

ANALISIS LAJU EROSI DAN TINGKAT BAHAYA EROSI DI HILIR KALI OPAK KABUPATEN BANTUL DENGAN METODE RUSLE DAN PENGINDERAAN JAUH

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ABSTRAK

Daerah Aliran Sungai (DAS) termasuk suatu wilayah daratan yang merupakan satu kesatuan dengan sungai dan anak-anak sungainya. Kerusakan kondisi DAS seringkali menjadi penyebab peningkatan erosi, penurunan produktivitas lahan, percepatan degradasi lahan, dan banjir serta masalah sedimentasi. Erosi adalah proses hilangnya atau terkikisnya tanah atau bagian-bagian tanah dari suatu tempat yang terangkut oleh air atau angin ke tempat lain. Pemilihan hilir Kali Opak Kabupaten Bantul sebagai objek penelitian tugas akhir ini didasarkan karena kondisi sungai yang terbilang masih alami. Hilir Kali Opak Kabupaten Bantul digunakan untuk mengairi lahan-lahan pertanian dan pemukiman Kecamatan Kretek serta daerah sekitarnya. Penelitian ini bertujuan untuk memberikan informasi mengenai besarnya laju erosi dan tingkat bahaya erosi yang terjadi di hilir Kali Opak, Kabupaten Bantul dan memberikan rekomendasi pengendalian laju erosi yang terjadi. Perhitungan dalam penelitian ini menggunakan metode *Revised Universal Soil Loss Equation* (RUSLE) dan Penginderaan Jauh yang dihitung dari faktor curah hujan, jenis tanah, kemiringan lereng, dan tutupan lahan yang terjadi di sekitar area penelitian. Besar laju erosi yang terjadi pada hilir Kali Opak Kabupaten Bantul dengan metode *Revised Universal Soil Loss Equation* (RUSLE) yaitu sebesar 29,16 ton/ha/tahun. Tingkat bahaya erosi yang terjadi pada hilir Kali Opak Kabupaten Bantul dengan metode *Revised Universal Soil Loss Equation* (RUSLE) termasuk kedalam tingkat bahaya erosi kelas II (dua) yaitu tingkat bahaya erosi ringan. Rekomendasi pengendalian erosi pada hilir Kali Opak Kabupaten Bantul menggunakan metode vegetasi.

Kata kunci: Sungai, Kali Opak, Erosi, RUSLE, Tingkat Bahaya Erosi, Pengendalian

ANALYSIS OF THE RATE AND LEVEL OF EROSION HAZARD IN THE DOWNSTREAM OF OPAK RIVER, BANTUL DISTRICT BY USING RUSLE AND REMOTE SENSING METHODS

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ABSTRACT

River Watersheds (DAS) include a land area that is one unit with a river and its tributaries. Damage to watershed conditions is often the cause of increased erosion, decreased land productivity, accelerated land degradation, and flooding and sedimentation problems. Erosion is the process of losing or eroding land or parts of land from one place that are transported by water or wind to another place. The choice of the downstream of the Opak River, Bantul Regency as the research object for this final project was based on the condition of the river which is considered still natural. The downstream of the Opak River, Bantul Regency, is used to irrigate agricultural land and residential areas in Kretek District and the surrounding area. This research aims to provide information regarding the rate of erosion and the level of erosion hazard that occurs downstream of the Opak River, Bantul Regency and provide recommendations for controlling the rate of erosion that occurs. The calculations in this research use the Revised Universal Soil Loss Equation (RUSLE) and Remote Sensing methods which are calculated from rainfall factors, soil type, slope slope and land cover that occur around the research area. The rate of erosion that occurs downstream of the Opak River, Bantul Regency using the Revised Universal Soil Loss Equation (RUSLE) method is 29.16 tons/ha/year. The level of erosion hazard that occurs downstream of the Opak River, Bantul Regency using the Revised Universal Soil Loss Equation (RUSLE) method is included in the erosion hazard level of class II (two), namely the level of light erosion hazard. Recommendations for controlling erosion downstream of the Opak River, Bantul Regency using vegetation methods.

Keywords: River, Opak River, Erosion, RUSLE, Erosion Danger Level, Control