

ABSTRAK

ANALISIS KANDUNGAN LOGAM BERAT MERKURI (Hg) PADA AIR, SEDIMEN DAN MAKROALGA *Sargassum polycystum* DI PERAIRAN PULAU PANJANG, BANTEN

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Pulau Panjang, yang berdekatan dengan kawasan industri galangan kapal di Pulo Ampel dan Bojonegara, Banten, berpotensi tercemar logam berat, salah satunya merkuri. Merkuri dapat terakumulasi pada air, sedimen, dan organisme air seperti makroalga *Sargassum polycystum*, yang banyak ditemukan di perairan tersebut. Penelitian ini bertujuan menganalisis dan mengkaji kandungan merkuri pada air, sedimen, dan *Sargassum polycystum*. Sampel penelitian mencakup air, sedimen, dan makroalga yang diuji kandungan merkurnya dengan metode spektrofotometri serapan atom (SSA)-*cold vapor*. Pengujian mengacu pada SNI 19-6964.2-2003, SNI 06-6992.2-2004, dan SNI 2354.6:2016. Hasilnya menunjukkan rata-rata konsentrasi merkuri pada air sebesar $> 0,003 \mu\text{g/l}$ atau melebihi baku mutu yang diatur PP RI No. 22 Tahun 2021, pada sedimen rata-rata konsentrasi merkuri sebesar $> 150 \text{ ng/g}$ atau berada di atas ambang batas rendah namun di bawah ambang batas tinggi berdasarkan ANZECC & ARMICANZ (2000), sementara itu rata-rata konsentrasi merkuri pada *Sargassum polycystum* bernilai $> 0,003 \text{ mg/kg}$ atau melebihi batas maksimum cemaran menurut SNI 7387:2009. Hubungan konsentrasi merkuri pada air dan *Sargassum Polycystum* menunjukkan korelasi negatif. Sebaliknya, pada sedimen dan *Sargassum polycystum* menunjukkan korelasi positif.

Kata kunci: air, merkuri, Pulau Panjang, *Sargassum polycystum*, sedimen,

ABSTRACT

ANALYSIS OF HEAVY METAL MERCURY (Hg) CONTENT IN WATER, SEDIMENT, AND MACROALGAE *Sargassum polycystum* IN THE WATERS OF PANJANG ISLAND, BANTEN

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Panjang Island, located near the shipyard industrial area in Pulo Ampel and Bojo-negara, Banten, has the potential to be contaminated by heavy metal, one of which is mercury. Mercury can accumulate in water, sediment, and aquatic organisms such as the macroalga *Sargassum polycystum*, which is abundant in these waters. This study aimed to analyze and to examine mercury content in water, sediment, and *Sargassum polycystum*. The study samples include water, sediment, and macroalgae, with mercury content tested using the atomic absorption spectro-photometry (AAS) cold vapor method. The analysis follows SNI 19-6964.2-2003, SNI 06-6992.2-2004, and SNI 2354.6:2016 standards. The results showed that the average mercury concentration in water was greater than 0.003 µg/L, exceeding the quality standard set by PP RI No. 22 of 2021. In sediment, the average mercury concentration was more than 150 ng/g, which was above the lower threshold but below the upper threshold according to ANZECC & ARMCANZ (2000). Meanwhile, the average mercury concentration in *Sargassum polycystum* was greater than 0.003 mg/kg, exceeding the maximum contamination limit based on SNI 7387:2009. The relationship between mercury concentration in water and *Sargassum polycystum* showed a negative correlation. In contrast, the relationship between mercury concentration in sediment and *Sargassum polycystum* showed a positive correlation.

Keywords: water, mercury, Panjang Island, *Sargassum polycystum*, sediment,