

**IDENTIFIKASI PENCEMARAN AIR SUNGAI BATANG LASI
DI NAGARI PADANG SIBUSUK KABUPATEN SIJUNJUNG
BERDASARKAN PARAMETER FISIKA DAN KIMIA**

SKRIPSI



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IDENTIFIKASI PENCEMARAN AIR SUNGAI BATANG LASI DI NAGARI PADANG SIBUSUK, KABUPATEN SIJUNJUNG BERDASARKAN PARAMETER FISIKA DAN KIMIA

ABSTRAK

Penelitian ini bertujuan untuk mengidentifikasi pencemaran air Sungai Batang Lasi di Nagari Padang Sibusuk, Kecamatan Kupitan, Kabupaten Sijunjung berdasarkan parameter fisika dan kimia. Parameter fisika yang digunakan yaitu temperatur, konduktivitas listrik, *Total Dissolved Solid* (TDS), *Total Suspended Solid* (TSS), dan kekeruhan. Untuk parameter kimia yaitu pH dan kandungan logam berat berupa tembaga (Cu) dan merkuri (Hg). Tingkat pencemaran air sungai ditentukan dengan metode Indeks Pencemaran (IP) berdasarkan Standar Baku Mutu Kelas III Peraturan Pemerintah RI Nomor 22 Tahun 2021. Pengambilan sampel digunakan dengan metode *purposive sampling* yaitu pengambilan sampel air dilakukan pada lima lokasi yang berpotensi mengalami pencemaran. Dari hasil penelitian diperoleh nilai rata-rata temperatur air 28,82°C dengan standar deviasi 2,03. Nilai rata-rata pH air 7,94 yang bersifat basa. Nilai rata-rata TDS dan konduktivitas listrik masing-masing 285,6 mg/L dan 122,751 $\mu\text{S}/\text{cm}$. Nilai rata-rata kandungan logam Cu sebesar <0,0015 mg/L. Parameter-parameter tersebut berada dalam standar baku mutu. Parameter TSS, kekeruhan, dan logam Hg telah melampaui batas baku mutu dengan nilai rata-rata 218,31 mg/L, 71,686 NTU, dan 0,02274 mg/L masing-masing. Berdasarkan hasil pengukuran parameter kualitas air disimpulkan bahwa tingkat pencemaran Sungai Batang Lasi di Nagari Padang Sibusuk tergolong tercemar ringan dengan nilai IP rata-rata sebesar 3,94. Air sungai tidak dapat diperuntukkan untuk budidaya ikan air tawar dan peternakan berdasarkan Standar Baku Mutu Kelas III, namun untuk mengairi pertanian dapat diperuntukkan berdasarkan Standar Baku Mutu Kelas IV.

Kata kunci: Indeks Pencemaran (IP), Sungai Batang Lasi, parameter fisika, parameter kimia

**IDENTIFICATION OF WATER POLLUTION OF BATANG LASI
RIVER IN PADANG SIBUSUK VILLAGE, SIJUNJUNG
REGENCY BASED ON PHYSICAL AND CHEMICAL
PARAMETERS**

ABSTRACT

This study aims to identify water pollution in the Batang Lasi River in Padang Sibusuk Village, Kupitan Sub-district, Sijunjung Regency, based on physical and chemical parameters. The physical parameters used are temperature, electrical conductivity, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), and turbidity. The chemical parameters were pH and heavy metal content in the form of copper (Cu) and mercury (Hg). The level of river water pollution was determined using the Pollution Index (PI) method based on Class III Quality Standards under Indonesian Government Regulation No. 22 of 2021. Sampling was carried out using the purposive sampling method, whereby water samples were taken at five locations with a potential for pollution. The research results showed an average water temperature of 28.82°C with a standard deviation of 2.03. The average pH of the water was 7.94, which is alkaline. The average values for TDS and electrical conductivity were 285.6 mg/L and 122.751 µs/cm, respectively. The average copper (Cu) content was <0.0015 mg/L. These parameters were within the quality standards. The TSS, turbidity, and mercury (Hg) parameters have exceeded the quality standards, with average values of 218.31 mg/L, 71.686 NTU, and 0.02274 mg/L respectively. Based on the results of the water quality parameter measurements, it is concluded that the level of pollution in the Batang Lasi River in Padang Sibusuk Village is classified as slightly polluted, with an average PI value of 3.94. River water cannot be used for freshwater fish farming and livestock farming under Class III Water Quality Standards; however, it may be used for crop irrigation under Class IV Water Quality Standards.

Keywords: Pollution Index (PI), Batang Lasi River, physical parameters, chemical parameters