

**KAJIAN KERUSAKAN LINGKUNGAN PERAIRAN SUNGAI  
AKIBAT PEMBUANGAN LIMBAH AKTIVITAS PENGGUNAAN  
LAHAN INTENSIF DI DAERAH ALIRAN SUNGAI  
TAMBAKBAYAN, SLEMAN, YOGYAKARTA**

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**INTISARI**

Tujuan penelitian ini adalah mengkaji jenis-jenis kerusakan lingkungan perairan sungai, mengkaji tingkat kerusakan lingkungan perairan sungai dan merumuskan strategi pengelolaan lingkungan perairan sungai. Penggunaan lahan intensif di DAS Tambakbayan adalah pertanian dan permukiman. Penelitian menggunakan metode survei untuk pengambilan sampel air dan wawancara penduduk. Sampel air bersifat sampel sesaat dengan 6 titik pengamatan air sungai sebagai titik pengamatan utama dan 1 titik pengamatan air embung sebagai titik kontrol. Parameter kualitas air yang digunakan antara lain suhu, TSS, TDS, kekeruhan, pH, DO, BOD, COD, nitrat, fosfat, kalium, fluorida, arsen, detergen, minyak-lemak, NH<sub>3</sub>-N dan bakteri *coliform* total. Wawancara penduduk dilakukan terhadap responden rumah tangga dan petani untuk mengetahui perilaku penduduk terhadap limbah dan pengetahuan penduduk mengenai lingkungan perairan. Metode analisis yang digunakan di penelitian ini antara lain komparatif dan deskriptif, Indeks Pencemaran serta matriks.

Hasil penelitian menunjukkan bahwa jenis kerusakan lingkungan perairan sungai pada komponen abiotik berupa pencemaran air dengan mayoritas konsentrasi senyawa minyak-lemak dan fosfat melebihi BMA. Komponen kultural menunjukkan terdapat perilaku penduduk yang perlu diperbaiki serta pengetahuan penduduk yang perlu ditingkatkan. Komponen biotik sejauh ini belum mengalami kerusakan. Mayoritas tingkat kerusakan lingkungan perairan sungai termasuk kategori cemar ringan. Preventif berbasis masyarakat, pembangunan IPAL dan regulasi jarak garis sempadan sungai merupakan strategi yang dapat direkomendasikan untuk mengelola lingkungan perairan sungai di DAS Tambakbayan.

Kata kunci : kerusakan lingkungan, limbah, penggunaan lahan, sungai, pengelolaan lingkungan

**STUDY OF RIVER ENVIRONMENTAL DAMAGE CAUSED BY WASTE  
DISPOSAL OF THE INTENSIVE LAND USE ACTIVITIES  
IN TAMBAKBAYAN WATERSHED, SLEMAN, YOGYAKARTA**

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**ABSTRACT**

The objectives of this study are reviewing the types of river environmental damage, reviewing the level of river environmental damage and formulating the strategy on river environmental management. The intensive land use in Tambakbayan Watershed is agriculture and settlement. This study used survey method to take water samples and to interview the resident. The water samples are grab samples with 6 river water observation points as the main observation points and 1 reservoir water observation point as the control point. Water quality parameters used are temperature, TSS, TDS, turbidity, pH, DO, BOD, COD, nitrate, phosphate, potassium, fluoride, arsenic, detergents, oil-fat, NH<sub>3</sub>-N and total coliform bacteria. The interview was conducted to domestic and farmer respondents to determine the resident behavior toward waste and the resident knowledge about the water environment. The analysis methods used in this study are comparative and descriptive, pollution index and matrix.

The results showed that the type of river environmental damage on the abiotic component was caused by water pollution with the majority concentrations of oil-fat and phosphate are in excess to the water quality standard. Cultural component showed that the behavior of the resident needs to be fixed and their knowledge needs to be improved. Biotic component has so far not suffered any damage. The majority level of river environmental damage belongs to slightly polluted class. Community-based prevention, WWTP construction and the line of the river border regulation are the strategies that could be recommended to manage the river environmental in Tambakbayan Watershed.

Keywords: environmental damage, waste, land use, river, environmental management