

## IS A LONGTERM EDUCATIONAL PROGRAMME EFFECTIVE TO PREVENT EXTINCTION?

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Phra Thong island is one of three relatively large islands located just off the coast of Phang Nga province along the South West coast of Thailand (Fig. 1). Fine sand beaches (total length of 15 km) are found on the West Coast. Three fishermen villages are located on the island and few tourist resorts.

The Sea Turtle Project (STP) started six years ago. The most regular nests found on the island belong to olive ridley turtle (*Lepidochelys olivacea*), whereas leatherback (*Dermochelys coriacea*) and green turtle (*Chelonia mydas*) nests are not found every year.

As a result of long-term excessive egg harvest, stocks of olive ridley and leatherback turtle in the Andaman Sea of Thailand have been decimated to only tens of females nesting annually (Limpus, 1995). In fact, data concerning sea turtle nesting activities showed a drastic decline (90%) of sea turtle nests in the Andaman coast from 1985 (N=360) to 1995 (N=36) (Chantrapornsy, 1997).

As far as Phra Thong island is concerned, since the beginning of the STP the number of sea turtle nests found every year ranges between 4 to 13 (Aureggi et al., in press). A reduction of 82% of olive ridley nests laid at Phra Thong was recorded between 1979 (N = 238) and 1990 (N = 42) (Chantrapornsy, 1992) and a similar decrease (83%) was observed adding data collected from the STP in the period 1996-2002 (Fig.1).

Considering that sea turtles reach sexual maturity after 19-25 years (Enhardt and Witham, 1992), the low number of olive ridley nests found in the last 6 years at Phra Thong island could be due to the excessive egg

harvest documented 20 years ago in the province where the island is located. Thus, historical data showed a massive sea turtle egg harvest which is estimated to be about 400,000 eggs per year in Thailand, of which 60,000 from the Phang Nga province (Polunin, 1975). The yearly decrease in the number of nests from the decade, 1979-1990, could also be due to the massive egg collection in the previous 20 years. In addition to egg harvesting, the consumption of turtle meat, the hunting of turtles to use the shells, etc. should be considered as additional contribution to the actual result at Phra Thong island.

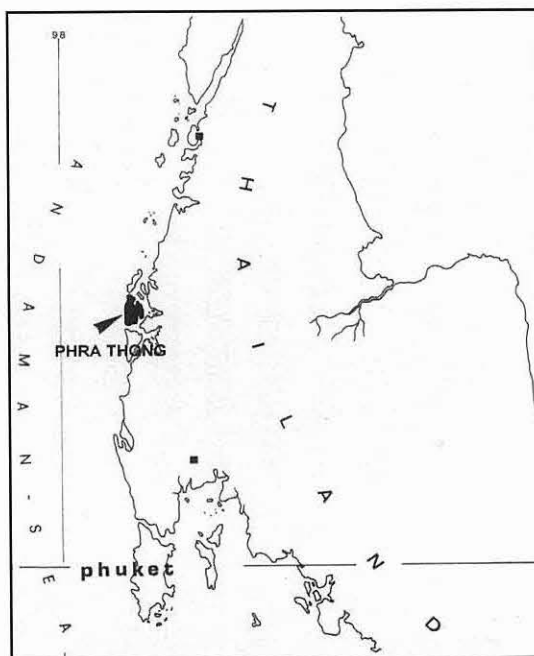


Fig. 1 Location of Phra Thong Island

Assuming that females take 20 to 50 years to reach adulthood and to remain reproductively active for 20 years, a green turtle population with 100% of egg harvest would reach extinction in about 70 years (Mortimer, 1995). Adapting this model to the olive ridley population nesting in the area of Phra Thong island, would there be the extinction in about 40 years? The low number of olive ridley nests at Phra Thong island could indicate the beginning of the species' extinction in the area (Fig. 2).

The STP at Phra Thong island has been focused, since the beginning on three aspects: scientific research and conservation, education and conservation awareness. Part of its effort is dedicated to the realization of an educational programme for the local community. Thanks to the help of Phuket Marine Biological Center staff, of the Thai teachers and of a foreign teacher a regular programme which lessons are conducted every month. Topics of the lesson are concerning conservation and biology of sea turtles, different animals on the island, hornbills, reef, creature of the reef, etc. The children's response to the programme has always been positive both during the lessons and at children day when schools

are invited at the STP base participating to games, activities, guided visit to the project facilities and to assist the turtle releasing ceremony. In the last two seasons, even villagers have been collaborating with the STP donating turtles incidentally caught in fishing nets. A total of 7 *Chelonia mydas* and 5 *Eretmochelys imbricata* juveniles were rescued and released by the project.

In addition, the STP has contributed to the decrease of the egg poaching activity (Aureggi et al, in press), to protect all the nests laid and to safely release more than 2000 hatchlings into the sea. In parallel, conservation awareness activities are conducted among tourists coming on the island. A display area is open to visitors and guided visit are scheduled. Slide show and talks are also part of the programme.

The question that remains unanswered is, if we are dealing with the last individuals of a population, are these result contributing to preventing the extinction? More investigations are needed in order to estimate the size of the nesting population and to estimate the mortality rate at sea.

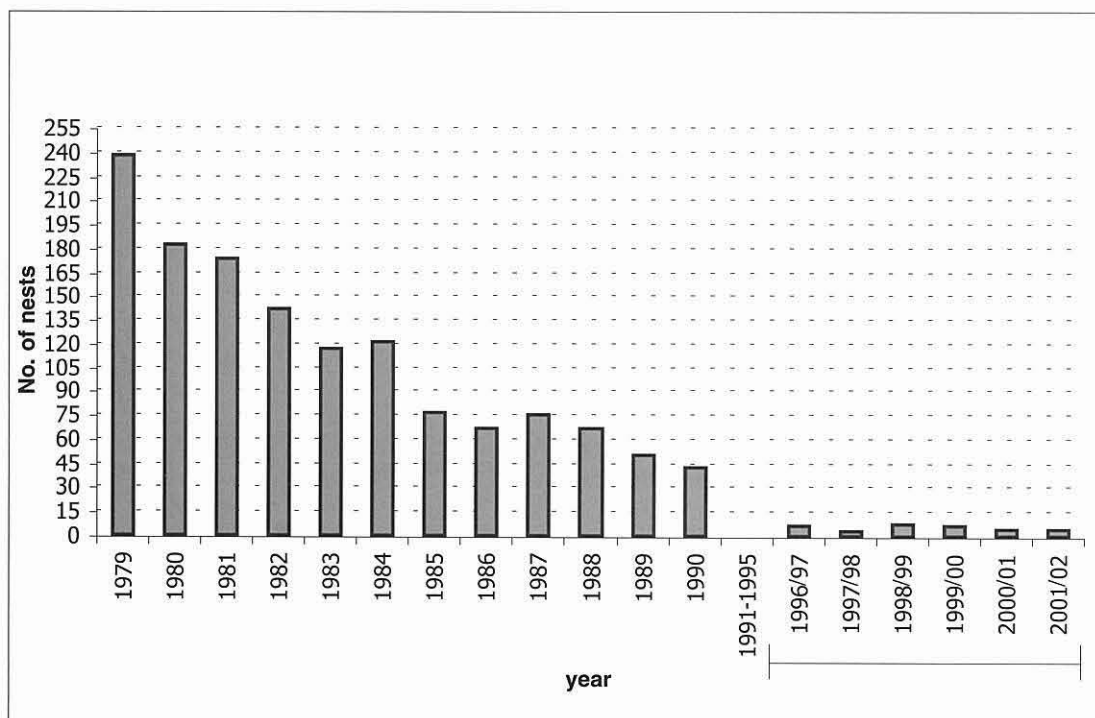


Fig. 2 Olive ridley nests at Phra Thong Island 1979 - 1990

## REFERENCES:

- Aureggi, M., Gerosa, G. and Chantrapornsyl, S.(in press).** An update of sea turtle nesting along the Andaman coast of Thailand: 1996-2000. *21ST International Symposium on Sea Turtle Biology and Conservation*, Philadelphia, USA, feb.2001.
- Aureggi, M., Gerosa, G. and Chantrapornsyl, S.(in press).** Elimination of egg poaching activity at Phra Thong island, Thailand. *First Italian Meeting on Sea Turtle Biology and Conservation*. Policoro, Italy.
- Chantrapornsyl, S., 1992.** Biology and Conservation Olive Ridley turtle (*Lepidochelys olivacea*) in the Andaman Sea, Southern Thailand. *Phuket Mar. Biol. Cent. Res. Bull.* **57**:51-66.
- Chantrapornsyl, S., 1997.** Status of marine turtles in Thailand. Manuscript.
- Enhardt, N.M. and Witham, R. 1992.** Analysis of growth of green sea turtle (*Chelonia mydas*) in the Western Central Atlantic. *Bull. Mar. Sc.* **50(2)**:275-281.
- Limpus, C.J.1995.** Global overview of the status of marine turtles: a 1995 review. In: Biology and conservation of sea turtles. Ed: Bjorndal, K.A., revised edition, 1995, Smithsonian Inst.press, Washington D.C.: 605-609.
- Mortimer, J.A. 1995.** Teaching critical concepts for the conservation of sea turtles. *MTN71*:1-4.
- Polunin, N.V.C. 1975.** Sea Turtles: reports on Thailand, West Malaysia and Indonesia with synopsis of data on the conservation status in the Indo west pacific region. Unpubl. report.