Lotte Krüger

Species Composition and Relative Abundance of Sharks at a Provisioning Site in the Yasawa Islands, Fiji

As sharks face severe threats from targeted and bycatch fisheries, the need for non-consumptive alternatives that promote sustainable uses are urgent. Diving with sharks that often includes provisioning has become an important product of today's wildlife tourism industry. It is one such pertinent alternative that can strengthen conservation awareness. In order to understand the effects of provisioning on the abundance and behaviour of target species, baseline data and long-term monitoring of shark diving sites is needed. In this study, species composition and relative abundances were evaluated at Yakawe Reef from 2015 to 2020. Using direct observation sampling, seven species of sharks were recorded, namely bull sharks (*Carcharhinus leucas*), whitetip reef sharks (*Triaenodon obesus*), blacktip reef sharks (*Carcharhinus melanopterus*), tawny nurse sharks (*Nebrius ferrugineus*), silvertip sharks (*Carcharhinus albimarginatus*), sicklefin lemon sharks (*Negaprion acutidens*) and tiger sharks (*Galeocerdo cuvier*). Statistical Analyses revealed *C. leucas* as the main driver of species composition, suggesting that observed trends are influenced by the numerically dominant species, which could potentially result in the exclusion of other species from the provisioning site. A total of 95 *C. leucas* individuals were reliably identified at Yakawe Reef based on external markings. Nine of them (all females) have also been reported from a second shark provisioning site. Individuals were observed swimming between both sites (200 km distance) in less than a day. Overall, results enhance the understanding of *C. leucas* occurrence and distribution in Fiji and provide a scientific basis to develop local conservation strategies.