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Analysis of the Correlation Between Ecological and Biological Parameters in Kaimana Waters and Their Implications for Whale Shark (*Rhincodon typus)* Conservation and Ecotourism

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ABSTRACT

The advancement of world marine tourism, particularly in Indonesia, has seen rapid growth over the past decade. One of the marine ecotourism in Indonesia is whale shark tourism, particularly in central and east Indonesia. Kaimana is identified as one of the potential sites for whale shark conservation and ecotourism in Indonesia. However, research focusing on whale shark ecotourism in Kaimana is limited. This study aims to comprehend the biological and ecological impact on the water quality of Kaimana to aid in management and decision-making for ecotourism and whale shark conservation in the future. The study utilizes whale shark sighting data from 2018-2019 and leverages satellite data on sea surface temperature and chlorophyll-a in Kaimana waters, along with the bagan locations around Kaimana. The data is analyzed to examine the correlation between whale shark sightings and sea surface temperature and chlorophyll-a levels. Additionally, the study investigates the influence of bagan operations, which typically attract whale sharks due to the presence of puri fish (*Stolephorus* sp.). Statistical analysis using a t-test is conducted to validate the hypothesis. The results indicate that the sea surface temperature and chlorophyll-a significantly impact whale shark sightings in Kaimana. Furthermore, the study identifies March to April as the peak season for whale shark sightings in Kaimana, attributed to the rise in sea surface temperature and chlorophyll-a levels in the waters.

Keywords: Whale Shark, Chlorophyll-a, Sea Surface Temperature