

Quantitative observations on marine mammals and reptiles of Kuwait's Boubyan Island

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Abstract. Quantitative observations were recorded on air breathing marine vertebrates in the immediate vicinity of Boubyan Island from 17 February 2004 through 1 March 2005. In 398 hours of observation time during daylight, we made 159 sightings of Indo-Pacific Humpback Dolphins (*Sousa chinensis*) for a combined total of 524 individuals. We also recorded 38 individual sea-snake (*Hydrophis* spp.) sightings. No marine turtles were observed during the study period. Pod size of the dolphins ranged from one to at least 30. Of the 159 sightings, 40% was comprised of a single individual, and 26% consisted of pairs. Pods of 10 or more members were observed on 13 occasions. Overall, we saw an average of 1.35 *Sousa* for each hour of observation time. Seasonal counts peaked in the spring with nearly 2 *Sousa*/h, and reached 3.3/h in April. Observation rates in the winter dipped to less than 0.7 *Sousa*/h. Khor Abdullah had the highest overall observation rate with 2.6 *Sousa*/h, and in the fall, this rate jumped to 4.3/h. In comparison, *Hydrophis* sea snakes were few with an overall observation rate of 0.1/h. This low number reflects the fact that sea snakes are present mostly in the summer, and are far less noticeable. Seasonal observation rates peaked in the summer with nearly 0.3/h and dipped to zero during the winter months. Sea snakes initially showed up in April when water temperature was just over 21°C, and were no longer observed in November when water temperatures dropped from >20°C in October to about 15°C by December. Both *Sousa* and *Hydrophis* are relatively long-lived, apex species and could serve as environmental indicators for Boubyan Island's planned development. Monitoring population abundances and tissues for contaminants is recommended.

Key words. *Sousa*, *Hydrophis*, sea snake, dolphin, Arabian Gulf, Kuwait, Middle East.

Introduction

Twenty-one species of cetaceans and 14 species of marine reptiles are reported to occur in the Arabian Gulf (MILLER et al. 2004, PREEN et al. 2004, BALDWIN 2005, BALDWIN & GARDNER 2005). Until recently, cetaceans in Kuwait have received relatively little attention and most reports were either poorly documented or casual. Skeletons of a Blue Whale (*Balaenoptera musculus*), and a False Killer Whale (*Pseudorca crassidens*), salvaged from Kuwait's coast are housed in The Kuwait Science Museum (AL-ROBAAE 1971a, b). In March 1999, a 10 m whale carcass washed ashore, and this species was eventually identified as a Sei Whale (*Balaenoptera borealis*) (BISHOP, pers. observ., M. BEHBEHANI, pers. comm.).

Whales are rarely observed in the northern Gulf, however. Far more common components of Kuwait's coastal and offshore waters are dolphins and porpoises. Species most likely to be observed are the Bottlenose Dolphin (*Tursiops truncatus* or *T. aduncus*; see review by ROBINEAU & FIQUET 1996), and the Indo-Pacific Humped-back Dolphin (*Sousa chinensis* or *S. plumbea*; see reviews by ROSS et al. 1994 and ROBINEAU & FIQUET 1996). The Finless Porpoise (*Neophocaena phocoenoides*) also occurs (FARMER 1983), but is rarely noticed