

ABSTRACT

The seagrass ecosystem is an important ecosystem for marine biota which functions as a habitat and food source for marine biota, for stability, sediment retention and slow wave movement, as well as a place for nutrient cycling and carbon absorption in the sea. The diversity of seagrasses in the waters of Pulau Regency on many islands can be determined based on their community structure. The potential for seagrass diversity is very necessary so that the use of seagrass as food does not disrupt ecological functions. The sampling method uses a purposive method by placing transect lines at each station. Data shows that there are 5 species of seagrass found on Banyak Island, Aceh Singkil Regency, namely *Cymodocea rotundata*, *Enhalus Acoroideas*, *Thalasia hemprichii*, *Syringodium isoetifolium* and *Halophila ovalis*. The highest seagrass density was *Cymodocea rotundata* at station 2, while the lowest was *Syringodium isoetifolium* at station 3. The seagrass community structure of the seagrass diversity index (H') at stations 1, 3 and 4 was in the medium category, while at station 2 was in the low category. The seagrass uniformity index value (E) at stations 1 and 2 is in the medium category, while at stations 3 and 4 it is in the high category. The seagrass dominance index value (D) at all stations is included in the low class. Oceanographic factors in seagrass growth carried out 6 measurements, namely do, temperature, salinity, pH, nitrate, phosphate. The highest value for do is at station 2 and the lowest is station 3, while the highest temperature value is at station 2 and the lowest is at station 4. The highest salinity and pH values are at station 3 and the lowest at station 2, while the highest value is for nitrate and phosphate at station 4 and the lowest at station 1.

Keywords: Community structure, Banyak island, Purposive sampling, Seagrass and Water quality.