

0.1 Overview of marine turtles and their habitats in the IOSEA MOU Signatory States within the IOSEA region.

Five species of sea turtles, the green turtle (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), olive ridley (*Lepidochelys olivacea*), loggerhead (*Caretta caretta*) and leatherback (*Dermochelys coriacea*) occur in Kenya. The green turtle, hawksbill, and the olive ridley are the most common and known to nest in Kenya (Frazier 1975; Wamukoya et al. 1997; Nzuki 2005a), with the green turtle constituting approximately 97% of reported nests, followed by the hawksbills (2.5%) and olive ridleys (0.5%) (Olendo et al., 2017; Okemwa et al. 2004; van de Geer et al, 2022). Leatherback (*Dermochelys coriacea*) are rare, although past records indicate that they used to occur within Kenyan waters (Frazier 1975; Nzuki 2005a; van de Geer et al, 2020).

While green turtles' nest throughout the Kenyan coast, hawksbill turtles are reported to nest predominantly in Kiunga, Watamu and Funzi beaches and olive ridleys in Kiunga, Watamu and Mombasa regions (Nzuki et al. 2005a, van de Geer et al, 2022).

There are general uncertainties on the status of local sea turtle populations in Kenya; however, anecdotal evidence based on fishery perceptions indicates declining turtles on nesting beaches and at sea (Wamukota and Okemwa 2009). The islands of the Lamu archipelago and the Malindi-Watamu-Kipini area provide the most important sea turtle nesting areas. Notable in-water concentrations of turtles have been observed e.g. within Mombasa and Kwale County, Mpunguti/Wasini, Takaungu, Watamu, Ungwana Bay and Lamu (Morley et al., 2011, van de Geer et a, 2022).

Recent sea turtle nests mapping exercise along the Kenyan coast in June 2019 corroborates previous studies (Okemwa et al. 2004) that fisheries (both artisanal and commercial fisheries) pose the most threat to sea turtles in the country. In the mid-1990s, it was estimated that between 500 and 1000 turtles were caught annually as by catch in trawlers (Wamukoya et al. 1995), while up to 10,000 turtles are caught annually in artisanal gill nets (Wamukota 2005); 54 to 75% of these turtles are slaughtered or traded by the fishermen (Nzuki 2004). The *C. mydas* is the most common bycatch species in all fisheries, representing 57% of reported by catch especially in net fisheries, followed by *E. imbricata*-19% and *C. caretta*-17% (Kiszka, 2012). Another significant threat is the poaching of turtle eggs and the nesting females mainly for meat and oil, which is exacerbated by poor law enforcement, poverty, and trade of turtle products on the black market (Nzuki 2004; Okemwa et al. 2004; Nzuki 2005b; van de Geer et al, 2022). Illegal trade in turtle products is rampant in Kenya. Meat (preferably from green turtles) and oil are the most important products traded. Eggs, carapaces, and stuffed turtles (particularly hawksbill turtles) are also items of trade. Coastal developments particularly along the densely populated towns of Diani, Likoni, Malindi, Mombasa and Watamu have caused direct and indirect destruction of turtle habitats (Okemwa et al. 2004; Wamukota and Okemwa 2008; van de Geer et al, 2022). Non-compliance with the official setback line regulations (60 m above the high-water mark) is a major threat (SOC-2nd Edition, Okemwa et al. 2005a).

Pollution mostly by plastic wastes has led to deterioration of turtle nesting beaches. Plastic pollution is a problem along the entire coastline, more serious along the southern half of the coast (Malindi southwards) (Ryan, PG, 2020) and is attributed to lack of public awareness on turtle conservation and proper waste management. Natural predators include ghost crabs, animals (mongooses, monitor lizards, hyenas, genets, porcupines, hedgehogs) and birds of prey (Okemwa et al. 2005a;

Weru 2005).

Kenya through the Wildlife Conservation and Management Act, 2013 protects sea turtles as endangered species. This introduced tough penalties for offenders whereby killing, possession or trading in the species carries a life sentence or fine of \$200,000. Marine turtles are also protected through Fisheries Act, 2012 Cap 378. A National Sea Turtle Conservation and Management Strategy developed to guide in conservation efforts towards saving the species expired in 2015 and is currently under review[C1]. Additionally, an Integrated Coastal Zone Management (ICZM) policy and a Shoreline Management strategy are in place, and these provide guidelines for developments along the coastline. Furthermore, collaborative community-based beach monitoring and conservation efforts contribute significantly towards assessing sea turtle populations.