

{rokbox title=|(A) Post-nesting migration tracks of nine green turtles (*Chelonia mydas*) tagged at Playa Cabuyal, Costa Rica (indicated by orange arrow).:: Image: Authors|thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-habitat-use-foraging-bibi-2025-thumb-et-al.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-habitat-use-foraging-bibi-2025-et-al.jpg{/rokbox}

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**[Habitat Use and Foraging Ecology of Three Sea Turtle Species Nesting in Northwest Costa Rica](#)**

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**Abstract:** Sea turtle species, even when sharing nesting beaches, exhibit distinct at-sea movements and foraging behavior. At Playa Cabuyal, a sea turtle nesting beach in northwest Costa Rica, we utilized satellite telemetry to reveal the post-nesting movement of green turtles (*Chelonia mydas*,  $n = 9$ ) alongside carbon and nitrogen stable isotope analysis of skin samples of green ( $n = 28$ ), olive ridley (*Lepidochelys olivacea*,  $n = 20$ ), and leatherback (*Dermochelys coriacea*,  $n = 4$ ) turtles. Green turtles (2012–2015) undertook three migratory strategies: moving northward to Nicaragua and the Gulf of Fonseca ( $n = 6$ ), remaining resident near Cabuyal in the Gulf of Papagayo ( $n = 2$ ), or migrating south to the Gulf of Guayaquil in Ecuador ( $n = 1$ ). There was no significant difference in the  $\delta^{13}\text{C}$  values of green turtles (mean:  $-14.7\text{‰}$ , range:  $-16.8\text{‰}$  to  $-12.8\text{‰}$ ) and olive ridley turtles (mean:  $-15.1\text{‰}$ ,  $\delta^{13}\text{C}$ :  $-16.6\text{‰}$  to  $-14.2\text{‰}$ ) suggesting that both species forage across a range of coastal and offshore habitats, while  $\delta^{13}\text{C}$  values for leatherback turtles (mean:  $-15.5\text{‰}$ , range:  $-15.9\text{‰}$  to  $-15.0\text{‰}$ ) suggest exclusively offshore habitat use. In contrast,  $\delta^{15}\text{N}$  values of green turtles (mean:  $16.0\text{‰}$ , range:  $13.7$  to  $17.4\text{‰}$ ) were significantly higher than those for olive ridley turtles (mean:  $14.2\text{‰}$ , range:  $12.3\text{‰}$  to  $15.7\text{‰}$ ) suggesting that green turtles may be predominately carnivorous. The notably wide range of  $\delta^{15}\text{N}$  values in leatherback turtles (mean:  $14.9\text{‰}$ , range:  $12.2\text{‰}$  to  $16.8\text{‰}$ ) also suggests that this species feeds across many different trophic levels of gelatinous prey. Evidence that the sea turtles nesting on Playa Cabuyal utilize a broad range of foraging areas in the East Tropical Pacific underscores the need for coordinated, multinational conservation efforts for these species.

Keywords: *Chelonia mydas*, *Lepidochelys olivacea*, *Dermochelys coriacea*