IDENTIFIKASI PENCEMARAN AIR SUNGAI BATANGHARI DI PULAU PUNJUNG KABUPATEN DHARMASRAYA

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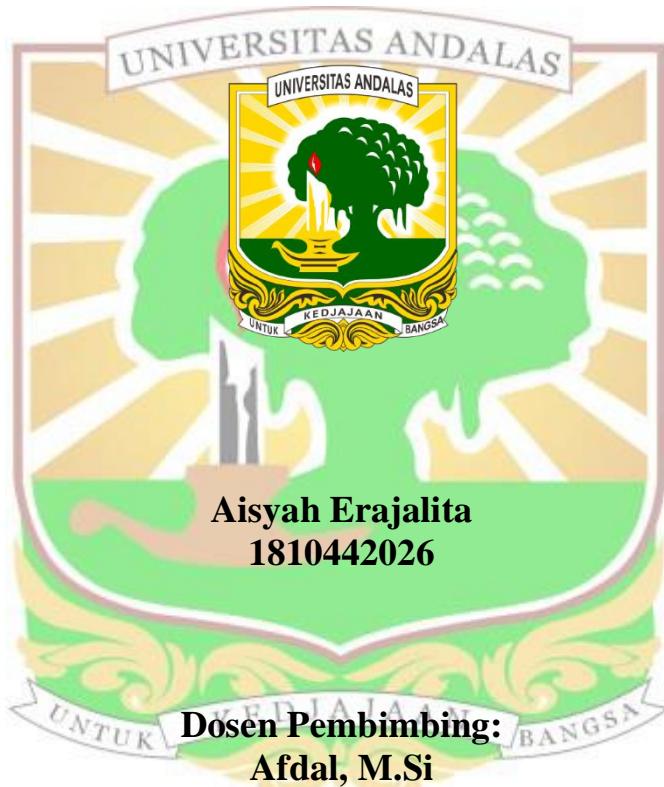
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IDENTIFIKASI PENCEMARAN AIR SUNGAI BATANGHARI DI PULAU PUNJUNG KABUPATEN DHARMASRAYA

ABSTRAK

Telah dilakukan penelitian untuk mengetahui tingkat pencemaran air dan kualitas air Sungai Batanghari di Pulau Punjung Kabupaten Dharmasraya menggunakan parameter TDS, TSS, konduktivitas listrik, kekeruhan, temperatur, pH dan logam berat (Hg, Pb, dan Cu). Pengukuran semua parameter dilakukan di lapangan, kecuali TSS dan kandungan logam berat. Pengukuran TSS dilakukan menggunakan metode gravimetri dan pengukuran kandungan logam berat dilakukan menggunakan alat *Atomic Absorbtion Spectroscopy* (AAS). Tingkat pencemaran air sungai dianalisis menggunakan metode Indeks Pencemaran (IP). Dari hasil penelitian diperoleh nilai rata-rata TDS sebesar 54 ppm. Nilai rata-rata TSS didapatkan sebesar 128 mg/L yang telah melebihi batas baku mutu yaitu 40 mg/L. Nilai konduktivitas listrik rata-rata didapatkan sebesar 110 µS/cm. Nilai kekeruhan didapatkan sebesar 188 NTU yang telah melebihi batas baku mutu yaitu 25 NTU. Temperatur air sungai di semua titik sampel belum melebihi baku mutu dengan nilai rata-rata total sebesar 29,1°C pada deviasi 3. Nilai rata-rata pH yang diperoleh yaitu 6,63 yang tergolong asam. Kandungan tertinggi logam berat Hg dan Cu yaitu 0,0006 mg/L dan 0,020 mg/L sedangkan kandungan logam berat Pb rata-rata yang didapatkan berada di bawah batas deteksi alat yaitu <0,002 mg/L. Dari nilai semua parameter dapat disimpulkan bahwa tingkat pencemaran air Sungai Batanghari di Pulau Punjung Dharmasraya menggunakan metode indeks pencemaran dengan nilai sebesar 3,79 tergolong dalam tercemar ringan dan tidak bisa digunakan untuk keperluan dalam rumah tangga.

Kata kunci : AAS, IP, konduktivitas listrik, logam berat, pH, TDS, temperatur, TSS.

IDENTIFICATION OF BATANGHARI RIVER WATER POLLUTION IN PULAU PUNJUNG DHARMASRAYA

ABSTRACT

Research has been conducted to determine the level of water pollution and water quality of the Batanghari River in Pulau Punjung Dharmasraya using the parameters TDS, TSS, electrical conductivity, turbidity, temperature, pH and heavy metal (Hg, Pb, and Cu). Measurements of all parameters are carried out in the field, with the exception of TSS and heavy metals content. TSS measurements were carried out using the gravimetric method and heavy metal content measurements were carried out using the Atomic Absorbtion Spectroscopy (AAS) tool. The level of pollution of river water was analyzed using the Pollution Index (IP) method. From the results of the study, an average TDS value of 54 ppm was obtained. The average TSS value was obtained at 128 mg/L which has exceeded the quality standard limit of 40 mg/L. Average electrical conductivity value obtained was 110 µS/cm. The turbidity value was obtained by 188 NTU which has exceeded the quality standard limit of 25 NTU. River water temperatures at all sample points have not exceeded the quality standard with a total average value of 29.1°C at deviation 3. The average pH value obtained is 6.63 which is classified as acidic. The highest content of heavy metals Hg and Cu is 0.0006 mg/L and 0.020 mg/L while the average Pb heavy metal content obtained is below the detection limit of the tool, which is <0.002 mg/L. From the values of all parameters it can be concluded that the level of water pollution of the Batanghari River in Pulau Punjung Dharmasraya uses the pollution index method with a value of 3.79 classified as lightly polluted and cannot be used for domestic purposes.

Keywords : AAS, IP, electrical conductivity, heavy metals, pH, TDS, temperature, TSS.