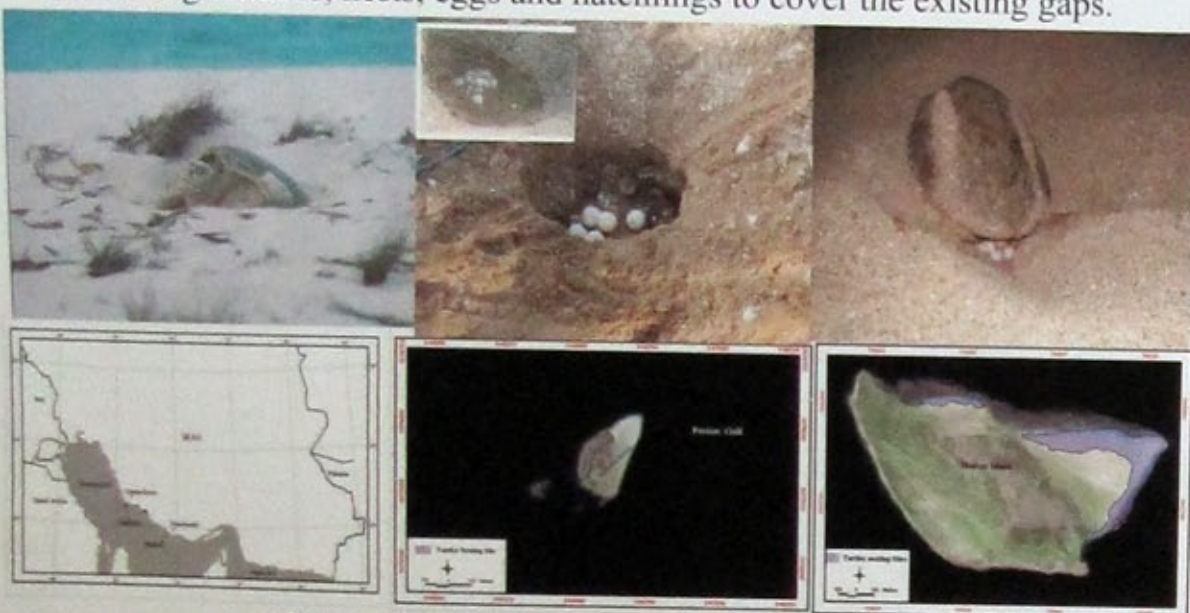


# Sea Turtle Study in Iran

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I.R. of Iran has the longest coastline on the northern shores of the Persian Gulf and Oman Sea. Some parts of the coastlines are suitable for the nesting of sea turtles. But, some Islands are very important nesting sites for the sea turtles in the region like: Nakhiloo, Ommolkaram, Sheedvar and Hendourabi (Mobaraki 2004) with records of more than 100 emerging tracks. Critically endangered Hawksbill sea turtles (*Eretmochelys imbricate*) is the most abundant nesting turtle species in the Gulf area in case that Green Turtle (*Chelonia mydas*) is the popular nesting species in the Oman sea area. Green turtle also consist of the most abundant foraging populations. The main nesting season for the Hawksbill turtles is from early April to late may. In the past years preliminary information on their reproduction biology has been collected for each year and sites (Mobaraki 2004, 2006). Multiple emergences, diurnal nesting and multiple nest construction were the main recorded behaviors for the Hawksbills. The existing nesting sites for the very few Green turtles along Oman sea area also were identified (Mobaraki 2002). The first sea turtle tagging program in the country started in 2005 and about 300 turtles have been tagged in different years and sites (Mobaraki and Elmi 2005). Egg poaching, fisheries by catch, boat strikes, habitat destruction and pollutions are the main anthropogenic threats. We have started genetic works on the populations and the main haplotypes of the populations, 11 haplotypes, have been identified from 4 mentioned main rookeries. .

A number of small and large Islands in the northern part of the Persian Gulf have been reported as the main nesting sites for the sea turtles in Iran (Mobaraki 2002) in which Sheedvar, Hendourabi, Nakhiloo and Ommolkaram Islands are supposed to be the most important ones. These sites are being visited annually in nesting season to collect basic information on turtles like the nesting females, nests, eggs and hatchlings to cover the existing gaps.



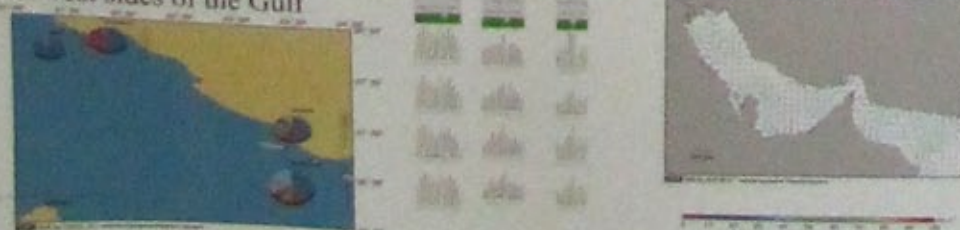
Nakhiloo and Sheedvar Islands, the main nesting beaches of Turtles and the turtles and nests

The peak of nesting season in the main sites is from mid April to late May and the hatching time of the last nests is in July. The results of collected data on the turtles and nests are provided in Table 1 and related graphs.

Sea turtle tagging program initiates for the first time in the country in 2005 by the kind help and support of MOU-IOSEA secretariat and up to now more than 300 sea turtles( Hawksbill and Green) tagged in the main sites.



To find the population structure and any difference between the nesting populations in different rookeries genetic study of the turtles in the four rookeries was conducted. Two rookeries are at Nakhiloo and Ommolkaram, located approximately 20 km apart in the western Persian Gulf. The other two rookeries are at Sheedvar and Hendourabi, located approximately 220 km to the southeast in the eastern Persian Gulf, and they are approximately 40 km apart. We found 11 haplotypes among the 82 samples, most of which have not been previously identified. One haplotype, PG7.1 was found to be the dominant variant at all rookeries, with a frequency of around 50% or more at each rookery. There were five haplotypes (PG7.1 - 7.5) that would not have been recognised as being unique if we had used the previous primers that amplify a shorter segment of DNA, because these haplotypes only showed variation in the new portion of the sequence. This was an important result, because this greater resolution was needed to demonstrate genetic separation between the rookeries. Five of the haplotypes were only observed once and only three haplotypes were observed at >5% frequency across the total sample. For the purposes of understanding genetic divergence at a larger scale, using more adequate sample sizes, we grouped the two adjacent pairs of rookeries to compare the western versus eastern Persian Gulf regions. Significant genetic differentiation was observed at this scale. To better understand the level of genetic differentiation observed between the western and eastern Persian Gulf populations we have begun considering the geostrophic currents of the region. It is apparent that the peninsula formed by Qatar, which juts into the middle of the southern Persian Gulf, forms a boundary that often results in different current patterns in the east and west sides of the Gulf



**Oman Sea area:** Oman sea area is the most important feeding and nesting habitat for the Green turtles in the country. Nesting of the Green turtle in the country for the first time was recorded in 2003 in Tang area (Mobaraki 2004). As the lack of information on this important part was considerable, the beaches of Oman Sea monitored regularly during the past years and based on the results the main nesting and feeding ground were determined. Despite of the length of Oman Sea beaches, nesting of turtles in this part are very limited and only in a few places nesting of Green turtles have recorded in which, the most important ones are: Tang, Kohpansar and Ramin. The nesting season of green turtle in this part is usually after July after monsoon. The main characteristic of the nesting site is that they are very small sandy beaches surrounded with sea and cliffs. So in the high tides most of the nests are under threat of sea water. More over falling of the cliffs cause by different factors is usual in the area. Kammi has recorded the first observation on Olive Ridley turtles in Iranian coastal waters in Oman sea area in which three dead turtle were found near Gowater Bay (Kammi 1997). Later on some other dead Olive Ridley turtles in different sizes, were found in western parts of the sea.



**Main Threatening Factors:** In most parts of the nesting sites egg collection for traditional usage as well as aphrodisiac purposes is usual and in some parts turtles harvest for their meat for the same purposes.

Different kinds of pollutions are usual, like the debris, oil and light. By catch in fishery activities is another important threat, as the turtle habitats are important fishing grounds too. Natural predators like the other parts of the world are usual, like the mammals, birds, crabs and insects.

Boat strike is usual and increasing in some parts and different kinds of coastal area development is another threat for the nesting sites and turtles. Other natural factors like the erosion is usual in most places, specially in small beaches. Mismanagement causes problems in some parts



site	Closh Size	CCL	turtle Weight	Egg Diameter	Egg weight
Sheedvar	88.8	76.22	42.53	38.1	36.4
Hendourabi	83.45	71.73	42.45	37.81	39.72
Nakhiloo	75.52	72.55	47.32	38.77	32.26
Ommolkaram	71.6	70.91	43.66	37.84	29.99

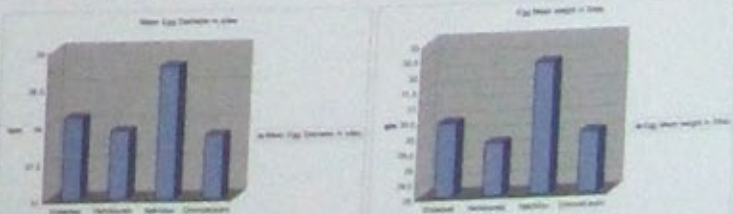


Table1: results of turtle and nests biometry



Due to the high importance of Sheedvar and Nakhiloo Islands at both national and international levels (designated as national Protected Area) and as the main nesting sites for the sea turtles within the country; the cleaning up program was arranged to be executed in these selected sites.

