

ANALISIS KANDUNGAN TIMBAL (Pb) DAN TEMBAGA (Cu) PADA RUMPUT LAUT *Gracilaria* sp. DI PESISIR DESA SUMBERKIMA

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ABSTRAK

Desa Sumberkima merupakan wilayah pesisir yang mengembangkan budidaya rumput laut *Gracilaria* sp., namun aktivitas pariwisata dan transportasi laut berpotensi mencemari perairan dengan logam berat. Penelitian ini bertujuan untuk mengetahui kadar timbal (Pb) dan tembaga (Cu) pada air laut dan jaringan rumput laut, serta mengkaji kondisi kualitas air di pesisir Desa Sumberkima. Pengambilan sampel dilakukan pada 3 stasiun, yaitu dekat pelabuhan, lokasi budidaya rumput laut, dan perairan lepas pantai. Parameter yang diukur meliputi suhu, salinitas, pH, oksigen terlarut (DO), dan kekeruhan, serta analisis kandungan Pb dan Cu menggunakan Spektrofotometri Serapan Atom (AAS). Hasil penelitian menunjukkan bahwa Pb dan Cu pada seluruh sampel air laut tidak terdeteksi, sehingga kualitas perairan masih tergolong baik. Namun, pada jaringan rumput laut *Gracilaria* sp. terdeteksi kandungan timbal (Pb) sebesar 103,7406 ppm, sedangkan tembaga (Cu) tidak terdeteksi. Parameter suhu, salinitas, pH, dan oksigen terlarut masih memenuhi baku mutu, namun nilai kekeruhan tergolong tinggi dan berpotensi menghambat penetrasi cahaya. Dapat disimpulkan bahwa perairan Desa Sumberkima belum tercemar logam berat pada kolom air, namun adanya akumulasi Pb pada rumput laut membuktikan kemampuan *Gracilaria* sp. menyerap logam berat meskipun konsentrasi di air sangat rendah. Pemantauan berkala sangat diperlukan untuk mencegah peningkatan pencemaran jangka panjang.

Kata kunci: *Gracilaria* sp.; kualitas air; timbal; tembaga; pesisir Desa Sumberkima

ANALYSIS OF LEAD (Pb) AND COPPER (Cu) CONTENT IN SEAWEED *Gracilaria* sp. ALONG THE COASTAL AREA OF SUMBERKIMA VILLAGE

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ABSTRACT

Sumberkima Village is a coastal area that develops the cultivation of *Gracilaria* sp. seaweed; however, tourism and marine transportation activities potentially pollute the waters with heavy metals. This study aims to determine the levels of Lead (Pb) and Copper (Cu) in seawater and seaweed tissues, as well as to assess the water quality conditions along the coast of Sumberkima Village. Sampling was conducted at 3 stations, namely near the port, at the seaweed cultivation site, and in offshore waters. The measured parameters included temperature, salinity, pH, dissolved oxygen (DO), and turbidity, while the Pb and Cu content were analyzed using Atomic Absorption Spectrophotometry (AAS). The results showed that Pb and Cu were not detected in any seawater samples, indicating that the water quality is still considered good. However, Lead (Pb) was detected in *Gracilaria* sp. tissues at a concentration of 103.7406 ppm, whereas Copper (Cu) was not detected. Parameters including temperature, salinity, pH, and dissolved oxygen still met the established quality standards, although turbidity values were relatively high and potentially hinder light penetration. It can be concluded that the waters of Sumberkima Village have not been contaminated by heavy metals in the water column; nevertheless, the accumulation of Pb in seaweed demonstrates the ability of *Gracilaria* sp. to absorb heavy metals even at very low concentrations in the water. Regular monitoring is strongly recommended to prevent long-term pollution increase.

Keywords: *Gracilaria* sp.; water quality; Lead; Copper; Sumberkima Village coastal area