



CONDITION OF CORAL REEF ECOSYSTEM AT TOURIST AND NON-TOURIST LOCATION AT TIDUNG KECIL AND PAYUNG ISLAND

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**DEPARTMENT OF MARINE SCIENCE AND TECHNOLOGY
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BOGOR
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ABSTRAK

KRISANDA SEKAR KINANTI. Kondisi Ekosistem Terumbu Karang di Lokasi Wisata dan Non-Wisata Pulau Tidung Kecil dan Payung. Dibimbing oleh BEGINER SUBHAN dan DEA FAUZIA LESTARI.

Terumbu karang merupakan ekosistem laut penting yang mendukung keanekaragaman hayati, melindungi pesisir, dan memberikan nilai ekonomi melalui perikanan dan pariwisata. Di kawasan seperti Kepulauan Seribu, aktivitas manusia yang meningkat menjadi ancaman bagi keberlanjutan ekosistem karang. Penelitian ini bertujuan untuk menilai dan membandingkan kondisi terumbu karang berdasarkan tutupan karang di dua lokasi berbeda. Lokasi wisata pulau Payung dan lokasi non-wisata pulau Tidung Kecil yang minim aktivitas manusia. Menggunakan metode *Point Intercept Transect* (PIT) dan analisis kualitas air, ditemukan bahwa tutupan karang keras tertinggi berada di kawasan konservasi (35%) dan terendah di jalur pelayaran (19%). Kualitas air secara umum sesuai standar, meskipun suhu tinggi di ST01 menunjukkan potensi pemutihan karang. Komposisi genus menunjukkan *Porites* dominan di area dengan aktivitas tinggi karena toleransi terhadap gangguan, sedangkan *Acropora* menurun dalam kondisi stres. Temuan ini menunjukkan perbedaan dampak aktivitas manusia terhadap kesehatan terumbu dan menekankan pentingnya pengelolaan berkelanjutan untuk menjaga fungsi ekologis dan keanekaragaman hayati.

Kata Kunci: Kepulauan Seribu, kualitas air, pariwisata, PIT, terumbu karang.

ABSTRACT

KRISANDA SEKAR KINANTI. Condition of Coral Reef Ecosystem at Tourist and Non-Tourist Location at Tidung Kecil and Payung Island. Supervised by BEGINER SUBHAN and DEA FAUZIA LESTARI.

Coral reefs are vital marine ecosystems that support biodiversity, protect coastlines, and provide economic value through fisheries and tourism. In areas such as the Seribu Islands, increased human activity threatens the sustainability of coral ecosystems. This study aim is to assess and compare the condition of two different locations based on coral cover within tourist area of Payung island and less disturbed non-tourist location of Tidung Kecil island. Using the *Point Intercept Transect* (PIT) method and water quality analysis, the highest hard coral cover was found at the conservation site (35%) and the lowest at the shipping lane (19%). Water quality generally met suitable standards, though elevated temperatures at ST01 indicated a risk of coral bleaching. Genus composition revealed *Porites* as dominant in high-activity areas, showing tolerance to disturbance, while *Acropora* declined under stress. These findings illustrate the differing impacts of tourism and human activity on coral health and underline the importance of managing reef ecosystems sustainably to maintain biodiversity and ecological function.

Keywords: coral reef, PIT, Seribu Island, tourism, water quality.



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CONDITION OF CORAL REEF ECOSYSTEM AT TOURIST NON TOURIST LOCATION AT TIDUNG KECIL AND PAYUNG ISLAND

KRISANDA SEKAR KINANTI

Undergraduate thesis submitted to
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for the degree of Bachelor

**DEPARTMENT OF MARINE SCIENCE AND TECHNOLOGY
FACULTY OF FISHERIES AND MARINE SCIENCE
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PREFACE

Praise and gratitude are extended to Allah Subhanahu wa Ta'ala for His countless blessings and guidance, which have enabled the author to complete this undergraduate thesis titled **"Condition of Coral Reef Ecosystem at Tourist and Non-Tourist Location at Tidung Kecil and Payung Island."** This research has been in progress since July 2024 and marks an important milestone in the author's academic journey.

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The author is aware that this thesis is not without shortcomings and sincerely welcomes constructive feedback for future improvement. May this thesis serve as a useful reference for marine science students, researchers, and stakeholders involved in coral reef ecosystem conservation and sustainable tourism management.

Bogor, May 2025

Krisanda Sekar Kinanti



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