Resting Dynamics and Diel Activity of the Green Turtle (Chelonia mydas) in Rapa Nui, Chile

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Abstract

Understanding animals' daily activity patterns such as foraging and resting is key to the effective conservation of individuals, populations, and species. Expanding habitat usage by humans today is likely one of the major factors influencing animal habitat use and behavior. Rapa Nui, a remote Chilean island located at the easternmost corner of the Polynesian Triangle, hosts a population of green turtles, Chelonia mydas, that have been monitored by citizen scientists since 2010. Through the collaborative work of divers from the local community and professional scientists, we describe C. mydas daily underwater resting and foraging patterns in Rapa Nui. We identified 15 individuals by monitoring 19 specific resting locations within the Rapa Nui coral reef. A high level of spatial fidelity for specific resting sites was observed in 12 turtles that used the same location for as long as 5 yrs. Moreover, we observed a clear temporal pattern in the daily use of resting habitats, with 79% of resting activity occurring during low tide. In contrast, the daily peak in feeding activity was associated with high tides. Abiotic characteristics (depth and cardinal orientation) of resting sites did not show significant relationships. The information from this study will inform management of the Rapa Nui Multiple Uses Coastal Marine Protected Area to increase the protection of marine turtles residing at this isolated Pacific Island.

Palabras clave

Palabras clave de autor: citizen science; diet behavior; marine protected areas; marine turtles; Rapa Nui; resting
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