



The Maldives National Red List of Threatened Species

Scope: National

Language: English

***Dermochelys
coriacea***

Leatherback sea turtle

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Maldives National Red List Assessment: Leatherback Sea Turtle

A. Background Information

1. Assessment Information:

Assessor Name	Umaira Ahmed and Lisama Sabry
Date of Assessment	14.02.2022
Contributors	James Tallant
Reviewers	Khadeeja Ali, Janice Chanson

2. Taxonomic Information:

Scientific Name	<i>Dermochelys coriacea</i>
Common Name (English)	Leatherback sea turtle
Common Name (Dhivehi)	Musinbi, ލިސިބަލި
	Order Testudines
Taxonomy	Sub-order Cryptodira
	Family Dermochelyidae
Taxonomic Notes	-

3. Geographic Range

3.1 Summary of Global Distribution

The global distribution of leatherback turtles comprises of 7 subpopulations. These are:

- Northwest Atlantic Ocean
- Southeast Atlantic Ocean
- Southwest Atlantic Ocean
- Northeast Indian Ocean
- Southwest Indian Ocean
- East Pacific Ocean
- West Pacific Ocean

3.2 Countries of Occurrence

Albania; American Samoa; Angola; Anguilla; Antigua and Barbuda; Argentina; Aruba; Australia; Bahamas; Bahrain; Bangladesh; Barbados; Belize; Benin; Bermuda; Bonaire, Sint Eustatius and Saba (Bonaire, Sint Eustatius, Saba); Bosnia and Herzegovina; Brazil; Brunei Darussalam; Cambodia; Cameroon; Canada; Chile; China; Colombia; Comoros; Congo; Congo, The Democratic Republic of the; Costa Rica; Croatia; Cuba; Curaçao; Cyprus; Côte d'Ivoire; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Fiji; France (Clipperton I., France (mainland)); French Guiana; French Polynesia; French Southern Territories (Mozambique Channel Is.); Gabon; Gambia; Ghana; Greece; Grenada; Guadeloupe; Guam; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; India; Indonesia; Ireland; Italy; Jamaica; Japan; Kenya; Kiribati; Korea, Democratic People's Republic of; Korea, Republic of; Lebanon; Liberia; Libya; Madagascar; Malaysia; Marshall Islands; Martinique; Mauritania; Mauritius; Mayotte; Mexico; Micronesia, Federated States of ; Montenegro; Montserrat; Morocco; Mozambique; Myanmar; Namibia; New

Caledonia; New Zealand; Nicaragua; Nigeria; Northern Mariana Islands; Palau; Panama; Papua New Guinea; Peru; Philippines; Portugal; Puerto Rico; Russian Federation; Saint Helena, Ascension and Tristan da Cunha; Saint Kitts and Nevis; Saint Lucia; Saint Martin (French part); Saint Vincent and the Grenadines; Samoa; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; Sint Maarten (Dutch part); Slovenia; Solomon Islands; South Africa; Spain; Sri Lanka; Suriname; Syrian Arab Republic; Taiwan, Province of China; Tanzania, United Republic of; Thailand; Togo; Tonga; Trinidad and Tobago; Tunisia; Turks and Caicos Islands; Tuvalu; United Kingdom; United States; Uruguay; Venezuela, Bolivarian Republic of; Virgin Islands, British; Virgin Islands, U.S.

3.3 National Distribution

This species is only known from four records in the Maldives in the past 120 years. It is most likely a vagrant in the country. These records are listed below

Date/Year	Location of sighting	Details of sightings	Reference
1906	Addu Atoll	Gravid female located in Addu Atoll	Frazier and Salas 1984
1988	5°34'00.0"N 74°05'00.0"E	One individual leatherback was entangled in a gill net.	Zahir 2000 Zahir 2006
2015	Southern Maldives	Observed during a dive trip. Exact location unknown.	Scuba Lovin 2015 (Youtube video)
2014	Addu Atoll	Observed during a dive trip. Exact location unknown.	Marcel van der Velden 2014. (Youtube video)

4. Population:

Summary	Leatherback turtles are rarely seen and are likely vagrant in the Maldives. Hence, the native population is most likely be zero.
Population Size	Unknown
Population Trend	Unknown
Continuing Decline in Number of Mature Individuals?	Unknown
Extreme Fluctuations?	Unknown
Severely Fragmented?	Unknown

5. Habitat and Ecology:

5.1 Summary

Mainly marine sightings have been recorded and there are no records of nesting leatherbacks in the Maldives.

5.2 Systems (Terrestrial/Freshwater/Marine)

9. Marine Neritic -> 9.1 Pelagic, 9.8 Coral Reef, 9.9 Seagrass (Submerged); 12. Marine intertidal -> 12.2 Sand Shoreline and/or Beaches, Sand Bars, Spits, etc.; 13. Marine Coastal/Supratidal -> 13.3. Sand Dunes

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.1. Pelagic	Unknown	Suitable	Unknown
13. Marine Coastal/Supratidal -> 13.3. Marine Coastal/Supratidal - Sand Dunes	Unknown	Suitable	Unknown

5.3 Continuing Decline in Area, Extent, and/or Quality of Habitat?

Unknown

5.4 A Migratory Species?

Yes

6. Use and Trade:

There is no recorded international trade (import/export) of loggerhead recorded in the Maldives.

7. Threats:

Leatherback turtles are rarely sighted in the Maldives and trade of this species has not been recorded. However, it is possible to be similar to the threat to other species of turtles recorded in the Maldives.

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score	Stress
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.4. Unintentional effects (large scale)	ongoing	Minority (<50%)	Unknown	Unknown	Species Mortality
6. Human intrusions & disturbance -> 6.1 Recreational activities	ongoing	Minority (<50%)	Causing/could cause fluctuations	Unknown	Species Mortality or Species Disturbance
11. Climate change & severe weather -> 11.5. Other impacts	ongoing	Whole (>90%)	Causing/could cause fluctuations	Unknown	Species Disturbance

8. Conservation and Research

Genetic sampling and tracking of observed individuals may lead to additional information regarding the leatherback turtles in the Maldives

8.1 Conservation actions in place

The conservation efforts for Leatherback Turtles can be categorized into three categories namely; (1) global efforts, (2) Regional and (3) National efforts

(1) Global Efforts: Maldives is a party to three conventions with conservation efforts and recommendations to conserve the Leatherback turtle. These includes CITES, Convention on the Conservation of Migratory Species of Wild Animals (CMS) and Convention on Biological Diversity (CBD).

All the turtle under the family Cheloniidae including Leatherback turtle is listed in the Appendix I of the CITES, which is considered as species that need highest level of protection. Hence, CITES prohibits international trade in specimens of these species except when the purpose of the import is not commercial, for instance for scientific research. In these exceptional cases, trade may take place provided it is authorized by the granting of both an import permit and an export permit (or re-export certificate).

The instrument for conservation of all sea turtles under the CMS is covered in the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA Marine Turtle MOU) Moreover, CMS has listed Leatherback turtles under the Appendix I, where parties that are a Range State to a migratory species listed in Appendix I shall endeavor to strictly protect them by: prohibiting the taking of such species, with very restricted scope for exceptions; conserving and where appropriate restoring their habitats; preventing, removing or mitigating obstacles to their migration and controlling other factors that might endanger them

(2) Regional efforts: Indian Ocean Tuna Commission - IOTC Resolution 12/04 (Resolution 12/04 On the conservation of marine turtles)

(3) National efforts, all species of marine turtles are protected under the Environment Protection and Preservation (4/93). According to the Turtle Protection Decree dated 4 April 2016, the following activities are prohibited:

- Capturing, harming, disturbing turtles
- Extraction of turtle eggs and harming/disturbing nests or any other habitats of turtles
- Keeping turtles as pets
- Trade of live animals and by products of turtles
- Research and rehabilitation without permit from EPA

8.2 Research in place

No existing research specific to Leatherbacks is ongoing in the Maldives.

8.3 Conservation needs

Support the conservation actions identified in the Regional Assessment of the species.

8.4 Research needs

Genetic sampling and tracking of observed individuals in Maldives and from subpopulations in the vicinity.

B. Assessment

9. CRITERION A

Criterion A

Generation Length	30 years
3 Generations	90 years
Reduction in population size?	Unknown

Start Date of Reduction	Unknown
End Date of Reduction	Unknown
Rate of Reduction (%)	Unknown

	A1	Unknown
Meets Criteria Thresholds?	A2	Unknown
	A3	Unknown
	A4	Unknown
	a	Unknown
	b	Unknown
Reduction Based on Which Sub-criteria?	c	Unknown
	d	Unknown
	e	Unknown

Assessment Under Criterion A **DD**

10. CRITERION B

Criterion B

AOO	Unknown	
EOO	90.000 km ² (area of the EEZ Maldives)	
Meets Criteria Thresholds?	B1	No
	B2	Unknown
Severely Fragmented?	No – migratory species	
No. Locations	1	
Threat used to calculate locations	-	
	(i) EOO	-
	(ii) AOO	-
Continuing	(iii) Habitat	-
Decline?	(iv) Locations / Subpopulations	-
	(v) Mature Individuals	-
	(i) EOO	-
	(ii) AOO	-
Extreme	(iii) Locations / Subpopulations	-
	(iv) Mature Individuals	-

Assessment Under Criterion B **DD**

11. CRITERION C

Criterion C

No. Mature Individuals	Unknown
Continuing Decline in Population Size?	Unknown

Is Rate of Decline Known?	No
Generation Length	30 years
C1	Meets Thresholds for Rate of Decline?
	-
	Rate of Decline (%)
	-
	Time Period of Decline
	-
	(a) (i) No. Mature Individuals in Each Subpopulation
	-
C2	(a) (ii) % Mature Individuals in one Sub-population
	-
	(b) Extreme Fluctuations in No. Mature Individuals?
	-
Assessment Under Criterion C	DD

12. CRITERION D

Criterion D

No. Mature Individuals	Unknown
Meets Criteria Thresholds?	Unknown
	AOO
	-
	No. Locations
	-
VUD2	Plausible Future Threat That Would Quickly Drive Taxon to CR or EX
	Plausible Future Threat That Would Quickly Drive Taxon to VU or EN
	-

Assessment Under Criterion D **DD**

13. CRITERION D

Criterion E

Has a Quantitative Analysis Been Conducted?	No
Type of Quantitative Analysis	NA
Generation Length	30 years
Probability of Extinction within 100 Years	NA
Probability of Extinction within 20 Years / 5 Generations (whichever is longer)	NA
Probability of Extinction within 10 Years / 3 Generations (whichever is longer)	NA

14. PRELIMINARY ASSESSMENT

Preliminary Assessment DD

Regional Adjustment	Up-list, Down-list, or No Change?	No Change
	Justification for Regional Adjustment	-

Final Assessment DD

Narrative Justification for Assessment

The information available on the recorded sightings of leatherback turtle are limited to a few published articles. Hence it can be concluded that there is insufficient data to assess leatherback turtles under Criterion A.

The most recent review of the status of marine turtles in the Maldives (Ali and Shimal 2016) did not record a single leatherback turtle in the in-water surveys and from the data collected through citizen science turtle watch programm.

The amount of observed, estimated, inferred or projected information available for leatherbacks is not sufficient to determine the status of the species under Criterion B.

The global assessment of leatherbacks does not list Maldives as an occurrence country (Wallace et.al, 2013). Similarly, the assessment for the Northeast Indian Ocean subpopulation for leatherbacks (Tiwari et.al, 2013) has not included Maldives among the extant countries (Bangladesh, India, Indonesia, Malaysia, Myanmar, Sri Lanka, and Thailand). The outcome of the assessment for Northeast Indian Ocean subpopulation is Data Deficient

There is no data available on the number of mature individuals and if there is a decline in population size as well as the rate of decline. Hence it can be concluded that data is deficient to assess this species under Criterion C.

There is no data available indicating the population size or its geographical range.

In conclusion, this species is listed as **Data Deficient** as there have been only four sightings of this species from the Maldives in over 100 years. Available information suggests that this species is a vagrant.

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