

# Indian Ocean - South-East Asian Marine Turtle Memorandum of Understanding

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## Caring for the Turtles of Redang Island, Malaysia

Source/Photos: [Prof. Eng-Heng Chan](#)



Redang Island, located in the South China Sea is approximately 45 km North Northeast of Kuala Terengganu and 22.5 km east of Tanjung Merang, the take-off point for the island from the mainland.

Endowed with one of the best coral and marine ecosystems in Malaysia, it is not surprising that the island is a major tourist attraction in Terengganu. Unknown to the average tourist, the island is also home to the largest aggregation of nesting green turtles in Peninsular Malaysia. Hawksbill turtles also nest in Redang, but contribute less than 2% to the total nestings.

A vibrant marine turtle research and conservation program was initiated in Chagar Hutang, the major nesting beach on Redang Island in 1993 by the Sea Turtle Research Unit (SEATRU) of Kolej Universiti Sains dan Teknologi Malaysia (KUSTEM). SEATRU adopts a three-pronged approach to fulfil its objective of saving

the turtles of Redang from extinction, i.e. through research, practical conservation at the nesting beach and educational projects.

### Research

SEATRU scientists and KUSTEM students have completed many research projects carried out in Chagar Hutang. A listing of the major projects, student projects and publications is provided in the website for the Centre for Turtle Research and Conservation, CTReC ([www.kustem.edu.my/ctrec](http://www.kustem.edu.my/ctrec)) and the SEATRU website ([www.kustem.edu.my/seatru](http://www.kustem.edu.my/seatru)).

Of special mention are satellite tracking studies and the on-going long-term tagging and nesting research programme.

The earliest successful satellite tracking studies in the region are attributed to SEATRU. Between 1993 and 2001, 13 PTTs have been deployed, six on post-nesting turtles (five green turtles and one hawksbill) from Chagar Hutang, eight on post-nesting green turtles in the Sarawak Turtle Islands and one on a captive-raised five-year old green turtle from Chagar Hutang. The amazing migratory routes and the foraging grounds of these turtles are illustrated in the SEATRU webpage at [www.kustem.edu.my/seatru/satrack/index.html](http://www.kustem.edu.my/seatru/satrack/index.html)

Long-term saturation tagging and nesting research on the 350 m long nesting beach in Chagar Hutang has revealed that in the last ten years, the annual number of nesting females visiting the beach has ranged from 50-139, with the corresponding number of nests deposited ranging from 240-686. While each individual female green turtle lays an average of 5-6 nests per season, some have laid up to 12 nests in one season. The interesting interval ranges from 9-12 days (mean of 10) and mean clutch size is 99 eggs (range of 30-160) and mean remigration interval is 3-5 years.

### Conservation



The grass-roots conservation project conducted at the major nesting site for green turtles in Peninsular Malaysia positions SEATRU at the forefront of marine turtle conservation in Malaysia. Even though Chagar Hutang beach is leased to local islanders for commercial egg collection, SEATRU has been successful in securing close to 100% of the eggs deposited for in-situ incubation each year. This is achieved through

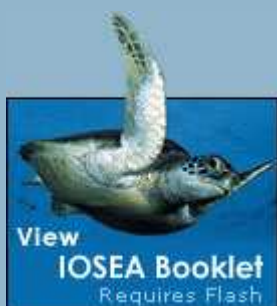
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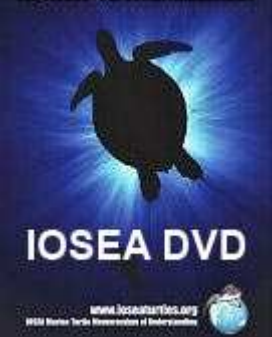
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collaboration with local egg collectors who have been convinced into selling turtle eggs to the project for conservation, rather than for consumption. The funds needed to purchase the eggs are raised through STOP, the innovative sea turtle outreach programme of SEATRU (described later).

Since the inception of the project in 1993, a total of 4,222 nests (over 400,000 eggs) have been incubated, with over 300,000 hatchlings crawling naturally back to the sea upon emergence. This effort was recognized by UNEP when it elected SEATRU scientists to the Global 500 Roll of Honour in 2001.

**Education**

This is a vital component of the project and the objective of increasing awareness among local islanders, school children and the public at large is fulfilled through annual educational turtle camps, exhibitions, media articles, collaboration with local schools to conduct turtle awareness programmes, TV documentaries and a volunteer programme conducted under STOP.



Kem SiPenyu, the annual turtle camps are unique in that they are open to every child in Year 5 of elementary school in Redang Island, ensuring 100% participation by all the kids in the village in the long term.

The kids are brought to the nesting beach for 2 days for direct exposure to the conservation project.

By seeing turtles nest and hatchlings emerge at close range and getting involved in the conservation activities firsthand, they can't help but fall in love with the turtles and feel the need to help save them. However the underlying emphasis is to get each child to voluntarily stop consuming turtle eggs. Fun activities (games, story-telling and play-acting) are used to inculcate conservation values in the children. Turtle camps are also organised for small groups of high school kids from mainland schools that carry out turtle awareness and fund-raising programmes in support of SEATRU.

SEATRU has participated in numerous exhibitions, notable among which are LIMA 99 (Langkawi International Aerospace Exhibition) and "Artrageously Turtle" in December of 2004. The latter represented a fusion of art, photography, music, videography, origami, and multimedia presentations in celebration of a decade of marine turtle conservation by SEATRU.



The activities of SEATRU have been extensively featured in the local media (archived in [www.kustem.edu.my/ctrec/in\\_the\\_news.htm](http://www.kustem.edu.my/ctrec/in_the_news.htm) & [www.kustem.edu.my/seatru/news/index.html](http://www.kustem.edu.my/seatru/news/index.html)) as well as local and foreign television programmes (Japanese Broadcasting Corporation – Meeting A New Asia, Fox Family Channel (USA) – World Gone Wild, Astro Ria (Malaysia) – Our Scientists and Inventors, etc.). The media is a powerful tool as it reaches the masses in large numbers.

The on-going volunteer programme, one of the activities under STOP has proven to be very effective in creating turtle lovers among the Malaysian public. Since its inception in 1998, 730 local and 74 foreign volunteers have participated in the programme which involves a one-week stay at the project site for a nominal fee. Volunteers gain hands-on experience in the long term tagging and nesting research and in-situ egg incubation programmes. Our indicators of success and effectiveness are multiple volunteer returnees, over-subscription and emulation by other turtle conservation programmes in Malaysia.

**STOP – The Sea Turtle Outreach Programme**



STOP was created out of necessity when SEATRU lost its corporate sponsor in 1997/98.

Its components, the volunteer programme, nest and turtle adoptions have served the purpose of raising necessary funding to carry out the conservation project in Chagar Hutang. The adoption programmes provide an adoption certificate, information about the nest (no. of

eggs in nest, hatching success, number of hatchlings emerged and released) or turtle (name of turtle, tag numbers, size and nesting activities for the season) adopted and a SEATRU souvenir.

These materials help to involve the donors in a personalised way and many of them have given positive feedback to the programme. In short, STOP has brought a new meaning to marine turtle conservation in Malaysia.

### **Future Outlook**

SEATRU maintains links with other agencies and works closely with the State Government of Terengganu. A major breakthrough was achieved in 2004 when the new Chief Minister of Terengganu, Datuk Seri Idris Jusoh announced the establishment of turtle sanctuaries in all major nesting beaches in Redang, following an on-sight briefing given by the author. This commendable move will ensure optimal protection of all nests deposited in Redang Island.

SEATRU has recently extended its research and conservation efforts to cover the critically endangered river terrapin, Batagur baska and the unit is in the process of being upgraded to the Centre for Turtle Research and Conservation (CTReC).

It welcomes interested researchers to KUSTEM to conduct collaborative research and conservation programmes with SEATRU scientists either locally or regionally.

