

In 2008, the Centre for Ecological Sciences, Indian Institute of Science (IISc), Bangalore initiated a long-term tagging and monitoring programme on Little Andaman Island in collaboration with ANET and the Andaman and Nicobar Forest Department to monitor post-tsunami leatherback nesting recovery. Initially, due to logistic constraints, the South Bay beach was chosen and has been monitored for the last four years from 2008 to 2011.

Every year, a camp was established on the South Bay beach and daily monitoring of leatherback nesting was carried out roughly between the months of December and March. During the 2010-11 nesting season, a camp at West Bay on Little Andaman Island was also established to monitor nesting and initiate satellite telemetry of leatherback turtles.

Post-tsunami nesting of leatherback turtles in Little Andaman

Since the initiation of the long-term tagging and monitoring programme in 2007, detailed nesting records are available for each year to show that there are about 50 to 100 nests laid in South Bay and West Bay beaches on Little Andaman Island.

Year 1 (January 2008 to April 2008):

A total of 38 nests and 3 false crawls were observed at South Bay during the monitoring period (Table 2) and observations revealed severe nest depredation, mostly by monitor lizards and occasionally by feral dogs.

The nesting intensity of leatherbacks on the South Bay beach showed a clear peak in the first week of January in comparison to the rest of the season, and nesting abruptly declined towards the third week of January and remained within the narrow range of 2-10 nests till end of February (Figure 2).

Year 2 (December 2008 to February 2009):

A total of 59 nests were observed at South Bay beach (Table 2). Monitor lizard predation was

again observed to be substantial, though it was not quantified. A total of 8 individuals were tagged and three were recaptured within the season (Table 1).

A rapid survey of the beach of West Bay revealed a total of 70 nests/tracks, 65 of which were old (2-3 months old) and 5 were fresh (less than a week old). Except for a few, all the nests were predated by monitor lizards.

Year 3 (December 2009 to March 2010):

The number of leatherback nests observed at South Bay during this season was very low in comparison to the two previous years (Table 2). A total of 7 nests and 1 false crawl were observed during the four-month period. Out of the 7 nests that were laid, monitor lizards predated one nest. Two new leatherbacks were tagged (Table 1).

A rapid survey was carried out at West Bay and 38 nests were encountered (again substantially less than in previous years).

Year 4 (November 2010 to February 2011):

South Bay

A total of 58 nests were observed (Table 2). 6 new leatherback turtles were tagged out of which 2 tags were recaptured within the season (Table 1). Nest depredation rates by monitor lizards and feral dogs were again high.

West Bay

A total of 91 nests were observed. During the monitoring period, 23 nesting females were tagged and 10 were recaptured during the season (Table 1). No turtles from previous years were recaptured (Table 1).

Monitor lizards predated 55 of the 91 nests (more than 50%) observed. The nesting intensity of leatherbacks was evenly spread out from the last week of November to the first week of January (Figure 2).

Table 1. Number of leatherback turtles tagged and recaptured
(Note: The 2010-2011 data is a total for both South Bay and West Bay, Little Andaman)

Year	Number of leatherback turtles tagged	Number of recaptures in the same season	Number of recaptures in subsequent years	Total number of nests
2007 - 2008	6	3	0	38
2008 - 2009	5	3	0	59
2009 - 2010	2	1	0	7
2010 - 2011	29	12	0	149

Table 2. Compilation of available information of leatherback nesting at South and West Bay, Little Andaman

Year	No. of nests in South Bay	No. of nests in West Bay
Before 2004	40-100 nests per season (Bhaskar, 1979a, 1981; Sivasundar 1996, Andrews, 2000b)	
2005 - 2006	0 (Andrews <i>et al.</i> , 2006)	
2006 - 2007	Low, but specific numbers not available (Shanker & Chandi, <i>pers. comm.</i>)	
2007 - 2008*	38	Unknown
2008 - 2009*	59	70 tracks
2009 - 2010*	7	38 tracks
2010 - 2011	58	91

*data from Namboothri *et al.*, 2010

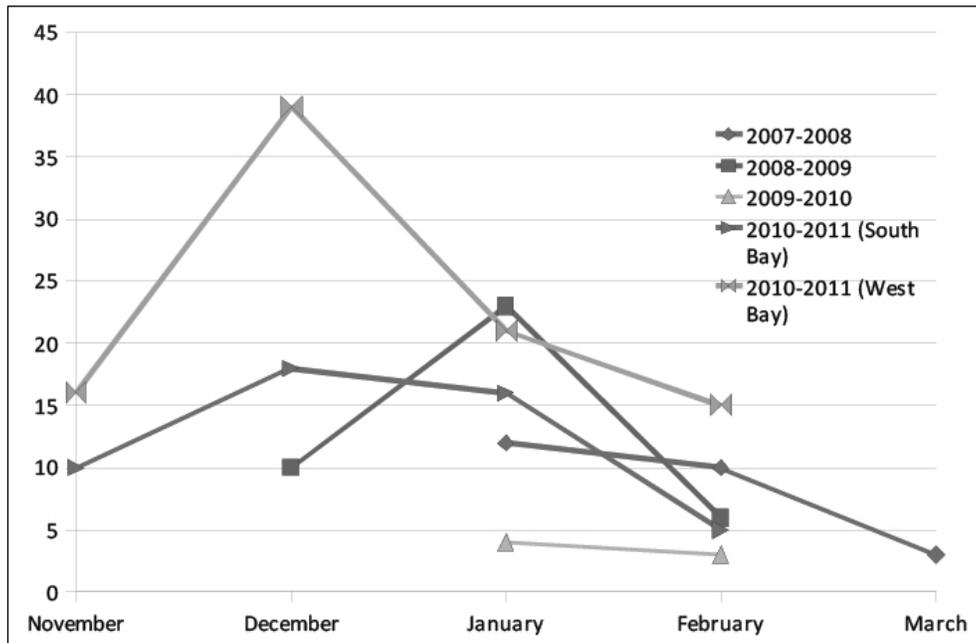


Figure 2. Nesting peaks of leatherback turtles in Little Andaman
(Note: Data represented for 2007-2010 is only for South Bay)

Conclusion

Leatherback nesting trends reveal lower nesting levels during the first two years following the 2004 tsunami (Table 2). However, nesting seems to have recovered at both West Bay and South Bay as indicated by the figures (Table 2). However, in the absence of baselines for comparison, it is difficult to determine if the nesting intensities have returned to pre-tsunami levels.

A drastic fall in nesting intensities at both West Bay and South Bay was noticed during the 2009-2010 season. However, such fluctuations are considered normal for leatherbacks (Pritchard, 1996). Only long-term data on nesting can confirm trends. Nesting seems to commence approximately around the second or third week of November. Data from the four years of monitoring suggest an increase in nesting intensities from the end of December to early January and a substantial reduction by the second or third week of February (Figure 2). Our findings are restricted to the post-tsunami recovery of leatherback populations at the important nesting sites of the Andaman group of islands. However, the larger and more significant nesting sites lie in

the Nicobar group of islands and there is still a substantial gap in our understanding of recovery at these sites.

High rates of depredation of nests by monitor lizards and occasionally by feral dogs were observed during all the seasons. A majority of the old and fresh nests were depredated. A systematic quantification of depredation rates at West Bay revealed that more than 50% of the nests were predated. Monitor lizard predation of the nests is a natural process. However, the threat of nest depredation by feral dogs has been increasing. More studies quantifying the effects of depredation need to be carried out to understand what long-term effects this high rate of depredation might have on the population.

With support from the Space Technology Cell at the IISc, satellite telemetry studies on leatherback turtles have been initiated at Little Andaman Island to track their post-nesting movements. In January 2011, three leatherback turtles at West Bay were fitted with satellite transmitters. Initial results show the turtles swimming southwards in the Indian Ocean. More satellite transmitters will be deployed on leatherback turtles in the upcoming season.

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Observations on the exploitation of sea turtles along the Tuticorin coast, Tamil Nadu, India

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Introduction

Sea turtles have been used for local consumption since time immemorial providing food (oil and protein) as well as other commodities (bone, leather and shell) to coastal people around the world. Their shells are widely used for the production of various curios. There are four species of sea turtles found in the Gulf of Mannar (Kar & Bhaskar, 1982): green (*Chelonia mydas*, local name: *Paer aamai*), olive ridley (*Lepidochelys olivacea*, local name: *Yeth aamai*), leatherback (*Dermochelys coriacea*, local name: *Ezhuvvari aamai*) and hawksbill (*Eretmochelys imbricata*, local name: *Kilimooku aamai*). Turtle fishing was practised in this region for ages and chelonians were exported to Sri Lanka

and other countries until a couple of decades ago (Agastheesapillai & Thiagarajan, 1979; Frazier, 1980). The Indian Wildlife Protection Act (1972) lists all species of marine turtles in Schedule I, thereby giving them the highest degree of protection.

Methodology

Study area

The present study presents observations on the exploitation of various species of sea turtles along the coast of Tuticorin (Threspuram) (N - 08°48'50.42'', E - 78°09'43.92'') and Punnakayal (N - 8°38'13.10'', E - 78°6'56.90'') from June 2006 to July 2007.