

Pengaruh Pembuangan Limbah Cair PT. Sinar Wijaya Plywood Industries Terhadap Kualitas Lingkungan Air Laut di Wilayah Pesisir Kampung Awunawai Distrik Yapen Timur Kabupaten Kepulauan Yapen Provinsi Papua

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Intisari

Pemanfaatan wilayah pesisir merupakan salah satu penyebab terjadinya tekanan ekologis terhadap ekosistem pesisir. Kondisi air laut di Kampung Awunawai mengalami perubahan secara fisik. Perubahan tersebut ditandai dengan adanya kerusakan bakau, terumbu karang dan hilangnya krusrsea. Kerusakan pada pesisir pantai Kampung Awunawai diakibatkan oleh pembuangan limbah cair PT.SWPI di lingkungan perairan Kampung Awunawai. Penelitian ini bertujuan untuk mengetahui kualitas air limbah, kualitas air laut, struktur komunitas fitoplankton serta pengaruh aktivitas PT.SWPI terhadap kondisi sosial ekonomi masyarakat Kampung Awunawai. Kualitas air limbah diukur langsung pada *outlet* limbah cair PT.SWPI dan kualitas air laut diukur pada 11 titik sampling yang ditentukan secara *purposive sampling* berdasarkan peta pergerakan arus air laut di Kampung Awunawai. Analisis tingkat pencemaran menggunakan indeks pencemaran, analisis struktur komunitas fitoplankton dengan indeks keanekaragaman, dominansi dan keseragaman serta wawancara *In-depht interview*. Hasilnya menunjukkan bahwa air laut di wilayah pesisir Kampung Awunawai telah mengalami penurunan kualitas air yang ditandai dengan parameter TSS, DO, BOD, COD, Fenol dan Amonia yang tidak memenuhi baku mutu menurut Keputusan Menteri Lingkungan Hidup Nomor 51 Tahun 2004. Kondisi air laut di wilayah pesisir Kampung Awunawai masuk dalam kategori tercemar sedang berdasarkan perhitungan Indeks Pencemaran dengan nilai 6,661 sampai 7,153. Fitoplankton yang ditemukan terdiri dari 5 kelas dan 27 spesies dengan kemelimpahan spesies berkisar antara 68 – 1103 individu/liter. Keanekaragaman fitoplankton tergolong sedang, tidak ada dominansi spesies dan keseragaman jenis sedang. Dampak positif aktivitas PT.SWPI ketersediaan lapangan kerja dan munculnya potensi usaha baru. Dampak negatif aktivitas PT.SWPI adalah menurunnya kualitas air laut yang berdampak pada hasil tangkapan nelayan.

Kata Kunci: Kampung Awunawai, air laut, air limbah, pencemaran air.

The Effect of Liquid Waste Disposal of PT. Sinar Wijaya Plywood Industries on the Quality of the Sea Water Environment in the Coastal Area of Awunawai Village East Yapen District Yapen Islands Regency Papua Province

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Abstract

Utilization of coastal areas is one of the causes of ecological pressure on coastal ecosystems. The condition of sea water in Awunawai Villages undergoes physical changes. These changes are marked by the destruction of mangroves, coral reefs and the loss of crustaceans. Damage to the coast of Awunawai Village was caused by the disposal of PT. SWPI liquid waste in the sea of Awunawai Village. This study aims to determine the quality of wastewater, seawater quality, community structure of phytoplankton and the effect of PT.SWPI's activities on the socio-economic conditions of the community of Awunawai Village. Wastewater quality is measured directly at the PT.SWPI liquid waste outlet and seawater quality is measured at 11 sampling points determined by purposive sampling based on the map of the movement of seawater currents in Awunawai Village. Analysis of the level of pollution using the pollution index, analysis of the community structure of phytoplankton uses diversity index, dominance and evenness as well as In-depth interviews. The results show that the sea water in the coastal waters of Kampung Awunawai has decreased water quality marked by TSS, DO, BOD, COD, Phenol and Ammonia which do not meet the quality standards according to Ministerial Decree of the Environment Number. 51 of 2004. Sea water in Awunawai Village is in the moderately polluted a pollution index ranging from 6.661 to 7.153. Phytoplankton consisted of 5 classes and 27 species with species abundance ranging from 68 – 1103 individuals per liter. Phytoplankton diversity is classified as moderate, there is no species dominance and evenness is in the moderate category. The positive impact of PT.SWPI's activities was the job opportunities and the new business potential. The negative impact of PT. SWPI's activities was the decline of sea water quality which has an impact of decrease in fishermen's catches.

Keyword: Kampung Awunawai, sea water, waste water, water pollution