

Movement patterns of post-nesting green turtles *Chelonia mydas* in the South-West Indian Ocean and implications for its conservation

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The South-West Indian Ocean (SWIO) is an important region for sea turtles as this basin encompasses numerous nesting and foraging sites, in particular for green turtles *Chelonia mydas*. Yet, they have been extensively exploited in the SWIO, which has resulted in a drastic stocks diminution. Sea turtle conservation requires a complete understanding of spatial distribution and migration of from hatchling to adult individuals. Previous and ongoing flipper-tagging programs on post-nesting female green turtles have started 45 years ago in the SWIO. Our study reports on these green turtle tag returns. Since 1970, more than 37000 post-nesting females were tagged from eight major nesting sites and 158 (0.43%) individuals were recaptured haphazardly in a decade along the East African, Madagascar and Mascareigne Islands coastlines. Tanzania and Madagascar were the two countries that recorded most of the international recaptures with respectively 53% and 26% of these recoveries. Countries of recaptures and routes undertaken by sea turtles were significantly different among nesting sites. The mean linear distance between the nesting and recaptured sites was 751 ± 331 km. Most of recaptured turtles (87%) were by-caught in no more than 1000 km away their from nesting site but five turtles (3.4%) have travelled at least 1500 km. Our results indicate that post-nesting green turtles can travel long distances to reach their foraging grounds: a case of a female tagged at Europa and then recaptured in Namibia demonstrates possible inter-oceanic movements between Indian and Atlantic Ocean in green sea turtles. These results have important implications for sea turtle conservation in the region as numerous countries coastlines may serve as potential foraging grounds for mature female green turtles. This implies international cooperation for protecting not only nesting and breeding sites but also feeding habitats.