

ABSTRACT

Adelita Pratiwi, 24020119120022, **“Diversity and Abundance of Plankton as an Indicator of Environmental Quality in Jeruksari Coastal Waters, Pekalongan”**.

Department of Biology, Faculty of Science and Mathematics, Diponegoro University, Semarang (Supervised by Dr. Fuad Muhammad, S.Si., M.Si. and Prof. Drs. Sapto Purnomo Putro, S.Si., M.Si.)

Coastal waters are ecosystems that play an important role in supporting the sustainability of aquatic organisms. However, anthropogenic activities such as domestic waste disposal, aquaculture, and industrial activities can affect the quality of aquatic environments. Plankton are microscopic organisms that are sensitive to environmental changes, so their presence and composition can describe the condition of a water body. This study aimed to determine the diversity, abundance, and community structure of plankton, as well as their relationship with the environmental quality of Jeruksari Coastal Waters, Pekalongan. The study was conducted using a survey method with purposive sampling technique at three observation sites. Plankton samples were collected using a plankton net and then identified using a microscope. Water quality parameters observed included temperature, pH, salinity, dissolved oxygen (DO), transparency, nitrate, and phosphate. Data were analyzed using abundance index, Shannon-Wiener diversity index (H'), evenness index (E), and Simpson dominance index (C). The results showed that the plankton community consisted of phytoplankton and zooplankton with varying abundance and diversity values at each observation site. Differences in the physicochemical conditions of the waters affected the plankton community structure found. Based on the results of this study, the plankton community can be used to describe the environmental quality conditions of Jeruksari Coastal Waters, Pekalongan.

Keywords: Diversity, Abundance, Plankton, Water Quality, Jeruksari Coastal Waters.