

PRELIMINARY OBSERVATIONS ON GREEN TURTLES, *CHELONIA MYDAS*, IN FORAGING PASTURES OF THE UNITED ARAB EMIRATES

The Environmental Research and Wildlife Development Agency~ (ERWDA) of the United Arab Emirates (UAE) initiated a sea turtle research and conservation program in 1997 with funding from Shell Oil Co. Sea turtles in the Arabian (Persian) Gulf area have not been studied extensively; however, some research primarily on nesting beaches has been undertaken in Saudi Arabia (Miller, 1989), Iran (Kinunen and Walczak, 1971) and in Oman (Ross and Barwani, 1982). Published reports of sea turtles from the UAE are scarce. Brown (1985) provides a few records of green, *Chelonia mydas*, and loggerhead, *Caretta caretta*, turtles. Heath (1989) reports a hawksbill, *Eretmochelys imbricata*, in Das Island, and Brown (1990) reports green turtles from Qarnein Island. More recently, Aspinall (1995) and Baldwin (1996) confirm the nesting of greens and hawksbills and the occurrence of loggerheads, leatherbacks, *Dermochelys coriacea*, and possibly olive ridleys, *Lepidochelys olivacea*, in the UAE.

A preliminary survey was performed 19-20 February 1997 at Ras Al Khaimah Emirate, located on the eastern tip of UAE. Nearshore waters in this section of the Gulf are shallow and free of coral reefs. This habitat permits artisanal fishermen targeting finfish and cuttlefish to drag seines into shore. Generally, a 500 m seine is dropped approximately 1 km or more from the shore utilising two 5-8 m boats propelled by high powered outboard motors. One boat remains at the location where the seine is dropped as the second boat drops the seine in a half-moon direction, parallel to the shoreline, ending again about 1 km from shore. Both boats then drag the seine very slowly toward the beach to prevent the escape of the captured marine life. A total of 8 to 10 men are needed to pull in the seine by hand when the depth becomes too shallow for the boats to operate. Several hours are required from start to finish.

Three seine fishing performances by three different groups of fishermen were monitored. Turtles were captured alive and unharmed in all cases. A total of 14 green turtles were captured; 3, 5 and 6 turtles in each set. All fishing was done during the day time. Captured turtles were examined, measured, tagged, and released. Size classes based on curved carapace length (CCL) were tallied as follows: one turtle 35-39.9 cm (7%); three turtles 60-64.9 cm (21%); one turtle 65-69.9 cm (7%); one turtle 70-74.9 cm (7%); three turtles 75-79.9 cm (21%); two turtles 80-84.9 cm (14%); two turtles 90-94.9 cm (14%) and one turtle 100-104.9 cm (7%). Based on tail length, one turtle was estimated to be an adult male and one an adolescent male.

As turtles of considerable size range (37-102 cm) were observed, it is possible that there exists a resident population comprised of all post-pelagic age/size classes. This could be attributed to feed availability due to the fact that sea grass beds are present in the Arabian Gulf, composed of *Halodule uninervis*, *Halophila ovalis*, *Halophila stipulacea* and *Syringodium isoetifolium* (Sheppard et al., 1992). *Halodule* was noted washed up along the Ras Al Khaimah shoreline while observing the seine fishing. Residency of foraging turtles has been confirmed for the reef systems around offshore islands, the areas of north Jubail and Abu Ali and south of Safaniyah, in Saudi Arabia by Miller (1989). Aerial surveys over this area confirms the presence of turtles year round. Surveys in UAE waters will be continued to assess the age structure, habitat use, reproductive migrations and ecology, as well as other biological parameters, in order to create the necessary foundations to support an adequate management scheme for the Arabian Gulf turtles.

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RESULTS OF A 1996 SURVEY OF *CHELONIA* IN TURKEY

The majority of marine turtle nesting in the Mediterranean takes place in Greece, Turkey and Cyprus, with low density nesting reported in Libya, Egypt and North Africa. A large proportion of the Mediterranean *Chelonia mydas* [green sea turtle] population nests on the beaches of Turkey (Groombridge, 1988). Seventeen nesting beaches were identified during a 1988 field survey of the Turkish Mediterranean coast (Baran and Kasperek, 1989); three of them are important to *C. mydas*: Kazanli, Akyatan and Samandag. Negative developments associated with tourism are affecting the status of *C. mydas* populations in Turkey, as is the case in other Mediterranean countries. Other potential threats include human settlement, agriculture, industry, erosion, and pollution of coastal areas near nesting beaches (Table 1).

In 1996, a survey was conducted at Kazanli, Akyatan and Samandag beaches from 1 June - 1 September. Beaches were monitored nocturnally (2100-0600 hr). Track location, species and type of track were recorded; tracks were crossed to avoid duplicate counting. *C. mydas* nests were distinguished by the particular synchronous gait of the turtle (Ehrhart, 1982). Nests were located and labelled either as they were laid, or by using a probing stick the next morning (taking great care not to pierce any eggs). Nests were marked twice to minimise losses due to the removal of marks; one marking stake was planted near the nest (10 cm beneath the sand) and a second was planted 1 m behind the nest. Nests were excavated and the remains examined about one week after the first hatchlings emerged (cf. Whitmore and Dutton, 1985).