

ABSTRACT

ANALYSIS OF SEA WATER QUALITY AT LAMPUNG BAY

BY

VERAWATI

Coastal area of the Lampung Bay provide a major contribution towards the economic activities in Lampung Province. Furthermore, during the current development, the area have been developed into various purposes such as, port, tourism, residential, maritime and aquaculture development and fisheries. These activities affect the quality of the sea-water in the Bay, moreover the quality of sea-water could be used as an indicator of the environmental status in the Lampung Bay. The main purpose of this research is to measure the sea-water quality index in the Lampung Bay using CCME WQI, Storet and Pollution Index methods.

In this research, analysis was performed based on sea-water quality data which were recorded during period of 20 years, from 1996 to 2014, published by the Center for Development of Marine Aquaculture (BBPBL) Lampung Province. The analysis of the sea-water quality index were conducted based on seven parameters, those are pH, temperature, salinity, DO, Ammonia, Nitrate and Phosphate. Five coastal areas were chosen as the study sites namely Hurun Bay, Ringgung Beach, Tegal Island, Pahawang Island, and Tanjung Putus. In this research, Minister of Environment's Decree No. 51 year 2004 on Sea-water Quality Index, was chosen as the benchmark of sea-water quality standard.

Based on the spatial analysis results, using CCME method, status of the sea-water quality in the bay was categorized as moderate to poor. Meanwhile, the analysis using Storet Method, in an average, categorized the sea-water quality status of the bay as lightly polluted. Pollution Index method categorized quality of the sea-water into a range of status vary from lightly polluted to moderately polluted. Based on the annual analysis using CCME WQI method, the sea-water quality categorized as marginal to poor. While the method of Storet categorized sea-water quality index as lightly polluted, and PI categorized the sea-water quality index from moderate to mild. The results of these three methods, however, provide diverse results significantly.

Keywords: CCME WQI, Storet, Pollution Index (PI), Sea-water Quality Index.

ABSTRAK

ANALISIS KUALITAS AIR LAUT DI TELUK LAMPUNG

OLEH

VERAWATI

Wilayah pesisir Teluk Lampung memberikan kontribusi yang besar bagi kegiatan perekonomian Provinsi Lampung. Dalam perkembangannya, wilayah pesisir Teluk Lampung mengalami peningkatan berbagai macam kepentingan seperti, kegiatan pelabuhan, pariwisata bahari, pemukiman dan maritim serta pengembangan budidaya laut dan perikanan. Aktivitas-aktivitas tersebut sangat mempengaruhi kualitas perairan di Teluk Lampung, dimana mutu air laut menjadi tolak ukur kondisi perairan laut. Tujuan dari penelitian ini adalah untuk mengetahui indeks kualitas air laut di Perairan Teluk Lampung dengan menggunakan Metode CCME WQI, Storet dan *Pollution Indeks*.

Data yang diperhitungkan dalam analisis ini, diperoleh dari tahun 1996 sampai dengan 2014. Perhitungan indeks kualitas air laut dilakukan dengan tujuh parameter kimia yaitu, pH, Suhu, Salinitas, DO, Amonia, Nitrat dan Fosfat. Data kualitas air laut yang digunakan adalah data sekunder yang diperoleh dari hasil uji laboratorium di Balai Besar Pengembangan Budidaya Laut (BBPBL) Provinsi Lampung. Wilayah perairan yang ditinjau yaitu, Perairan Teluk Hurun, Pantai Ringgung, Pulau Tegal, Pulau Pahawang dan Tanjung Putus. Baku mutu yang digunakan mengacu pada Keputusan Menteri Lingkungan Hidup Nomor 51 Tahun 2004 Tentang Baku Mutu Air Laut.

Hasil analisis perhitungan indeks ditinjau berdasarkan wilayah dengan Metode CCME, status mutu perairan dikategorikan sedang hingga buruk. Sedangkan Metode Storet mengkategorikan status mutu perairan adalah cemar ringan. *Pollution Indeks* mengkategorikan status mutu perairan cemar ringan hingga cemar sedang. Berdasarkan tahun pengukuran, status mutu perairan dengan Metode CCME WQI dikategorikan kurang hingga buruk. Sedangkan Metode Storet mengkategorikan status mutu perairan cemar ringan, dan PI mengkategorikan status mutu perairan cemar sedang hingga cemar ringan. Hasil dari ketiga metode tersebut menunjukkan tren yang cukup berbeda dan signifikan.

Kata kunci: CCME WQI, Storet, *Pollution Indeks*, Indeks Kualitas Air Laut.