

Status of leatherback turtles in Seychelles

By Randolph C. Bijoux

1. The legal protection status for leatherback turtles

1.1. Overview

Leatherback turtle are fully protected in the legislation. All marine turtles are dealt with under the Wild Animals and Birds Protection Act (1961), which:

- provides framework for Regulations to be made by Minister for protection of wild animals & birds;
- Defines maximum penalties.

The following regulations under the Act pertain to turtles:

- a) Turtles Protection Regulations (1994) declares turtles & their eggs protected throughout Seychelles:
 - No person shall disturb, catch, injure, fish for, kill, sell, purchase, receive or possess any turtle or egg
 - No person shall sell, expose for sale, purchase or receive any products derived from any shell of turtle without a permit
 - No person shall export or import a turtle shell or any product of a turtle
- b) Wild Animals (Turtles) Protection (Amendment) Regulations (1998) made it illegal to possess raw turtle shell (closing loophole in 1994 regulations)
- c) Wild Animals and Birds Protection (Amendment) Act, 2001 deals with penalties:
 - increased maximum penalty: from Rs 1,000 to Rs 500,000 fine; and from 1 year to 2 years prison;
 - Allows police search without warrant and enables confiscation of boats, vehicles or aircraft involved

1.2. Management agencies responsible for marine turtle conservation

Operational level	Name and type of agency
National level	Ministry of Environment and Natural Resources (MENR)
State level	
Local level	<ol style="list-style-type: none"> 1. <u>Government</u>: Ministry of Environment and Natural Resources Marine Conservation Society of Seychelles 2. <u>Parastatal Organisations</u>: <ul style="list-style-type: none"> ○ Seychelles Islands Foundation (SIF) -- responsible for Aldabra atoll ○ Seychelles Centre for Marine Research & Technology - Marine Parks Authority (SCMRT/MPA) -- responsible for Marine Parks 3. <u>Non-Governmental Organisations (NGOs)</u>: <ul style="list-style-type: none"> ○ Island Conservation Society (ICS) -- responsible for Aride Island ○ Marine Conservation Society of Seychelles (MCSS) ○ Nature Protection Trust of Seychelles (NPTS) -- responsible for Silhouette Island ○ Nature Seychelles -- responsible for Cousin Island 4. <u>Private Sector</u> <ul style="list-style-type: none"> ○ Various hotels & private islands conduct turtle conservation activities on beaches adjacent to their property -- i.e., Bird Island, Cousine Island, Denis Island, North Island, etc.

2. Nesting populations

2.1. Overview

Historical Evidence

Two possible (but unconfirmed) reports of leatherback nesting include:

- a) Photograph taken prior to 1970 of a leatherback that 'beached' at Anse Kerlan, Praslin. and was released the next day (Frazier 1984);
- b) An unconfirmed anecdotal report of leatherback nesting on Beau Vallon beach, Mahe, in the 1970s (C. Lorentz pers. comm. to J.A. Mortimer).

Current Situation

Virtually all nesting beaches have been monitored with some regularity during the past few decades, and there have been no reports at all of leatherback nesting anywhere in Seychelles during this period (Frazier 1984; Mortimer 1984, 1998).

3. Foraging populations

3.1 Details on any leatherback turtle foraging area census or tagging results.

No tagged leatherbacks have been reported in Seychelles (J. Mortimer, pers. comm.). Nor have any tagging studies been conducted on foraging leatherback turtles.

3.2. Seasonality of leatherback turtles in coastal and offshore waters

According to the rather general reports made by fishermen, foraging leatherback turtles occur in Seychelles waters during virtually any month of the year, but they are most easily observed during the calm periods of October through April (based on interviews with various fishermen, pers. comm. J.A. Mortimer). According to unconfirmed reports from fisherman there is no specific pattern in which they occur but they also claimed that these were rare events (based on interviews with various fishermen, pers. comm. R.C. Bijoux).

There have been several well documented observations of leatherback turtles in Seychelles waters, for which dates have been recorded. These indicate that leatherbacks can occur throughout the year, and include the following:

- a) Reports of free swimming leatherbacks:
 - August 2001. South Mahe, near Pt. Capucin. (pers. comm. G. Rosine to J.A. Mortimer).
 - May 2005. Amirantes group, north of St. Joseph atoll, deep water near shore. (pers. comm. A. Jean-Baptiste to J.A. Mortimer).
- b) Stranded leatherback carcasses:
 - May 2002. North Mahe, North East Point beach (unpublished data J.A. Mortimer & Seychelles Ministry of Environment).
 - November 2003. North Mahe, Union Vale (unpublished data J.A. Mortimer & Seychelles Ministry of Environment).

3.3. Approximate size range of leatherbacks caught or seen in Foraging Areas

Measurements are available from the two leatherback strandings reported in section 3.2. The over-curve carapace measured for both turtles was 165 cm (MENR Stranded Turtle Network Data files; unpublished data J.A. Mortimer).

3.4. Information on Diet of leatherback Turtles

Unconfirmed reports from fishermen suggest that they may be feeding on jellyfish (based on interviews with various fishermen, pers. comm. J.A. Mortimer & pers. comm. R.C. Bijoux).

3.5. Other Biological Studies Conducted on leatherbacks in Foraging Areas

Genetic samples were retrieved from the two dead turtles washed ashore at Mahe in 2002 and 2003, and sent to Peter Dutton at the NMFS in the USA in effort to determine rookery of origin but to date, no results have been obtained (pers. comm. J.A. Mortimer).

3.6. Threats to foraging populations of leatherback turtles

Threats to foraging leatherback turtles in Seychelles are summarised in Table 1.

Table 1. Summary of threats to foraging populations of leatherback turtles in Seychelles

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

3.7. Fisheries Bycatch of leatherback Turtles

Hooked by long lines.

According to reports made during interviews with several commercial fishermen (pers. comm. J.A. Mortimer) who have worked on long lining vessels, leatherback turtles regularly, but infrequently, suffer accidental entanglement in fishing gears. Typically they are accidentally hooked through the skin of various parts of their body including the neck, shoulders and flippers; and released as quickly as possible (see Table 2).

Net Entanglement.

One anecdotal report of a leatherback trapped in a fishing net on the boundaries of the Ste. Anne Marine National Park in the 1990's but the rangers could not locate the animal to release it (pers. comm. J.A. Mortimer).

Cause of death of the two stranded leatherback carcasses is unknown, as there were no marks on the turtles. But, fishermen who were on site said that they thought it was likely the turtles had been entangled in fishing gear (pers. comm., J.A. Mortimer.)

Table 2. Summary of fisheries based threats to leatherback turtles in Seychelles

Type of fishery	Months of operation	Number of boats	Impact – low, medium, high or unknown	Reference
Commercial Longliners			Medium	J.A. Mortimer, Unpublished data based on interviews with fishermen

3.8. Other activities being undertaken to improve conservation of leatherback turtles

Not applicable

4. **Concluding Remarks**

Given the relatively small size of the nesting leatherback population in the Indian Ocean, the incidental entanglement of leatherbacks in fishing gear - i.e., long liners & nets needs to be taken seriously and addressed accordingly (J.A. Mortimer, Pers. Comm.).

5. References cited

- Frazier J (1984) Marine turtles in the Seychelles and adjacent territories. In 'Biogeography & Ecology of the Seychelles Islands'. (Ed. DR Stoddart) pp. 417-468. (Dr. W. Junk Publishers: The Hague).
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