

RINGKASAN

KEMALA SEPTIA ZONA. Laju Sedimentasi Perairan Sei Carang Pascatambang Bauksit Periode Juli 2021. Dibimbing oleh WINNY RETNA MELANI dan WAHYU MUZAMMIL.

Sei Carang memiliki lahan terbuka yang tidak termanfaatkan setelah penambangan bauksit. Keberadaan lahan terbuka memberikan dampak negatif bagi lingkungan perairan Sei Carang berupa sedimentasi yang menyebabkan pendangkalan dan mengganggu kondisi kualitas perairan fisika. Oleh karena itu dilakukan penelitian untuk mengetahui laju sedimentasi dan kondisi fisika perairan Sei Carang pascatambang bauksit periode Juli 2021. Metode penentuan stasiun penelitian ditentukan atas pertimbangan luasan lahan terbuka pasca tambang bauksit. Laju sedimentasi diukur menggunakan *sediment trap* bertingkat untuk melihat laju sedimentasi pada kolom dan dasar perairan. Hasil penelitian menunjukkan kondisi lingkungan fisika perairan Sei Carang tidak baik yang dilihat dari nilai kekeruhan, kecerahan, dan *Total Suspended Solid* (TSS) yang tidak memenuhi baku mutu perairan. Jenis sedimen dominan yang terperangkap yaitu pasir kasar (*coarse sand*). Rata-rata laju sedimentasi yang terjadi pada kolom dan dasar stasiun 1 dengan luas lahan terbuka pasca tambang bauksit 77.050 m² yaitu 270,77 g/m²/minggu dan 314,27 g/m²/minggu. Rata-rata laju sedimentasi yang terjadi pada kolom dan dasar perairan stasiun 2 dengan luas lahan pasca tambang bauksit 52.025 m² yaitu 305,54 g/m²/minggu dan 334,40 g/m²/minggu. Stasiun 1 yang memiliki lahan terbuka pasca tambang bauksit lebih luas memiliki nilai laju sedimentasi lebih rendah yang dipengaruhi oleh adanya vegetasi mangrove dan perbedaan kondisi lingkungan di masing-masing lahan pascatambang bauksit. Laju sedimentasi pada kolom dan dasar perairan stasiun 1 berkorelasi positif dengan *Total Suspended Solid* (TSS) dan kekeruhan. Laju sedimentasi pada kolom perairan stasiun 2 berkorelasi positif dengan parameter kekeruhan perairan. Laju sedimentasi pada dasar perairan stasiun 2 tidak memiliki kedekatan dengan parameter fisika lainnya. Jarak lahan terbuka pasca tambang bauksit dari titik penelitian memiliki pengaruh yang kecil terhadap laju sedimentasi.

Kata kunci: Laju Sedimentasi, *Sediment trap*, Sedimentasi, Sei Carang

SUMMARY

KEMALA SEPTIA ZONA. Sedimentation Rate of Sei Carang After Bauxite Mining Period of July 2021. Supervised by WINNY RETNA MELANI and WAHYU MUZAMMIL.

Sei Carang has bare grounds that is not go in after bauxite mining. The existence of bare grounds has a negative impact on the aquatic environment of Sei Carang in the form of sedimentation which causes siltation and disturbs the physical environment of the waters. Therefore, a study was conducted to determine the sedimentation rate and the physical condition of the Sei Carang waters after the bauxite mining period for the July 2021 period. The method for determining research station by considering the area of bare grounds. The sedimentation rate was measured using a multilevel sediment trap to see the sedimentation rate on the column and bottom of the water. The results showed that the physical environmental conditions of Sei Carang waters were not good as seen from the values of turbidity, brightness and Total Suspended Solid (TSS) which did not meet the water quality standards. The dominant type of sediment trapped is coarse sand. The average sedimentation rate that occurs in the column and bottom of station 1 with a bare grounds area about 77.050 m² is 270,77 g/m²/week and 314,27 g/m²/week. The average sedimentation rate that occurs in the column and bottom waters of station 2 with a bare grounds area about 52.025 m² is 305,54 g/m²/week and 334,40 g/m²/week. Station 1, which has a wider bare grounds after bauxite mining, has a lower sedimentation rate, which may be influenced by differences in environmental conditions in each area. The sedimentation rate in the column and bottom waters of station 1 has a positive correlation with Total Suspended Solid (TSS) and turbidity. The sedimentation rate in the water column at station 2 is positively correlated with the water turbidity parameter. The sedimentation rate at the bottom of station 2 has no close relationship with other physical parameters. The distance of open land after bauxite mining from the research point has little effect on the sedimentation rate.

Keywords: Sediment trap, sedimentation, sedimentation rate, Sei Carang