

Intisari

Penggal Sungai Kelingi merupakan sumber air baku BLUD SPAM Kabupaten Musi Rawas sehingga keberlanjutan air sungai dari aspek kualitas perlu dipertahankan. Aktivitas manusia dalam pemenuhan kebutuhan dapat memberikan beban pencemar pada penggal Sungai Kelingi. Berdasarkan kondisi tersebut diperlukan kajian terkait kualitas air dan daya tampung beban pencemaran air sungai dimana tujuan penelitian ini adalah mengkaji status mutu air, menganalisis daya tampung beban pencemaran air dan merumuskan strategi pengendalian pencemaran air pada penggal Sungai Kelingi di Kabupaten Musi Rawas Provinsi Sumatera Selatan. Parameter yang diuji pada sampel air meliputi 10 parameter yaitu DO, *Fecal Coliform*, COD, pH, BOD, NH₃-N, Total Fosfat, TSS, NO₃-N dan TDS kemudian ditentukan indeks kualitas air dengan metode IKA-INA. Daya tampung beban pencemaran air ditentukan dengan QUAL2KW pada parameter COD, BOD, NH₃-N, TSS dan NO₃-N di 3 segmen. Perumusan strategi pengendalian pencemaran air dirumuskan berdasarkan identifikasi permasalahan dan penyebab permasalahan. Berdasarkan hasil penelitian menunjukkan bahwa status mutu air penggal Sungai Kelingi memiliki kategori sangat baik pada titik SHU dan kategori baik pada titik STH1, STH2 dan SHI dimana terjadi penurunan nilai IKA. Penurunan ini dikontribusikan oleh parameter pH, TSS, BOD, COD dan *Fecal Coliform*. Hasil analisis daya tampung beban pencemaran air menunjukkan bahwa parameter NH₃-N, TSS dan NO₃-N belum melampaui daya tampung dan parameter BOD dan COD telah melampaui daya tampung. Berdasarkan kondisi tersebut, dirumuskan strategi yang dapat dijadikan acuan bagi pemerintah dalam membuat kebijakan pengendalian pencemaran air pada penggal Sungai Kelingi. Strategi tersebut meliputi: (1) aspek kelembagaan yaitu koordinasi lintas stakeholder, inventarisasi sumber pencemar, penetapan daya tampung beban pencemaran, pengawasan dan penegakan hukum serta pengetatan perizinan dan pemantauan air, (2) aspek sosial yaitu kegiatan pembinaan dan penyuluhan kepada masyarakat dan (3) aspek teknis yaitu evaluasi kinerja IPAL industri, pembuatan IPAL Komunal dan MCK umum.

Kata Kunci : Metode IKA-INA, Daya Tampung Beban Pencemaran, QUAL2KW

Abstract

The Kelingi River basin is the source of raw water for the BLUD SPAM of Musi Rawas Regency so that the sustainability of river water from the quality aspect needs to be maintained. Human activities in fulfilling needs can provide a pollutant load on the Kelingi River basin. Based on these conditions, a study is needed related to water quality and the capacity of the river water pollution load where the objectives of this study are to assess the status of water quality, analyze the capacity of the water pollution load and formulate a strategy for controlling water pollution in the Kelingi River basin in Musi Rawas Regency, South Sumatra Province. Parameters tested on water samples include 10 parameters namely DO, Fecal Coliform, COD, pH, BOD, NH₃-N, Total Phosphate, TSS, NO₃-N and TDS then determined the water quality index using the IKA-INA method. Water pollution load carrying capacity was determined with QUAL2KW on COD, BOD, NH₃-N, TSS and NO₃-N parameters in 3 segments. The formulation of water pollution control strategies was formulated based on the identification of problems and causes of problems. Based on the results of the study, it shows that the water quality status of the Kelingi River penggal has a very good category at the SHU point and a good category at the STH1, STH2 and SHI points where there is a decrease in the IKA value. This decrease was contributed by the parameters pH, TSS, BOD, COD and Fecal Coliform. The results of the water pollution load capacity analysis show that the parameters NH₃-N, TSS and NO₃-N have not exceeded the capacity and the parameters BOD and COD have exceeded the capacity. Based on these conditions, strategies were formulated that can be used as a reference for the government in making water pollution control policies in the Kelingi River basin. These strategies include: (1) institutional aspects, namely coordination across stakeholders, inventory of pollutant sources, determination of pollution load capacity, supervision and law enforcement as well as tightening water licensing and monitoring, (2) social aspects, namely coaching and counseling activities for the community and (3) technical aspects, namely evaluating the performance of industrial WWTPs, making Communal WWTPs and public toilets.

Keywords: IKA-INA Method, Pollution Load Carrying Capacity, QUAL2KW