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Research Article

Ecological dynamics and conservation challenges of sea turtle nesting habitats in Turtle Bay of Cilacap, Indonesia

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ABSTRACT

This study investigated the nesting ecology of sea turtles in Turtle Bay, Cilacap, Indonesia, focusing on environmental factors influencing the habitat suitability and nesting behaviours. The aim was to identify the key contributors such as human activities, predator presence, and vegetation that affect turtle nesting. Field surveys were conducted across the eight observation stations, analysing environmental parameters. Fishing was identified as the major ecological threat, with a significant impact score of 3, while demographic shifts, pollution, and human modifications were moderate influences, each scoring 2. Light reflection, although currently low (1.63), was noted as a potential future concern. Potential predatory species observed included *Ocypode kuhlii* and *Hippa adactyla*, in addition to domestic cats and dogs, which pose risks to sea turtle populations. Vegetation analyses showed that *Pandanus odorifer, Cocos nucifera*, and *Ipomoea pescaprae* were prevalent, with Sidaurip beach identified as the most suitable nesting area. This site exhibited low scores for pollution, light reflection, and human modification, despite high fishing activity. Additionally, high densities of *Cyperus rotundus, Pandanus odorifer,* and *Ipomoea pes-caprae* were recorded in Sidaurip beach. The findings highlight critical environmental factors that influence sea turtle nesting and provide evidence-based insights for enhancing conservation efforts.

Keywords: Anthropogenic, bay, conservation, ecology, nesting, turtle