

Site fidelity and inter-island movement of scalloped hammerhead sharks (*Sphyrna lewini*) in the Galapagos Marine Reserve and Eastern Tropical Pacific

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Hammerhead sharks *Sphyrna lewini* display site fidelity to certain locations, or *hotspots*, at oceanic islets in the Eastern Tropical Pacific. However, do they also make migrations between hotspots within an island archipelago and between island groups? From 2006-2008, hammerheads were fitted with ultrasonic tags at Cocos (54 sharks), Malpelo (69) and Darwin and Wolf islands in northern Galapagos (102). Arrays of ultrasonic receivers were deployed at each island group. Sharks tagged at the Darwin hotspot migrated frequently back and forth to the hotspot at Wolf, a distance of 38 km, spending more time there than on the other side of Darwin island. Sharks tagged at Wolf behaved in a similar fashion. These trips, mainly initiated at night, were rarely undertaken as direct migrations. Although hammerhead sharks are common throughout the Galapagos Marine Reserve, tagged hammerheads from the northern islands were only detected as far south as Roca Redonda, while three individuals were detected at Cocos, a distance of about 700 km. One individual tagged at Malpelo was detected at Cocos a month later, a distance of 600 km, and then in Galapagos. These movements show that at least a low level of connectivity exists between the island archipelagos. The arrival and residence times of tagged individuals at each island suggest a certain degree of synchronicity between individuals. Understanding the timing and direction of long distance movement patterns can contribute to the design of fisheries management strategies aimed at reducing hammerhead by-catch.