

**ABSTRAK**  
**ANALISIS KUALITAS AIR DAMPAK PERTAMBANGAN EMAS DI ALIRAN  
SUNGAI BARITO KABUPATEN MURUNG RAYA**

Andrie Natallius Fery  
[andrifery407@rocketmail.com](mailto:andrifery407@rocketmail.com)  
Program Pasca Sarjana  
Universitas Terbuka

Kegiatan penambangan liar yang tidak diolah dahulu akan mengakibatkan pencemaran badan air sehingga berdampak pada kualitas air. Untuk itu, diperlukan kajian dari berbagai penelitian sebagai solusi guna menghasilkan kebijakan yang sejalan dengan SDGs (Sustainable Development Goals) yaitu: tujuan ke 6 dengan menjaga pengelolaan air bersih, ketersediaannya dan sanitasi yang berkelanjutan. Sungai Barito menunjukkan keadaan kurang menunjang sebagai sumber air minum baku, karena parameter fisik air seperti pH dan TSS masih kurang dari baku mutu (kelas II), penelitian-penelitian sebelumnya belum menunjukkan data dampak pertambangan emas skala kecil (PESK) pada parameter khusus sesuai Keputusan Menteri Negara Lingkungan Hidup Nomor 202 Tahun 2004, sehingga dilakukan penelitian dampak pencemaran PESK di aliran Sungai Barito Kabupaten Murung Raya, sebagai kebaruaran pada penelitian ini. Tujuan penelitian ini adalah untuk menganalisa kualitas air di Sungai Barito, status pencemaran, dan beban pencemar sungai akibat pertambangan emas di aliran Sungai Barito Kabupaten Murung Raya. Pendekatan penelitian menggunakan deskriptif kuantitatif dengan menentukan 4 titik pengambilan data dan sampel air Analisis data menggunakan metode STORET, dan Indeks Pencemaran (IP) untuk status kualitas air, sedangkan untuk beban pencemaran sungai dihitung menggunakan beban pencemar maksimum (BPM) dan Beban Pencemar Actual (BPA). Hasil analisis menunjukkan kualitas air aliran Sungai Barito Kabupaten Murung Raya pada parameter Timbal, TSS, Seng dari hulu, tengah, hilir sampai perbatasan Kabupaten Barito Utara lebih dari baku mutu air sungai kelas dua. Status pencemaran air metode STORET rata-rata skor -43,5 kategori tercemar berat. Rata-rata nilai IP yaitu 1,41 menunjukkan air mengalami cemar ringan. Beban pencemar total pada parameter TSS sebesar 25.410,4 kg/hari, sedangkan beban pencemar yang di ijinakan di buang dari kegiatan pertambangan sebesar 22.740 kg/hari, sehingga diperlukan penurunan beban pencemaran TSS sebesar 2.670,4 kg/hari. Beban pencemar total Seng (Zn) diperkirakan sebesar 21,6 kg/hari, sedangkan beban pencemar yang di ijinakan di buang sebesar 22,7 kg/hari. Beban pencemar total Timbal (Pb) diperkirakan sebesar 22,7 kg/hari, sedangkan beban pencemar yang di ijinakan di buang sebesar 13,6 kg/hari, sehingga diperlukan penurunan beban pencemar Timbal (Pb) sebesar 9,1 kg/hari. Beban pencemar total (Hg) sebesar 0,3 kg/hari setara dengan 300 gr/hari merkuri buangan dari pertambangan emas di aliran sungai Sungai Barito Kabupaten Murung Raya.

**Kata kunci :** *Pertambangan Emas, Sungai Barito, Kualitas Air, Cemar*

**ABSTRACT**  
**WATER QUALITY ANALYSIS OF THE IMPACT OF GOLD MINING IN THE  
BARITO RIVER FLOW, MURUNG RAYA DISTRICT**

Andrie Natallius Fery  
[andrifery407@rocketmail.com](mailto:andrifery407@rocketmail.com)  
Program Pasca Sarjana  
Universitas Terbuka

Illegal mining activities that are not treated first will result in contamination of water bodies so that they will have an impact on water quality. For this reason, studies from various studies are needed as a solution to produce policies that are in line with the SDGs (Sustainable Development Goals), namely: goal 6 by maintaining clean water management, its availability and sustainable sanitation. The Barito River shows unfavorable conditions as a source of standard drinking water, because the physical parameters of the water such as pH and TSS are still below the quality standard (class II), previous studies have not shown data on the impact of small-scale gold mining (ASGM) on specific parameters according to the Decree Minister of State for the Environment Number 202 of 2004, so that research was carried out on the impact of ASGM pollution in the Barito river, Murung Raya Regency, as a novelty in this study. The purpose of this study was to analyze the water quality in the Barito river, pollution status, and river pollutant load due to gold mining in the Barito river, Murung Raya Regency. The research approach uses quantitative descriptive by determining 4 data collection points and water samples. Data analysis used the STORET method, and the Pollution Index (IP) for water quality status, while for the river pollution load was calculated using the maximum pollutant load (BPM) and the Actual Pollutant Load (BPA). The results of the analysis show that the water quality of the Barito river, Murung Raya Regency, in the parameters Lead, TSS, Zinc from upstream, middle, downstream to the border of North Barito district is more than the class two river water quality standards. The status of water pollution using the STORET method averages a score of -43.5 in the heavily polluted category. The average IP value is 1.41 indicating that the water is lightly polluted. The total pollutant load on the TSS parameter is 25,410.4 kg/day, while the pollutant load allowed to be disposed of from mining activities is 22,740 kg/day, so a reduction in TSS pollution load of 2,670.4 kg/day is required. The total pollutant load of zinc (Zn) is estimated at 21.6 kg/day, while the pollutant load allowed to be disposed of is 22.7 kg/day. The total pollutant load of Lead (Pb) is estimated at 22.7 kg/day, while the allowable pollutant load to be disposed of is 13.6 kg/day, so a reduction in the pollutant load of Lead (Pb) is required of 9.1 kg/day. The total pollutant load (Hg) of 0.3 kg/day is equivalent to 300 gr/day of mercury discharged from gold mining in the Barito river, Murung Raya Regency.

Keywords: *Gold Mining, Barito River, Water Quality, Contaminated*