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SURVEY OF MARINE TURTLE NEST SITES IN THE UAE.

By

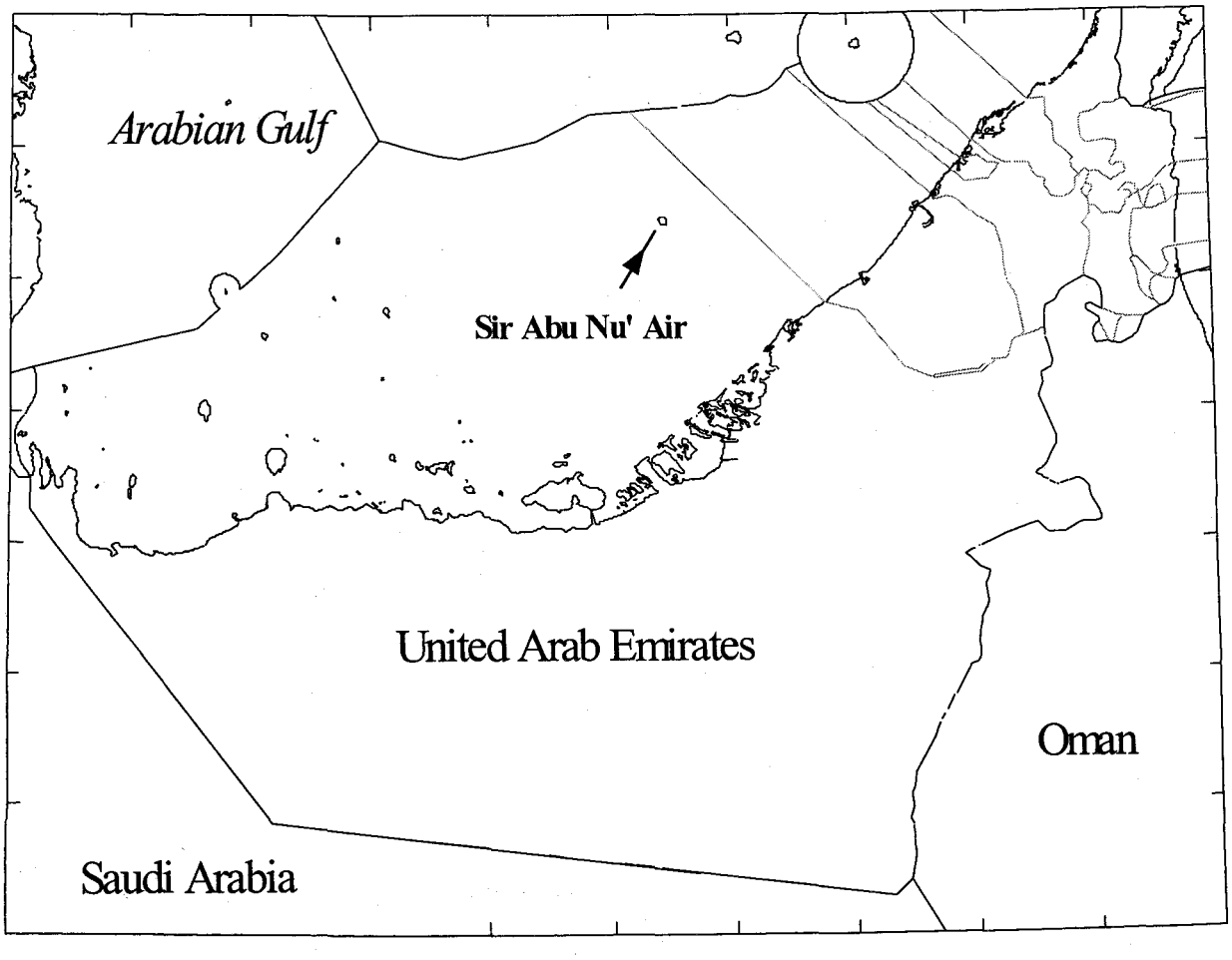
Ronald Anthony Loughland

Commission of Environmental Research, Emirates Heritage Club
P.O.Box 41464, Abu Dhabi, UAE

INTRODUCTION :

The United Arab Emirates is party to the Regional Convention for Co-operation on Protection of the Environment from Marine Pollution, and the Action Plan for the Protection and Development of the Marine Environment and Coastal Areas.

The waters of the Arabian Gulf are rich in seagreass (Halodule, Syringodium and Halophila spp.), That provide a direct food source for the green turtle (Chelonia mydas), and hawksbill turtle (Eretmochelys imbricata). The Gulf also contains numerous offshore Islands and sandbank. These offshore areas are possibly used by turtles for nesting, but presently there is a lack of ecological survey data (sheppard and Wells 1988). This study provided new survey data on turtle nesting from sir Bun Nair Island (25°.15°N, 54°.15'E) in the Arabian Gulf (figure 1).



Methodology

During the night of May 17, the beach perimeter of Sir Bun Nair Island was systematically surveyed by four-wheel drive vehicle and spotlight to locate beaching turtles. In the early morning of June 30 1998, the beach perimeter of the Island was again surveyed by four-wheel drive vehicle to locate turtle tracks.

During the night survey when a beaching turtle was located the species was determined and the nesting activity recorded. During the mooring survey when a turtle track was located the following information was recorded.

1 - Number of tracks
2 - New or old track
3 - Site features.
* rocky or vegetated beachhead
* slope of beach
* anthropological development or activities
4 - Attempts at nesting (digging)
5 - Nest status (intact or robbed)
6 - Air, nest (sand@30cm depth) and sea temperature
7 - Turtle species (if determined)

Anecdotal information concerning turtle nesting activities from staff stationed on the Island was also recorded.

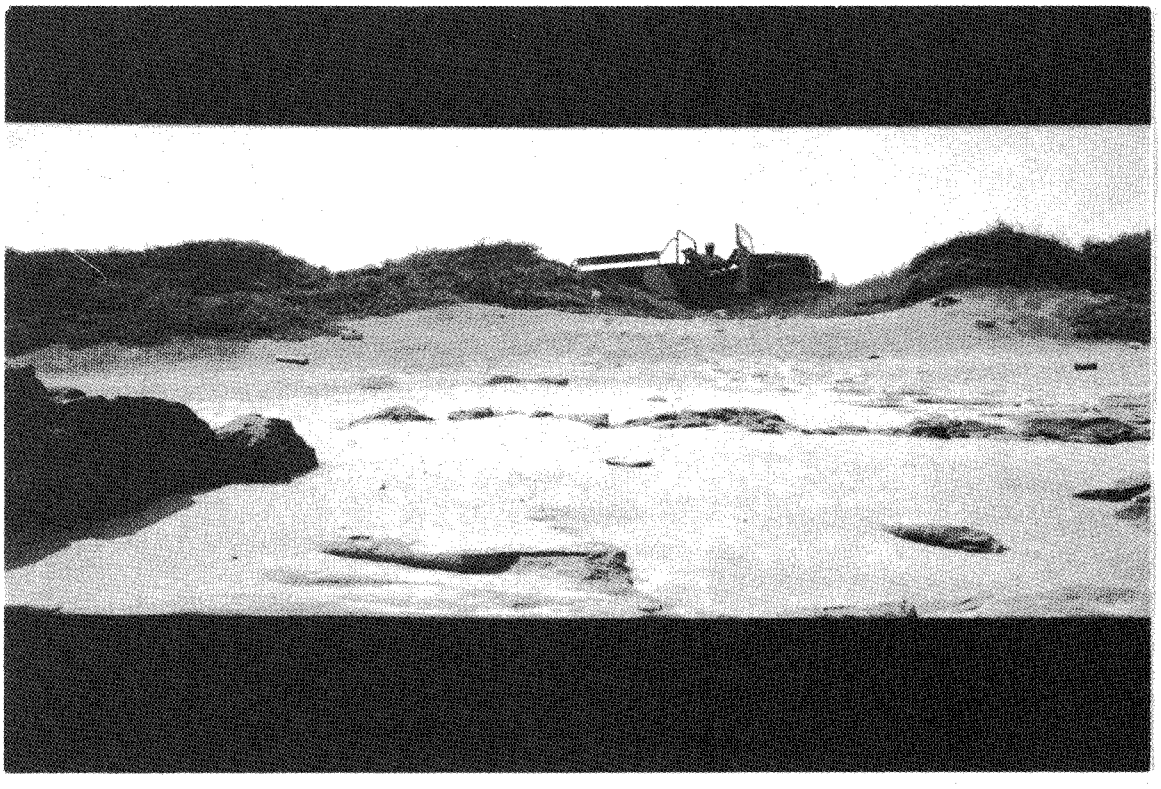
Results

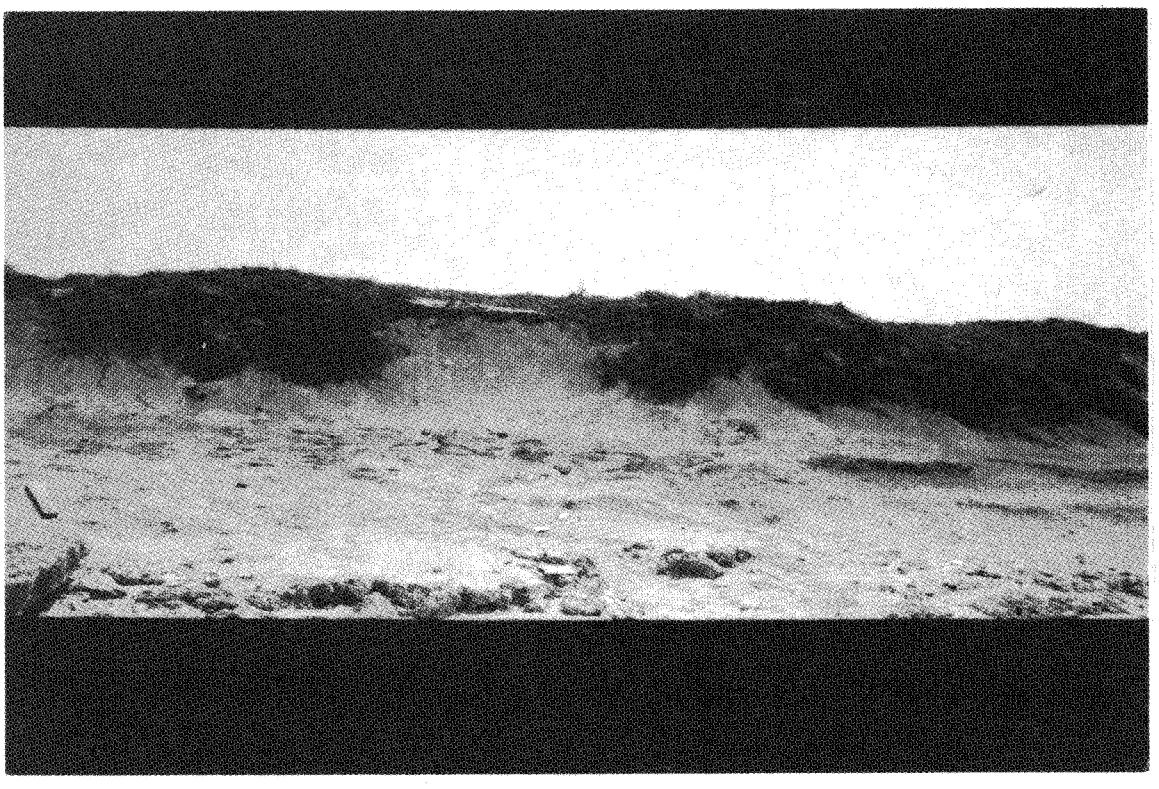
During the May evening survey numerous turtle tracks and nests were observed on the sandy beaches of the Island. During this survey both the green turtle (Chelonia mydas) and the hawksbill turtle (Eretmochelys imbricata) were recorded nesting on the Island. During the evening a green turtle was observed to lay 30 eggs, and a hawksbill turtle was observed to lay 50 eggs. Most nests located during the May night survey had been physically disturbed by illegal egg collection activities.

During the June morning survey 32 tracks and 24 nests were located at 21 different sandy beach sites on the Island. All tracks apart from one were new, and most nests (59%) were located on the northern coast of the Island (northerly aspect) at 18 different sites. The remaining nests (41%) occurred at only three sites on the southern coast of the Island (southerly aspect).

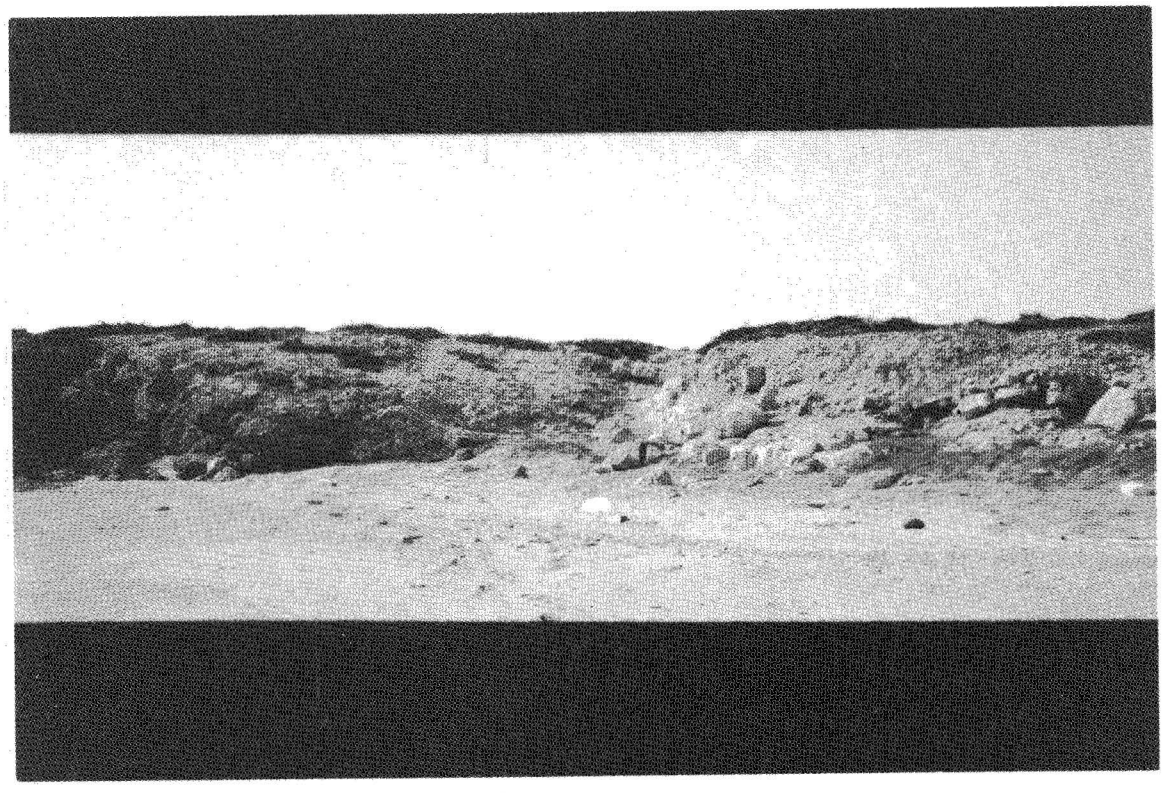
Most nests (63%) occurred on a moderately sloping beach (figure 2). 28% of nests were located on a moderate-steep slope, and the remaining 9% were located on steep sloping beaches.

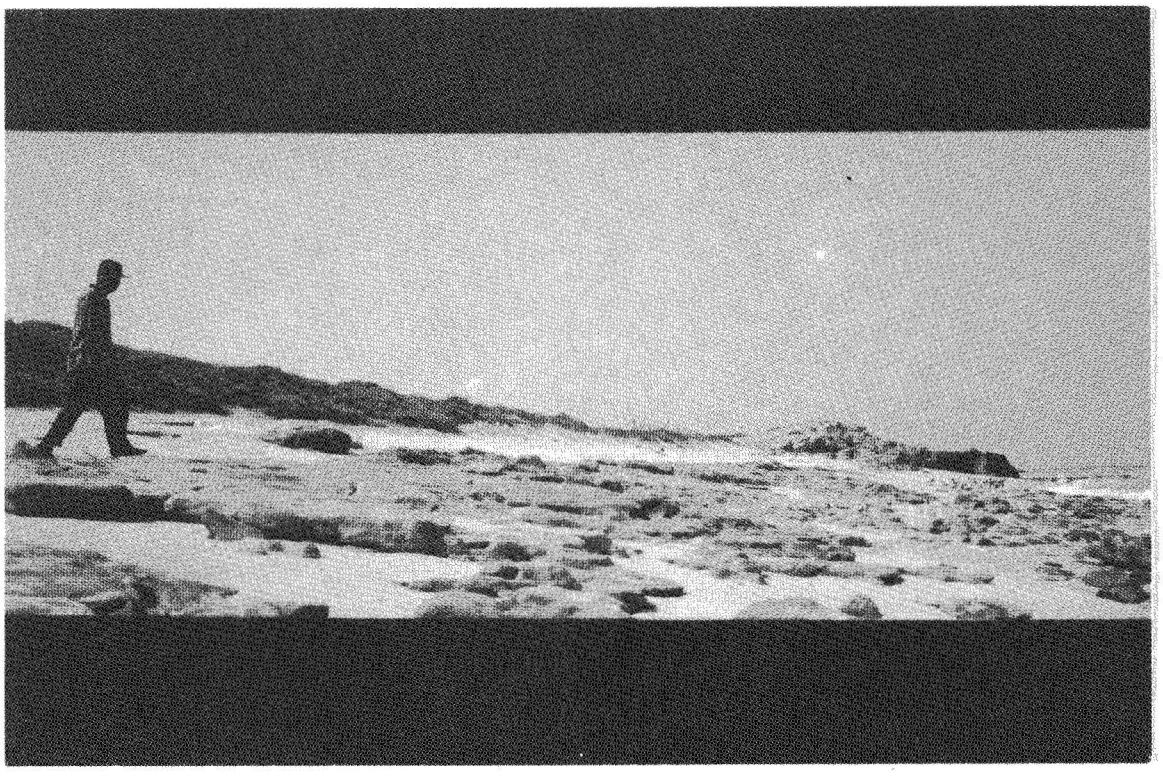
Vegetation occurred on the beachhead at all but one nest site (figure 3). At this site rock formed the beachhead (figure 4). Rock was found at 16% of nest sites, occurring both on the sandy beach and with vegetation on the beachhead (figure 5).





(Fig. 1)





(Fig. 2)

The nest sand temperature recorded ranged between 33-38°C, with the average temperature being 35.6°C. The average sea temperature was 33°C, and the average air temperature (@0700hr) was 34.5 C.

Anthropological features were recorded at all sites. These included roads and tracks (21 sites), rubbish (12 sites), and fences (9sites). Physical disturbance in the form of nest destruction was recorded at six sites (19% of nests).

Discussion

Sheppard and Wells 1988 reported that there was limited information concerning nesting sites for turtles in the Arabian Gulf, and they proposed that turtles possibly nested on offshore Islands. This study supports their proposal and provides new data on Island nesting by both the hawksbill and green turtle in the Arabian Gulf.

Most nests located were scattered on the northern side of the Island (northerly aspect), with the remaining being clumped at fewer sites on the southern side of the Island. This is most likely related to the geomorphology of the Island with numerous rocky headlands and small sandy beaches occurring on the northern side of the Island, and fewer, yet larger sandy beaches occurring on the southern side of the Island.

There was a preference for nest sites with a moderate slope as compared to more steep sloping beaches. This is possibly related to the ease of movement of a beaching turtle up a moderately sloping beach. Most steep sloping sites also had rock present and this would have also impeded movement of turtles up the beach.

Vegetation on the beachhead occurred at all but one site and seemed to be an important factor in determining the position of nesting. Most nests occurred at or near the vegetation line on the beach. The vegetation may therefore have acted as a barrier to prevent beaching turtles from travelling landward of the beach. Perhaps the vegetation was also a cue to the turtles that they had reached the extreme high tide line where the nests would be safe from tidal inundation.

Anthropological disturbances were located at all nest sites. Most of the disturbances such as roads and rubbish were non-invasive to the nesting sites. However the presence of barbed wire fences pose a threat to beaching turtles, and vehicle tracks along the beach are a threat to the nests. The illegal collection of turtle eggs is the main disturbance at the nest sites and this activity poses the biggest threat to the nesting turtle population on Sir Bun Nair Island.

This study provided much needed baseline data on turtle nesting period and nest site characteristics in the Arabian Gulf. However, more surveys similar to this one need to be undertaken on offshore Islands in the Arabian Gulf. This study also identified potential threats to the nest sites on Sir Bun Nair Island and it is

recommended that the Island be afforded protection as a marine sanctuary for nesting turtles.

Acknowledgements

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Sheppard, C.R.C. and Wells, S. (1988) Directory of Coral Reefs of International Importance. Vol. 2. Indian Ocean Region. IUCN Gland, and UNEP, Nairobi 389pp.