

## Aplikasi qual2k pada studi pemodelan bod dan nitrogen di Kali Bekasi = Application qual2k for bod and nitrogen modeling in Bekasi River

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### Abstrak

[Limbah cair dari sumber domestik ataupun industri di sepanjang aliran DAS Kali Bekasi berperan dalam pencemaran yang terjadi di badan air sungai. Hal ini berpengaruh pada penurunan kualitas air baku di Saluran Tarum Barat yang merupakan sumber air bersih untuk kota Jakarta ketika bertemu di Pintu Air Bekasi. Sehingga pencemaran di DAS Kali Bekasi perlu dikendalikan agar tidak mempengaruhi kualitas air baku di Saluran Tarum Barat. Penelitian ini menggunakan QUAL2K untuk menghitung beban pencemaran yang masuk ke sungai untuk memprediksi kualitas air disepanjang aliran dalam parameter BOD dan Nitrogen dalam rangka proses manajemen kualitas air. Pembangunan model dilakukan dengan mengidentifikasi daerah yang berpotensi mencemari sungai dan menjalankan model secara trial and error dengan membandingkan hasilnya dengan data sekunder untuk memvalidasi model. Dari pemodelan QUAL2K BOD dan Nitrogen diprediksi dengan memodelkan limbah industri dan domestik yang masuk ke DAS Kali Bekasi. Dari model dihasilkan bahwa disepanjang aliran DAS Kali Bekasi potensi pencemaran yang terjadi cukup besar didaerah bantaran sungai. Dari perhitungan TMDL didapatkan beban BOD maksimum di Kali Bekasi adalah 199,164 kg/hari.;Wastewater from domestic or industri source in Bekasi River watershed have a big influence to polluted river water body. This thing result decreasing water quality in Tarum Barat Canal that use to supply water for Jakarta when cross in Bekasi Floodgate. Because of this pollution di Bekasi river watershed need to control in order not to influence water quality in Tarum Barat Canal. This study uses QUAL2K for calculate the pollution load into the river to predict water quality along the river flow within parameter BOD and Nitrogen in the framework of the process of water quality management. Model construction is done by identifying area that could potentially contaminate the river and model running by trial and error method with compared the result with secondary data to validate the model. From modeling with QUAL2K BOD and Nitrogen predicted along Bekasi River with input from domestic wastewater and industrial wastewater. From model output along river body in Bekasi River watershed have a potential to contaminated water especially from area near riverbanks and from TMDL?s calculation obtained BOD maximum in Bekasi River is 199,164 kg/day.;Wastewater from domestic or industri source in Bekasi River watershed have a big influence to polluted river water body. This thing result decreasing water quality in Tarum Barat Canal that use to supply water for Jakarta when cross in Bekasi Floodgate. Because of this pollution di Bekasi river watershed need to control in order not to influence water quality in Tarum Barat Canal. This study uses QUAL2K for calculate the pollution load into the river to predict water quality along the river flow within parameter BOD and Nitrogen in the framework of the process of water quality management. Model construction is done by identifying area that could potentially contaminate the river and model running by trial and error method with compared the result with secondary data to validate the model. From modeling with QUAL2K BOD and Nitrogen predicted along Bekasi River with input from domestic wastewater and industrial wastewater. From model output along river body in Bekasi River watershed have a potential to contaminated water especially from area near riverbanks and from TMDL?s calculation

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