

PHENOTYPICALLY LINKED DICHOTOMY IN SEA TURTLE FORAGING REQUIRES MULTIPLE CONSERVATION APPROACHES

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Abstract

Marine turtles undergo dramatic ontogenetic changes in body size and behavior, with the loggerhead sea turtle, *Caretta caretta*, typically switching from an initial oceanic juvenile stage to one in the neritic, where maturation is reached and breeding migrations are subsequently undertaken every 2-3 years [1-3]. Using satellite tracking, we investigated the migratory movements of adult females from one of the world's largest nesting aggregations at Cape Verde, West Africa. In direct contrast with the accepted life-history model for this species [4], results reveal two distinct adult foraging strategies that appear to be linked to body size. The larger turtles ($n = 3$) foraged in coastal waters, whereas smaller individuals ($n = 7$) foraged oceanically. The conservation implications of these findings are profound, with the population compartmentalized into habitats that may be differentially impacted by fishery threats in what is a global fishing hotspot [5]. Although the protection of discrete areas containing coastal individuals may be attainable, the more numerous pelagic individuals are widely dispersed with individuals roaming over more than half a million square kilometers. Therefore, mitigation of fisheries by-catch for sea turtles in the east Atlantic will likely require complex and regionally tailored actions to account for this dichotomous behavior.