

ABSTRACT

Phytoplankton is microscopic plants that live floating in the water column. Phytoplankton is organisms which lives depend on the quality of the water in a body of water. Phytoplankton also has a very important role in aquatic ecosystems. The function of phytoplankton as primary producers and links in the food web causes phytoplankton to often be used as a scale for measuring the fertility of waters. The aim of this research is to determine the diversity of phytoplankton as a bioindicator of water quality in the waters of Krueng Mane, North Aceh. The research was carried out in May 2024 in Krueng Mane waters using a purposive sampling method. A total of 16 types of phytoplankton were found. The types of phytoplankton that are most commonly found are Gyrososigma sp and Nitzschia sp which are included in the Bacillariophyceae class. The total abundance of phytoplankton in this study ranged from 6350-7100 ind/l. In the research, the diversity index values ranged from 1.76 to 2.06, the uniformity index ranged from 0.80 to 0.85, the dominance index ranged from 0.17 to 0.20 and the saprobity index ranged from 0,35 to 1,00. The water quality parameter values are still in good condition for phytoplankton life.

Keywords: Bioindicators, Diversity, phytoplankton, water quality