Kesehatan Dan Kualitas Lingkungan Hutan Mangrove di Taman Hutan Raya Ngurah Rai, Bali = Mangrove Forest Health and Environmental Quality in Taman Hutan Raya Ngurah Rai, Bali

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Abstrak

Hutan mangrove merupakan hutan yang sangat produktif, baik dari segi ekonomis maupun ekologis. Terlepas dari manfaatnya hutan mangrove terus tertekan dan terdegradasi akibat dari aktivitas manusia. Tujuan dari penelitian ini adalah memetakan sebaran dan menganalisis kesehatan hutan mangrove berdasarkan nilai indeks vegetasi Normalized Difference Vegetation Index (NDVI) dan kualitas lingkungannya. Variabel yang digunakan ialah nilai NDVI, dan kualitas lingkungan dengan parameter suhu perairan, salinitas perairan, pH perairan, dan tekstur substrat. Kesehatan dan kualitas lingkungan hutan mangrove diperoleh melalui pengolahan citra satelit sentinel 2-A tahun 2020 serta pengukuran lapangan. Kualitas lingkungan hutan mangrove diperoleh dengan menggunakan metode Ordinary Kriging pada data pengambilan sampel lapangan. Analisis tabular, statistik dan deskriptif digunakan untuk menganalisis kesehatan hutan mangrove. Hasil analisis menunjukkan nilai NDVI yang tersebar di hutan mangrove Taman Hutan Raya Ngurah Rai semakin menurun mendekati tepi sungai, tepi pantai, dan mendekati daratan. Parameter kualitas lingkungan mangrove di Taman Hutan Raya Ngurah Rai berdasarkan suhu perairan, salinitas perairan, pH perairan, dan tekstur substrat bervariasi. Perairan dengan rentang suhu yang tinggi terdapat pada barat daya Taman Hutan Raya Ngurah Rai. Salinitas perairan semakin tinggi di mangrove yang dekat dengan pantai. pH perairan hutan mangrove sebagian besar memiliki keasaman netral dan tekstur substrat pada hutan mangrove didominasi tekstur lempung berpasir. Kesehatan hutan mangrove Taman Hutan Raya Ngurah Rai didominasi oleh kategori sehat. Kesehatan hutan mangrove semakin buruk mendekati tepi pantai dan tepi sungai. Vegetasi mangrove dengan kondisi baik cenderung memiliki kondisi kualitas lingkungan yang optimal dan begitu pula sebaliknya.
.....Mangrove forest is a very productive forest, both economically and ecologically. Despite its benefits, mangrove forests continue to be degraded as a result of human activities. The purpose of this study was to map the distribution and analyze the health of mangrove forests based on the value of the Normalized Difference Vegetation Index (NDVI) vegetation index and environmental quality. The variables used are NDVI values, and environmental quality with parameters of water temperature, water salinity, water pH, and substrate texture. The health and environmental quality of mangrove forests were obtained through the processing of Sentinel 2-A satellite imagery in 2020 and field measurements. The environmental quality of the mangrove forest was obtained using the Ordinary Kriging method on field sampling data. Tabular, statistical and descriptive analysis were used to analyze the health of the mangrove forest. The results of the analysis show that the NDVI values scattered in the mangrove forest of the Ngurah Rai Forest Park are decreasing towards the riverbanks, the coast, and closer to the mainland. The quality of the mangrove environment in Ngurah Rai Forest Park based on water temperature, water salinity, water pH, and substrate texture varies. Waters with a high temperature range are found in the southwest of Taman Hutan Raya Ngurah Rai. The salinity of the waters is higher in the mangroves close to the coast. The pH of mangrove forest waters mostly has neutral acidity and the texture of the substrate in mangrove forests is dominated by

sandy loam texture. The health of the mangrove forest of the Taman Hutan Raya Ngurah Rai is dominated by the mangrove with healthy category. The health of the mangrove forest is getting worse closer to the shore and riverbanks. Mangrove vegetation with good conditions tends to have optimal environmental quality conditions and vice versa.