

## RINGKASAN

FATIMAH THE LAST ARTA. Makrozoobentos sebagai Bioindikator Kualitas Perairan di Pantai Marina Kota Batam Provinsi Kepulauan Riau. Dibimbing oleh ANDI ZULFIKAR dan WINNY RETNA MELANI.

Pantai Marina merupakan salah satu pariwisata bahari yang berada di kota Batam. Penelitian ini mengenai makrozoobentos sebagai bioindikator kualitas perairan di Pantai Marina, Kota Batam, Kepulauan Riau. Tujuan dari penelitian ini adalah untuk mengetahui kualitas perairan di Pantai Marina melalui keberadaan makrozoobentos menggunakan indeks ekologi dan Family Biotic Index. Pengambilan sampel dilakukan dengan metode random sampling sebanyak 30 titik sampel. Berdasarkan hasil identifikasi jenis makrozoobentos dijumpai sebanyak 26 genera, terdiri dari filum Mollusca 21 genera, Annelida 3 genera, dan Arthropoda 1 genus dengan total kelimpahan makrozoobentos di Pantai Marina sebesar 6.996 ind/m<sup>3</sup>. Nilai indeks ekologi makrozoobentos di Pantai Marina dengan nilai indeks keanekaragaman (2,84) kategori “sedang” menunjukkan nilai keanekaragaman sedang maka kondisi stabilitas komunitas biota sedang, keseragaman (0,87) kategori “tinggi” menunjukkan nilai keseragaman antara genus tinggi maka kondisi jumlah individu masing-masing genus hampir relatif sama atau merata, dominansi (0,07) kategori “rendah” menunjukkan nilai dominansi antara genus rendah maka kondisi lingkungan tidak terdapat genus yang mendominasi genus. Berdasarkan parameter lingkungan di Pantai Marina dapat dilihat bahwa kondisi perairan masih sesuai baku mutu air laut berdasarkan Peraturan Pemerintah Republik Indonesia No. 22 Tahun 2021 Lampiran VIII peruntukan biota laut dan bisa mendukung kehidupan makrozoobentos di Pantai Marina dan berdasarkan hasil perhitungan kriteria FBI dapat diketahui kualitas perairan di Pantai Marina berkategori “agak buruk” dengan nilai 6,31 yang berarti kualitas perairan di lokasi tersebut terpolusi bahan organik. Berdasarkan hasil uji statistik anova diperoleh nilai signifikan sebesar 0,338. Artinya hipotesis awal (H<sub>0</sub>) dalam penelitian ini diterima. Jarak dari daratan tidak berpengaruh secara signifikan terhadap kelimpahan makrozoobentos di Pantai Marina Kota Batam. Sehingga tidak beda nyata pengaruh jarak dari daratan terhadap kelimpahan makrozoobentos di Pantai Marina Kota Batam.

Kata kunci: Bioindikator, Kualitas Perairan, Makrozoobentos, Pantai Marina

## SUMMARY

FATIMAH THE LAST ARTA. Macrozoobenthos as a Bioindicator of Water Quality at Marina Beach, Batam City, Riau Islands. Supervised by ANDI ZULFIKAR and WINNY RETNA MELANI.

Marina Beach is one of the marine tourism in Batam City. The Research on macrozoobenthos as a bioindicator of water quality at Marina Beach, Batam City, Riau Islands. The purpose of this study was to determine the quality of the waters at Marina Beach through the presence of macrozoobenthos using the ecological index and the Family Biotic Index. Sampling was done by random sampling method with 30 sample points. Based on the identification results, there were 26 genera of macrozoobenthos, consisting of 21 genera of Mollusca phylum, 3 genera of Annelida, and 1 genus of Arthropoda with a total abundance of macrozoobenthos on Marina Beach a 6.996 ind/m<sup>3</sup>. The ecological index value of macrozoobenthos on Marina Beach with a diversity index value (2.84) in the "medium" category indicates a moderate diversity value, the condition for the stability of the biota community is medium, uniformity (0.87) in the "high" category indicates a high evenness value between genera, the condition for the number the individuals of each genus are relatively equal or evenly distributed, dominance (0.07) in the "low" category indicates that the dominance value between genera is low, so that in environmental conditions there are no genera that dominate the genus. Based on the environmental parameters at Marina Beach, it can be seen that the condition of the waters is still in accordance meet seawater quality standards based on Government Regulation of the Republic of Indonesia No. 22 of 2021 Appendix VIII designates marine biota and can support macrozoobenthos life on Marina Beach and based on the calculation results of FBI criteria it can be seen that the water quality at Marina Beach is in the "low bad" category with a value of 6.31 which means the water quality in that location is low bad. Based on the results of the ANOVA statistical test, a significant value of 0.338 was obtained. This means that the initial hypothesis (H<sub>0</sub>) in this study is accepted. The distance from the mainland does not significantly affect the abundance of macrozoobenthos in Batam City Marina Beach. So that there is no significant difference in the effect of distance from the mainland on the abundance of macrozoobenthos in Batam City Marina Beach.

Keywords: Bioindicators, Macrozoobenthos, Marina Beach, Water Quality