

ANALISIS KUALITAS AIR PENGGAL SUNGAI KALIBIRU AKIBAT LIMBAH CAIR TAHU DI DESA KEJI, KECAMATAN MUNTILAN, KABUPATEN MAGELANG

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INTISARI

Limbah cair tahu skala rumah tangga umumnya dibuang ke aliran sungai karena belum adanya sistem IPAL sehingga memungkinkan terjadinya penurunan kualitas air sunga. Desa Keji memiliki 10 pabrik tahu skala rumah tangga dan limbah cairnya dibuang ke kolam ikan sebelum dialirkan ke Sungai Kalibiru. Penelitian ini bertujuan untuk: (1) Membandingkan kualitas limbah cair industri tahu menurut Peraturan Daerah Provinsi Jawa Tengah Nomor 5 Tahun 2012, (2) Membandingkan kualitas air Sungai Kalibiru sesuai baku mutu kelas II menurut PP Nomor 22 Tahun 2021, serta (3) Menganalisis status mutu kualitas air Sungai Kalibiru menggunakan metode perhitungan Indeks Pencemaran (IP).

Penelitian ini dilakukan dengan mengambil sampel kualitas limbah cair tahu sebelum di buang ke kolam ikan dan dan setelah kolam ikan untuk dilakukan perbandingan kualitas airnya. Selain itu, dilakukan pengambilan sampel di Sungai Kalibiru dengan sebaran sebelum mendapat masukan limbah cair tahu, setelah mendapatkan sebagian masukan, dan setelah mendapatkan keseluruhan masukan limbah cair. Hasil keluaran dari kolam dengan hasil kualitas air sungai dilakukan perbandingan sesuai parameter yang sama. Pada tahap akhir, dilakukan perhitungan status mutu air sungai menggunakan metode perhitungan Indeks Pencemaran.

Kualitas limbah cair hasil keluaran dari kolam ikan (*outlet*) yang masuk ke badan sungai) memenuhi baku mutu sesuai dengan ketentuan yang berlaku di Peraturan Daerah Provinsi Jawa Tengah Nomor 5 Tahun 2012. Kualitas air Sungai Kalibiru dilakukan perbandingan sesuai baku mutu sungai kelas II menurut PP Nomor 22 Tahun 2021. Hasil yang didapatkan adalah kualitas Sungai Kalibiru melebihi baku mutu untuk parameter BOD dan total fosfat di semua titik pengambilan sampel. Nilai Indeks Pencemaran Sungai Kalibiru berturut-turut memiliki nilai sebesar 1,48; 1,11; dan 1,96 serta termasuk ke dalam status mutu tercemar ringan untuk semua titik.

Kata kunci: desa keji, kualitas air sungai, indeks pencemaran, limbah cair tahu

WATER QUALITY ANALYSIS OF KALIBIRU RIVER PENGAL DUE TO TOFU INDUSTRY LIQUID WASTE IN KEJI VILLAGE, MUNTILAN SUBDISTRICT, MAGELANG DISTRICT

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ABSTRACT

Household-scale tofu liquid waste is generally discharged into the river due to the absence of an IPAL system, allowing a decrease in the quality of river water. Keji Village has 10 household-scale tofu factories and the liquid waste is discharged into fish ponds before flowing into the Kalibiru River. This study aims to: (1) Compare the quality of tofu industry liquid waste according to Central Java Province Regional Regulation Number 5 of 2012, (2) Compare the quality of Kalibiru River water according to class II quality standards according to PP Number 22 of 2021, and (3) Analyze the quality status of Kalibiru River water quality using the Pollution Index (IP) calculation method.

This research was conducted by taking samples of the quality of tofu liquid waste before being discharged into the fish pond and after the fish pond to compare the water quality. In addition, sampling was carried out in the Kalibiru River with a distribution before getting tofu liquid waste input, after getting some input, and after getting all liquid waste input. The output results from the pond and the river water quality results were compared according to the same parameters. In the final stage, the river water quality status was calculated using the Pollution Index calculation method.

The quality of liquid waste output from the fish pond (outlet) that enters the river body) meets the quality standards in accordance with the applicable provisions in the Regional Regulation of Central Java Province Number 5 of 2012. The water quality of the Kalibiru River is compared according to the quality standards of class II rivers according to PP Number 22 of 2021. The results obtained are the quality of the Kalibiru River exceeds the quality standards for the parameters BOD and total phosphate at all sampling points. The Kalibiru River Pollution Index value has a value of 1.48; 1.11; and 1.96 and is included in the quality status of lightly polluted for all points.

Keywords: keji village, river water quality, pollution index, tofu liquid waste