankton was in the low and medium categories with values of 840 $\bar{X} \pm 435$ to 3814 $\bar{X} \pm 939$ ind/L; The diversity index ranged from 2.42 - 2.99 (medium); The phytoplankton evenness index ranges between 0.74 - 0.89 (high) and the phytoplankton dominance index ranges from 0.06 - 0.14 (low). Physical-chemical factors in East Plawangan are still at the threshold that can be tolerated by phytoplankton. PCA analysis showed a relationship between phytoplankton abundance and physical-chemical factors as indicated by two main factors (F1 and F2) which produced a variance value of 87.49% with the most influencing factor being orthophosphate.</p>
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