

KAJIAN PENCEMARAN LINGKUNGAN PERAIRAN SUNGAI SELOR AKIBAT PEMBUANGAN LIMBAH DOMESTIK DI TANJUNG SELOR, KABUPATEN BULUNGAN, KALIMANTAN UTARA

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INTISARI

Air Sungai Selor memiliki peranan yang sangat penting bagi masyarakat Tanjung Selor untuk memenuhi kebutuhan hidup sehari-hari (minum, mandi dan mencuci). Berbagai aktivitas masyarakat di sekitar sungai selor mengindikasikan terjadinya penurunan kualitas air yang menyebabkan pencemaran lingkungan perairan sungai. Tujuan penelitian ini adalah: (1) mengkaji variasi aktivitas masyarakat serta karakteristik limbahnya; (2) menghitung beban pencemaran dan indeks pencemaran lingkungan; dan (3) merumuskan strategi pengelolaan lingkungan di perairan Sungai Selor.

Metode penelitian ini menggunakan metode survey sebagai alat pengumpulan data, yang menekankan teknik *purposive sampling*. Data kualitas air diukur dengan parameter fisik, kimia dan bakteriologis. Sampel air limbah diambil dari 4 titik yang bersumber dari limbah rumah tangga, hotel, kantor pemerintahan dan rumah sakit. Air sungai diambil dari hulu sampai hilir sungai yang sudah tercampur dengan air limbah aktivitas domestik. Data sosial diperoleh berdasarkan hasil wawancara menggunakan kuesioner.

Hasil penelitian menunjukkan bahwa sumber pencemar Sungai Selor berasal dari rumah tangga, hotel, rumah sakit, kebiasaan masyarakat menggunakan air, mengelola air limbah serta kebiasaan membuang sampah. Beberapa parameter air seperti TSS (*Total Suspended Solid*), BOD, COD, Amoniak, *E coli* dan Total *Coliform* memperlihatkan keadaan perairan sungai Selor telah melebihi baku mutu kualitas air sungai. Berbagai kegiatan domestik dari hulu sampai di hilir Sungai Selor memberikan beban pencemaran yang tinggi terhadap kualitas air. Beban pencemaran tertinggi yaitu parameter total *coliform* sebesar 906,63 kg/hari, sedangkan *E coli* sebesar 203,78 kg/hari, TSS (*Total Suspended Solid*) sebesar 26,31 kg/hari, COD (*Chemical Oxygen Demand*) sebesar 10,07 kg/hari, BOD (*Biochemical Oxygen Demand*) sebesar 5,052 kg/hari dan amoniak sebesar 0,064 kg/hari. Berdasarkan hasil penelitian dengan Analisis indeks pencemaran, dapat disimpulkan bahwa Sungai Selor berada pada status tercemar ringan. Strategi pengelolaan lingkungan di titik beratkan pada pengelolaan limbah cair dengan pembuatan jaringan terpusat atau komunal dengan pendekatan teknologi, pemberdayaan masyarakat dan pendekatan institusi dengan melibatkan semua stakeholder.

Kata Kunci : *Pencemaran lingkungan, kualitas air, aktivitas masyarakat, limbah domestik*

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STUDY OF ENVIRONMENTAL POLLUTION OF SELOR RIVER WATERS DUE TO DOMESTIC WASTE DISPOSAL IN TANJUNG SELOR, BULUNGAN REGENCY, NORTH KALIMANTAN

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ABSTRACT

Selor River Waters have a very important role for the community of society of in Tanjung Selor to fulfill their daily needs (drinking, bathing and washing). Various activities of the community around the Selor River indicate the decrease of water quality that cause pollution of the river waters environment. The aims of this research are: (1) to study the variation of community activities and its waste characteristics; (2) to calculate pollution load and environmental pollution index; and (3) to formulate an environmental management strategy on Selor river waters.

This research used survey method as a technique of data collection, which emphasize purposive sampling technique. Water quality data was measured with physical, chemical and bacteriological parameters. Samples of wastewater was taken from 4 different point locations and river waters was taken upstream to downstream of the river that had mixed with domestic wastewater. Social data was obtained from interview result using the questionnaire.

The result of this research showed that the source of pollutions in Selor river waters came from domestic activities from households, hotels, hospitals, public habits of using water, wastewater management and waste disposal habits. Some water parameters such as TSS (Total Suspended Solid), BOD, COD, Ammonia, E-coli and Total Coliform showed that Selor River waters have exceeded from the quality standard of the river waters. Various domestic activities from upstream to downstream of the Selor River provide a high pollution load on water quality. The highest pollution load was the total coliform parameter of 906.63 kg / day, while E coli of 203.78 kg / day, TSS (Total Suspended Solid) of 26.31 kg / day, COD (Chemical Oxygen Demand) of 10.07 kg / day, BOD (Biochemical Oxygen Demand) of 5.052 kg / day and ammonia of 0.064 kg / day. Based on the result by analysis of pollution index, it can be concluded that Selor river waters was categorized as lightly polluted. Environmental management strategies emphasize on liquid waste management by making centralized or communal networks with technological approaches, community empowerment and institutional approaches involving all stakeholders.

Keywords: Environmental pollution, water quality, community activity, domestic waste

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