Studi pencemaran Kali Surabaya akibat buangan organik

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Abstrak

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Isi Ringkasan :
Kali Surabaya memegang peranan sangat penting bagi kehidupan warga Kotamadya Surabaya dan sekitarnya yang berjumlah hampir dua juta enam ratus ribu jiwa, karena air Kali Surabaya ini merupakan air baku PDAM Kotamadya Surabaya. Oleh karenanya pengendalian pencemaran air Kali Surabaya perlu dilaksanakan dengan baik.

Sehubungan dengan hal tersebut karakteristik maupun kualitas Kali Surabaya perlu diteliti. Untuk menganalisis masalah ini digunakan data sekunder dari tahun 1991 sampai 1994, tentfama parameter BOD. Analisis difokuskan terhadap variabel debit, sumber pencemar, BOD, dan pengembangan rumus Met Calf & Eddy Lt = Lo. e 4'. Bila terdapat pertambahan cemaran BOD digunakan rumus konsentrasi campuran: C camp = C1Q1+C2 Q2 (Q1 + Q2) dengan menggunakan rumus-rumus tersebut, maka kadar BOD pada setiap titik di sepanjang Kali Surabaya dapat diperkirakan. Penggunaan rumus atau model tersebut bergantian tergantung situasinya.

Dari hasil ini dibuat kurva yang menyatakan hubungan antara kadar BOD dan lokasi sumber pencemar dengan keterangan jarak dari Mlirip.

Model atau perhitungan tersebut diplotkan dengan hasil observasi pengukuran BOD pada 11 titik lokasi pengambilan contoh selama pemantauan 4 bulan (April-Juli 1994). Ternyata model tersebut memperlihatkan kurva yang baik.

Terdapat 19 pabrik di sepanjang Kali Surabaya yang diperhitungkan dalam penelitian ini, dan 6 pabrik yang merupakan sumber pencemar yang potensial. Karena pengolahan air limbah kurang efektif, mengakibatkan kualitas air Kali Surabaya melampaui baku mutu air golongan B (bahan baku air minum).

Dari 6 pabrik yang potensial mencemari tersebut, terdapat 3 pabrik yang letaknya di bagian hilir Karangpilang, tetapi di bagian hulu Ngagel.

Perhitungan simulasi BOD dilakukan, apabila 3 pabrik yang memiliki potensi mencemari tersebut mengoiah air limbahnya hingga memenuhi standar (30 mg/l - SK Gubernur Jatim no. 414/1987), sehingga kadar BOD di intake Karangpilang dapat memenuhi air golongan B (SK Gubernur .Jatim no.413/1987). Demikian juga di Ngagel.

Bila 3 pabrik lainnya yang terletak di bagian hi lir Karangpilang memenuhi baku mutu air limbah Jatim,

maka kualitas air Kali Surabaya di Ngagel akan lebih baik
<hr>ABSTRACT
Water Pollution Study Due To Organic Waste A Case Study Of The Surabaya River, East JavaSummary

The river of Surabaya has an important role and function for sustaining the health and well being of the people who live along and in the surrounding of the river. Almost 2.6 million people of the Municipality of Surabaya rely on the river for their drinking water supply. Hence efforts to control the river pollution need to be well organized and implemented

In this connection, Study on the characteristics as well as the quality of the river is considered as the first step in the framework of good river pollution control implementation. It was conducted through a detailed analysis, based on secondary data of 1991 to 1994 viewed from the BOD evaluation parameter.

Analysis was focussed on the variables of flow rate, pollution sources, BOD, using the model developed by Met Calf & Eddy Lt = Lo. e 4', and the formula Cmix = CI Q1 + C2 Q2 (Q1+Q2) by using those formulas the BOD values could be predicted at every spot along the river. The use of the model and the formula is interchangable according to any new pollution source.

The model then was observed and applied across the real situation in the field at 11 spots within 4 months (April-Juli 1994). Apparently the model is applicable to the river by comparing the BOD prediction curve.

Along the river there are 19 factories and only 6 factories are considered as the most potential sources of pollution. At present most of those factories do not treat the waste water discharge and caused the decline in the quality of the river.

The study manipulates BOD values of three factories up stream of Karangpilang intake and three factories down stream of Karangpilang intake but up stream of Ngagel intake.

If water discharge of three factories, which is up stream of Karangpilang intake, comply with effluent standard (30 mg /1 - SK Gubernur Jatim no. 414/1987), so that the BOD value at Karangpilang intake fulfill the stream standard category B (SK Gubernur Jatim no. 413/1987). The same is true a1 Ngagel as well.

Father, if those. factories situated downstream of Karangpilang meet the East Java waste wafer discharge standard, thence the Surabaya river water quality at Ngagel will be much better.