BIOMONITORING KOMUNITAS PERIFITON SALURAN BUANGAN RESIDU CAIR PT. MADU BARU

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INTISARI

Perilaku industri secara tidak langsung memberikan nilai tambahan lain kepada lingkungan berupa zat sisa pemrosesan. Masukan air buangan PT. Madu Baru ke dalam lingkungan bisa mempengaruhi kualitas lingkungan. Penelitian ini bertujuan untuk Mempelajari kualitas air permukaan mengalir di sekitar pabrik dan perairan yang teraliri air buangan melalui biomonitoring spesies perifiton. Penelitian dilakukan di 6 lokasi TS I tidak teraliri air buangan, TS II – IV adalah lokasi yang teraliri air buangan, TS PS dan TS PG berada di dalam lingkungan pabrik. Metode penelitian menggunakan prosedur Montana & Kentucky, dan metode *total strip counting* pada pengamatan labolatorium. Kualitas perairan dianalisis dengan Indeks Shannon-Wiener, Nygaard, dan Saprobik. Diatom paling mendominasi di TS I. Chlorophyta adalah kelompok yang lebih resiten terhadap polusi organik relatif lebih mendominasi di TS II-IV, TS PS, TS PG. pada TS II-IV kemelimpahan jenis yang kisaran hidupnya luas lebih tinggi. Dan lebih didominasi oleh *Chlorella variegatus* sebagai spesies indikator pencemaran organik. Beberapa spesies indikator pencemaran tinggi dan hanya hadir di TS IV dengan dominansi relatif rendah adalah *Spirogyra azygospora, Closterium parrectum*, *Melosira granulata* var. *spiralis*. Jika nutrien dan faktor lain yang menguntungkan tidak menjadi faktor pembatas faktor lain seperti suhu tinggi dan arus cepat menghambat pertumbuhan perifiton. Indeks Shannon-Wiener, Saprobik, dan Nygaard menunjukkan hanya di TS I tergolong tidak tercemar dan titik lainnya tergolong tercemar sedang ringan.

Katakunci : Biomonitoring, Chlorophyta, Diatom, Nutrien, Tercemar ringan sedang

PERIPHYTON COMMUNITY BIOMONITORING CHANNELS LIQUID DISPOSAL PT. MADU BARU, YOGYAKARTA

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ABSTRACT

Industrial indirectly provides additional value to environment in residual processing substances. Input of PT. Madu Baru into the environment could affect environment quality. This study aims to study the quality of surface water around the factory and waters that contains the residual, through the biomonitoring of periphyton. The research was conducted in 6 locations of TS I that wasn't contain residual water from factory, TS II - IV is the location that take residual water, TS PS (denatured alcohol residual site) and TS PG (sugar residual site)are inside the factory. Montana and Kentucky periphyton manual was used to this research. Laboratory observation were did by total strip counting technique. Water quality was analyzed by the Shannon-Wiener, Nygaard, and Saprobik Indexes. Diatoms was the most dominant (DR) in TS I (0.801). Chlorophyta was more resistant to organic pollution than other group, also was greater extent in TS II-IV, TS PS, TS PG. The abundance of species whose wide spread was higher at TS II-IV. Also, more dominated by Chlorella variegatus as a species of organic pollution indicator. Some species high pollution indicator were attended relatively low dominance in TS IV such as Spirogyra azygospora, Closterium parrectum, Melosira granulata var. spiralis. If nutrients and other beneficial factors were available then other factors such as high temperatures and fast currents become limiting factor. The Shannon-Wiener Indices, Saprobik Indices, and Nygaard indices shows TS I classified as clean waters) and other location are mildly polluted.

Keywords : Biomonitoring, Chlorophyta, Diatom, Nutrient, Mild moderate polluted