

KAJIAN DEGRADASI ALUR *SHORT CUT* WILALUNG SEBAGAI PERSPEKTIF PROGRAM KOLMATASE LEMBAH JUANA DAN ALUR SUNGAI SERANG

Oleh :

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Abstrak

Short Cut Wilalung memiliki bangunan Pintu Pembagi Banjir Wilalung yang bertujuan mengalirkan debit air ke arah sungai Wulan dan sungai Juana. Debit banjir terbesar yang pernah terjadi pada sungai Serang sebesar $1735 \text{ m}^3/\text{det}$ yang menyebabkan meluapnya air sungai Serang akibat menurunnya kapasitas alur dan endapan sedimen. Pola pengendalian banjir Wilayah Sungai Jratunseluna memanfaatkan laju angkutan sedimen kemudian membuang bebas endapan sedimen ke arah sungai Juana untuk menggenangi rawa-rawa Juana. Penelitian ini bertujuan untuk mengetahui besaran nilai distribusi volume run off dan volume laju angkutan sedimen pada Short Cut Wilalung.

Metode penelitian menggunakan metode deskriptif dan metode teoritis, dimana penelitian dimulai dengan mengidentifikasi masalah pada daerah penelitian. Proses pengolahan data menggunakan data primer dan sekunder berdasarkan wilayah studi pengamatan. Data yang didapatkan, kemudian di analisis menggunakan analisis matematis, analisis curah hujan, dan beberapa parameter hidrologi lainnya.

Pengaliran sumber daya air pada Short Cut Wilalung mengalami penurunan fungsi akibat degradasi pada alur sungai sebesar $3.418,8 \text{ m}^3/\text{hari}$ dalam setahun yang merupakan 30% endapan sedimen yang mengendap pada dasar sungai. Penyusutan alur Short Cut Wilalung menyebabkan penurunan kapasitas alur pada sungai Serang untuk menampung debit banjir. Berdasarkan hasil perhitungan didapat nilai besaran debit volume run off pada tahun 2007 sebesar $816.657.120 \text{ m}^3/\text{tahun}$. Sementara, volume laju angkutan sedimen dengan metode Engelund and Hansen didapat hasil sedimen $34,128 \text{ m}^3/\text{hari}$, dengan metode Einstein didapat hasil sedimen $339,681 \text{ m}^3/\text{hari}$, dengan metode rasional didapat hasil sedimen $3.418,8 \text{ m}^3/\text{hari}$ (untuk tahun 2007). Nilai besaran sedimen berbeda-beda pada tiap metode diakibatkan perbedaan penggunaan nilai diameter butiran pada tiap metode.

Kata Kunci: laju angkutan sedimen, degradasi, volume *run off*, *short cut* wilalung.

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**STUDY OF DEGRADATION OF THE GROOVE SHORT-CUT WILALUNG
AS THE PERSPECTIVE OF THE PROGRAM KOLMATASE THE VALLEY OF
JUANA AND THE FLOW OF THE SERANG RIVER**

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Abstract

Short-Cut Wilalung have the building Door Divider Flood Wilalung aimed at siphoning water discharge towards the river and the river Wulan Juana. The largest flood discharge that ever happened on a river Attack amounted to 1735 m³/det the cause of the frequent river water attack due to decreased sediment deposition and flow capacity. The pattern of river basin flood control Jratunseluna sediment transport rate of the harness and then dispose of the sediment-free sediment toward the River to inundate the Juana swamps Juana. This research aims to know the magnitude of the value of the distribution of volume run off and the volume of sediment transport rate on Short-Cut Wilalung.

Research methods method using descriptive and theoretical methods, where research begins by identifying the problems in the area of research. Data processing using primary and secondary data based on the area of study observations. The data obtained, then in the analysis using mathematical analysis, analysis of rainfall, and a few other hydrological parameters.

Stream of water resources on a Short-Cut function decline induced Wilalung degradation on the flow of the river of 3.418,8 m³ in a year that is 30% deposits of sediment that settles at the bottom of the river. Shrunken Groove Short-Cut Wilalung causing a decrease in the flow capacity of the Serang River to accommodate discharge flood. Based on the results of the calculation of the value of the obtained quantities of discharge volume run off in 2007 amounted to 816,657,120 m³/years. Meanwhile, the volume of sediment transport rate by the method of Engelund and Hansen gained the results of sediment 34,128 m³/day, Einstein obtained with the method of sediment yield 339,681 m³/day, rational method obtained the results of sediment 3.418,8m³/day (for the year 2007). The value of the quantity of sediment varies in each method caused the difference of use value of grain diameter on each method.

Key words: sediment transport rate, degradation, volume run off, short-cut wilalung.

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