

Status of leatherback turtles in Thailand

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1. The legal protection status for leatherback turtles

1.1 Overview

The legislation and regulation items that protect leatherback turtles in Thailand are listed as follows

1. Fisheries Acts, B.E.2490 (1947).
2. National Park Acts, B.E.2504 (1961).
3. Acts on Export and Import for trade, B.E.2522 (1979).
4. The acts on Protection and Preservation of wild fauna, B.E.2535 (1992).
5. Treaties: Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Fisheries Acts, B.E.2490 (1947)

Section 2 (7), declared by the Ministry of Agriculture and Cooperatives on the 14 April (1947), states that catching, entrapping, luring, harming, or killing of every species of marine turtle and hawksbill turtles are strictly forbidden. If those turtles were caught as by-catch or accidentally trapped with any kinds of fishing equipment, they must be released immediately. Moreover, collecting and harming of marine turtle eggs of all species on all beaches are forbidden.

According to section 60, declared by the Ministry of Agriculture and Cooperatives on the 16 April (1996), all shrimp trawls in the fishery areas have to be equipped with a Turtle Excluder Device (TED). This is for all fishermen using trawls in areas where marine turtles are residing, the attachment of TED or similar apparatus could potentially reduce marine turtle mortality.

National Park Acts, B.E.2504 (1961)

A Royal Decree has been declared to announce that 14 groups of islands have become National Parks. Thus, protecting marine turtles and their habitats. Sections 16 and 18 are good references for the decree, which raise several important points:

Section 16 (2): Collecting or taking away resources by all means that could potentially harm or degrade qualities of wood, amber, rubber oil, pine oil, mineral, and other resources.

Section 16 (3): Taking away or harming animals in any way.

Section 16 (13): Permission from National Park officers must be sought prior to entering areas for all purposes, such as tourist business, which could effect turtle habitats and nesting beaches.

Section 16 (16): Shooting or exploding devices that harm marine turtles and their habitats is banned.

Section 16 (18): Disposing of rubbish and waste materials is forbidden outside provided areas.

Section 18: While staying in the National Parks patrons or users must obey the officers, who in turn abide by the rules Park's which are written and approved by a director-general and a minister, respectively.

Acts on Export and Import for trade, B.E.2522 (1979)

The Ministry of Commerce wrote and approved article 14(B.E.2526 (1983)) which announces that official permission must be given before international trade hawksbill turtle, green turtle, loggerhead turtle, leatherback turtle, and olive ridley turtle can occur.

Similarly, Article 24(B. E.2526 (1983)), written by the Ministry of Commerce, announces that carcasses of olive ridley turtle are protected and permission must be sought and provided before trading into or out of the country can occur.

The Ministry of Commerce has also approved article 58(B.E.2534 (1991)), which is an act for protecting and conserving wild animals from extinction according to CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora. As mentioned in section 5 of the Act on international trade of green turtle, hawksbill turtle, and olive ridley turtle are classified as products that need permission before exporting.

The Acts on Protection and Preservation of wild fauna, B.E.2535 (1992)

These Acts aim to protect and preserve wild fauna species by announcing that owning, trading, hunting, breeding, and importing-exporting of wild fauna and their extractions are forbidden.

Wild fauna are divided into 4 categories

1. Preserved species
2. Protected species
3. Protected species that could be traded
4. Wild fauna species under CITES lists

Hawksbill turtle, green turtle, leatherback turtle, olive ridley turtle, and loggerhead turtle are categorized as protected species.

1.2) Management agencies responsible for marine turtle conservation

Operational level	Name and type of agency
National level	Department of Marine and Coastal Resources, Department of National parks , Department of Fisheries
State level	
Local level	Maikhao Marine Turtle foundation, Phuket Province

2. Nesting populations2.1 Overview*Historical nesting by leatherback turtles*

The important areas of leatherback turtle's nesting were along the west coast of Phrathong Island, Thaimuang beach and the west coast of Phuket Island.

- Kata beach, Patong beach, Phuket Province
- Niyang beach, Suanmaprow beach, Maikhao beach, Phuket Province
- Tanun beach, Natoi beach, Phanga province
- Thaimuang beach and Phrathong beach, Phanga Province

At these locations beach patrols and survey were conducted between October and March each year between 1977 and 1983 (Chantrapornsyl 1987; Chantrapornsyl 1996; Chantrapornsyl et al. 1997).

Current nesting by leatherback turtles

The important areas of leatherback turtle's nesting are along the west coast of Phuket and Phanga Province (see Figure 1).

- Niyang beach, Suanmaprow beach, Maikhoa beach, Phuket province
- Thaimuang beach and Phrathong beach, Phanga Province

Beaches are monitored during nesting season (November-February) by the Maikhao Marine Turtle foundation, Phuket Province (Chuntrapornsyl 2001).

Table 1. Nesting records of leatherback turtles in Thailand. * refers to unpublished records from the Phuket marine biological centre.

Beach name	Latitude of beach	Longitude of beach	Year of survey	Annual number	Type of data (e.g. turtles, nests, eggs)	Reference
Mai Khao beach, Phuket Province	8.133N	98.288E	1996	17	Nests	PMBC
			1997	3		
			1998	3		
			1999	3		
			2000	16		
			2001	13		
			2004	14		
Naiyang beach, Phuket Province	8.142N	98.298E	1993	2	Nests	PMBC
			1994	4		
			1996	1		
			2005	1		
Thai Muang beach, Phanga Province	8.354N	98.259E	1989	3	Nests	PMBC
			1990	11		
			1991	5		
			1992	11		
			1993	15		
			1996	5		
			1997	6		
			1998	18		
			1999	4		
			2000	2		
			2001	8		
Phrathong beach, Phanga Province	8.956N	98.265E	1993	3	Nests	PMBC
			1996	1		
			1997	3		
			1999	7		
			2005	2		

2.2) Seasonality of leatherback turtle nesting

October to March (Phasuk 1992)

2.3) Genetic studies on nesting populations of leatherback turtles

No genetic studies have been conducted on the nesting leatherback turtles in Thailand.

2.4) Biological parameters

No biological data have been published for the nesting population of leatherback turtles in Thailand

2.5) Pivotal temperature studies

No studies on pivotal temperatures have been conducted in Thailand

2.6) Migration records of nesting leatherback turtles

There are no records of migration for leatherback turtles that were tagged while nesting in Thailand. Nor have any females tagged elsewhere been recorded nesting in Thailand.

2.7) Protection of nesting beaches

Two beaches are currently protected as National Parks; Thaimuang Beach which is within the Thaimuang-Koalumpee National Park, Phanga Province and Niyang, Maikhoa Beach which is within the Sirinat National Park, Phuket Province. There are no planned national parks in any of the other leatherback turtle nesting locations.

2.8) Use of hatcheries to protect marine turtle nests

Hatcheries are not used to protect leatherback turtle nests

2.9) Threats to nesting leatherback turtles

The main threats to nesting populations of leatherback turtles that have been documented are; tourist infrastructure development, incidental catch fisheries, degradation of nesting beach and foraging habitats and the illegal trade on eggs and meat (see Table 2; Chantrapornsyl et al. 1997; Adulyanukosol and Ruangkaew 2002).

Table 2. Summary of the threats to nesting leatherback turtles in Thailand

Threats at this site/area	Current occurrence			Historical occurrence			
	Low	Med	High	Unknown	Low	Med	High
Exploitation of nesting females	Yes				Yes		
Egg collection		Yes				Yes	
Agricultural development	Yes				Yes		
Tourist development			Yes				Yes
Urban development		Yes				Yes	
Industrial development	Yes				Yes		
Artificial lighting	Yes				Yes		
Coastal erosion	Yes				Yes		
Vehicles on the beach	Yes				Yes		
Sand mining	Yes				Yes		
Unregulated hatchery practices		Yes			Yes		
Natural threats/predation	Yes				Yes		
Other (please describe):							

2.10) Impacts of coastal development and/or sand mining on leatherback turtle nesting

Not applicable

2.11) Major existing threats to nesting leatherback turtles

The main two threats are the rapid increase in tourist related development along coastal areas and incidental catch in fisheries.

2.12) Other biological studies conducted on leatherback turtles

No other studies have been conducted on leatherback turtles in Thailand

3. Foraging populations**3.1) Details of any leatherback turtle census or tagging results such as tag recovery data**

There have been no studies on foraging populations of leatherback turtles, and no leatherback turtles caught as bycatch have been tagged and released. Four leatherback turtles have stranded on Thailand's beaches since 1991, and one female leatherback turtle died after becoming entangled in a crab trap line at Thaimuang beach, Phanga province.

3.2) Seasonality of leatherback turtles in coastal and offshore water

There is no available data

3.3) Approximate size range of leatherback turtles

There are no available data

3.4) Information on the diet of leatherback turtles

No studies on diet or incidental records are available

3.6) Threats to foraging populations of leatherback turtles

Incidental capture in fishing gear has been reported but not quantified in Thailand (see Table 3 for a summary of threats to foraging leatherback turtles in Thailand).

Table 3. Summary of the threats to foraging leatherback turtles in Thailand

Threats at this site/area	Current occurrence			Historical occurrence			
	Low	Med	High	Unknown	Low	Med	High
Directed take of leatherback turtles at sea	Yes				Yes		
Trawl fisheries		Yes				Yes	
Gillnet fisheries			Yes				Yes
Longline fisheries	Yes				Yes		
Other fisheries (state which ones)	Yes				Yes		
Boat strikes	Yes				Yes		
Plastics and other debris (at sea)	Yes				Yes		
Industrial effluent	Yes				Yes		
Inshore oil pollution	Yes				Yes		
Natural threats/predation	Yes				Yes		
Other (please describe)							

3.7) Fisheries bycatch of leatherback turtles and the fisheries involved

Type of fishery	Months of operation	Number of boats	Impact – low, medium, high or unknown	Reference
Gillnet fisheries	Throughout the year	N.A.	high	
Trawl fisheries	October - May	N.A.	medium	

3.8) Other activities being undertaken to improve the conservation of leatherback turtles

Areas of change	Summary including report references
Legislation changes	Done by Department of Marine and Coastal Resources
Action/recovery plans	Done by Research Centres of Department of Marine and Coastal Resources
Awareness raising programmes	Done by NGO and Research centres
Research activities	Done by research centres of Department of Marine and Coastal Resources
Physical interventions	
Fishery controls	Done by Fishery patrol vessels
Managed turtle based tourism	Done by Maikhoa Marine Turtle Foundation
Annual nesting beach surveys	Done in part by Maikhoa Marine Turtle Foundation
Managed hatcheries	Done by Maikhoa Marine Turtle Foundation – but not for leatherback turtles
Planned protected areas	Undertaken by National Parks Department

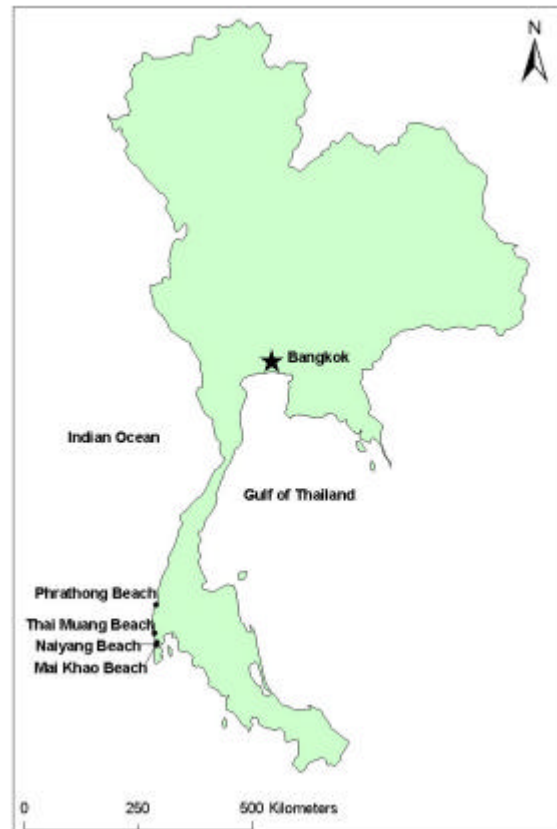


Figure 1. Locations of leatherback turtle nesting sites in Thailand

4. References

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