

**KAJIAN KERUSAKAN TERUMBU KARANG AKIBAT LIMBAH  
MINYAK DI PERAIRAN TELUK SEBUNG KABUPATEN BINTAN  
PROVINSI KEPULAUAN RIAU**

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**INTISARI**

Kasus pencemaran limbah minyak dari aktivitas kapal di perairan laut berdampak pada ekosistem terumbu karang di Teluk Sebung, Kabupaten Bintan. Penelitian ini bertujuan menganalisis kerusakan terumbu karang akibat limbah minyak, mengkaji partisipasi kelembagaan dalam pengelolaan dan penanganan ekosistem yang rusak, serta merumuskan rekomendasi pengelolaan lingkungan. Metode yang dipakai pada penelitian ini menggunakan metode kuantitatif dan kualitatif. Teknik pengumpulan data melalui survey pengamatan lapangan dengan sampling air laut dengan menganalisis kandungan parameter Suhu, TSS, Lapisan Minyak, Kekeruhan, Kecerahan, Salinitas, pH, Fosfat (PO<sub>4</sub>-P), Nitrat (NO<sub>3</sub>-N) dan Hidrokarbon Petroleum Total (TPH), tutupan terumbu karang, analisis spasial dan indepth interview. Hasil penelitian menunjukkan kondisi tutupan terumbu karang hidup di lokasi penelitian sekitar 26,91% atau masuk kategori rusak “Sedang”. Hasil IP dan IKAL menunjukkan perairan dalam status “Tercemar Sedang” dan masuk kategori “Buruk Sekali”. Hasil analisis spasial menunjukkan status “Sedang” atau Terumbu karang tumbuh hidup dengan kondisi tercemar sedang akibat terpengaruh limbah minyak dengan luasan mencapai 4,64 Km<sup>2</sup>. Tingkat kerusakan terumbu karang akibat limbah minyak masuk dalam kategori “buruk”. Hasil wawancara mendalam menunjukkan bahwa tindakan pemerintah terhadap pengelolaan terumbu karang belum aktif dilakukan, sementara masyarakat dan Pelaku Usaha telah ikut serta dalam konservasi yang dipimpin oleh civitas akademika di Kabupaten Bintan. Rekomendasi penelitian ini termasuk pemantauan rutin kualitas air, terumbu karang, dan limbah minyak, penggunaan teknologi pemetaan, serta perancangan dan implementasi kebijakan baru yang melindungi terumbu karang dan mengelola limbah minyak. Sinergi program antara berbagai kelembagaan juga diusulkan untuk meningkatkan efektivitas pengelolaan.

**Kata Kunci :** Kerusakan Lingkungan, Limbah minyak, Terumbu Karang

**STUDY OF CORAL REEF DAMAGE DUE TO OIL SPILL  
IN THE WATERS OF SEBUNG BAY DISTRICT  
BINTAN REGENCY PROVINCE OF RIAU ISLANDS**

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**ABSTRACT**

Cases of oil waste pollution from ship activities in marine waters have an impact on the coral reef ecosystem in Sebung Bay, Bintan Regency. This study aims to analyze coral reef damage due to oil waste, assess institutional participation in the management and handling of damaged ecosystems, and formulate recommendations for environmental management. The methods used in this research are quantitative and qualitative methods. Data collection techniques through field observation surveys with seawater sampling by analyzing the content of parameters Temperature, TSS, Oil Layer, Turbidity, Brightness, Salinity, pH, Phosphate (PO<sub>4</sub>-P), Nitrate (NO<sub>3</sub>-N) and Total Petroleum Hydrocarbons (TPH), coral reef cover, spatial analysis and indepth interviews. The results showed that the condition of live coral reef cover in the research location was around 26.91% or categorized as “Moderately” damaged. The results of IP and IKAL show waters in the status of “Moderately Polluted” and categorized as “Very Poor”. The results of spatial analysis show the status of “Moderate” or living coral reefs with moderately polluted conditions due to the influence of oil waste with an area of 4,64 Km<sup>2</sup>. The level of damage to coral reefs from waste oil is categorized as “poor”. The results of in-depth interviews show that government action on coral reef management has not been actively carried out, while the community and the private sector have participated in conservation led by the academic community in Bintan Regency. Recommendations include regular monitoring of water quality, coral reefs, and oil waste, use of mapping technology, and design and implementation of new policies that protect coral reefs and manage oil waste. Program synergies between different institutions are also proposed to improve management effectiveness.

**Keywords:** environmental damage, oil spills, coral reefs