



The Maldives National Red List of Threatened Species

Scope: National

Language: English

***Caretta caretta*,**
Loggerhead sea turtle

Abdul Rahman, M. and Mohamed Riyaz, E.

Citation: Abdul Rahman, M. and Mohamed Riyaz, E., 2022. *Caretta caretta*, Loggerhead sea turtle. The Maldives National Red List of Threatened Species.

Maldives National Red List Assessment: Loggerhead Sea Turtle

A. Background Information

1. Assessment Information:

Assessor Name	Muhusina Abdul Rahman and Enas Mohamed Riyaz
Date of Assessment	14.02.2022
Contributors	James Tallant
Reviewers	Khadeeja Ali, Janice Chanson

2. Taxonomic Information:

Scientific Name	<i>Caretta caretta</i>	
Common Name (English)	Loggerhead sea turtle	
Common Name (Dhivehi)	Boabodu vela, ބޯބޯދު ވަލާ	
	Order	Testudines
Taxonomy	Sub-order	Cryptodira
	Family	Cheloniidae
Taxonomic Notes		-

3. Geographic Range:

3.1 Summary of Global Distribution

The global population of the Loggerhead Turtle (*Caretta caretta*) comprises 10 subpopulations;

- Mediterranean basin
- Northeast Atlantic Ocean
- Northeast Indian Ocean
- North Pacific Ocean
- Northwest Atlantic Ocean
- Northwest Indian Ocean
- Northeast Indian Ocean
- South Pacific Ocean
- Southwest Atlantic Ocean
- South West Indian Ocean

3.2 Countries of Occurrence

Albania; Algeria; Angola; Anguilla; Argentina; Aruba; Australia; Bahamas; Bahrain; Bangladesh; Barbados; Belize; Bermuda; Bonaire, Sint Eustatius and Saba (Bonaire); Brazil; Cabo Verde; Cayman Islands; Chile; China; Colombia; Comoros; Costa Rica; Croatia; Cuba; Curaçao; Cyprus; Djibouti; Dominican Republic; Ecuador; Egypt; Eritrea; Fiji; France; French Guiana; French Polynesia; Greece; Grenada; Guadeloupe; Guatemala; Haiti; Honduras; Indonesia; Iran ; Italy; Jamaica; Japan; Kenya; Korea, Republic of; Kuwait; Lebanon; Libya; Madagascar; Malaysia; Malta; Mauritius; Mexico; Montenegro; Montserrat; Morocco; Mozambique; Myanmar; Namibia; New Caledonia; New Zealand; Nicaragua; Niue; Oman; Pakistan; Palestine; Panama; Papua New Guinea; Peru; Philippines; Portugal; Puerto Rico; Qatar; Saint Barthélemy; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Senegal; Sierra Leone;

Slovenia; Solomon Islands; Somalia; South Africa; Spain (Canary Is.); Sri Lanka; Suriname; Syrian Arab Republic; Tanzania, United Republic of; Tokelau; Tonga; Trinidad and Tobago; Tunisia; Turkey; Turks and Caicos Islands; United Arab Emirates; United States; Uruguay; Venezuela, Bolivarian Republic of; Viet Nam; Virgin Islands, British; Virgin Islands, U.S.; Yemen

3.3 National Distribution

This species is only known from five records in the Maldives in the past 20 years, with confirmed sightings of **4 mature individuals and 1 juvenile individual**. The sex of the confirmed sightings was not recorded except for the one mature female recorded in 2003 in Huvadhu Atoll. It is most likely a vagrant in the country. The details of the confirmed sightings are listed below.

The summary of sighting of Loggerhead turtles in the Maldives is given below

Date/Year	Location of sighting	Details of sightings	Reference
2003	Huvadhu Atoll	Satellite tracking of a female adult nesting in South Africa, shows them approaching to Maldives	Luschi et al 2003
2010	Huvadhu Atoll	Satellite tracking study indicates that Loggerhead turtles uses Huvadhu Atoll channel, and made a 7 day stop in the North of Huvadhu Atoll. These turtles were recorded as moving in accordance with the ocean currents and not independent of ocean current.	Mancacci et al 2010
2015	Dhaalu Atoll	Maldives Sea Turtle Identification Program	SEAMARC 2015 https://marinesavers.com/turtle-conservation/
2017	Baa Atoll	A baby loggerhead sea turtle was brought to ORP rescue centre having been kept as a pet in a plastic bottle since she hatched. We estimate her to be 2-4 months old. Intake Date: 04 July 2017 Length: 14 cm Weight: 400 g Released: 30 August 2017 Emme remained at the rescue centre for a few weeks to gain some strength and regain her ability to dive. She was successfully released on 30 August 2017.	https://oliveridleyproject.org/sea-turtle-rescue-rehabilitation/turtle-patients/emme
2019	Laamu Atoll	A loggerhead was sighted near L.Hithadhoo during the expeditions in Laamu Atoll by the Blue Marine Foundation	Hashim S 2021

Loggerheads also have been reported to nest in the Maldives (Deraniyagala 1933), but this claim is disputed by Hughes (1974).

With confirmed sightings of four mature individuals and one juvenile individual.

4. Population:

Summary	Native Population is most likely 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 in the Maldives and there are no records of nesting of loggerheads 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:

With the limited sighting, the threats to the species is unknown. 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 individuals sighted in Maldives, and nearby subpopulations may lead to more conclusive information regarding the movement of loggerheads in Maldives.

8.1 Conservation actions in place

The conservation efforts for Loggerhead 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 Loggerhead 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 Loggerhead 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 Loggerhead 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 | IOTC_)

(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 Loggerheads 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		45 years
3 Generations		135 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 Decline?	(iii) Habitat	-
	(iv) Locations / Subpopulations	-
	(v) Mature Individuals	-
	(i) EOO	-
Extreme Fluctuations?	(ii) AOO	-
	(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	45 years	
	Meets Thresholds for Rate of Decline?	-
C1	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 C

DD

13. CRITERION D

Criterion E

Has a Quantitative Analysis Been Conducted?	No
Type of Quantitative Analysis	NA
Generation Length	45 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

Assessment Under Criterion E

DD

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

This species is listed as Data Deficient as there have been only five confirmed sightings of this species from the Maldives in the past 20 years and no systematic effort made into collecting *Caretta caretta* sightings from the pelagic zone of Maldivian waters. Available information suggests that this species is a vagrant.

Maldives does not fall into any of the RMUs (Casale and Tucker 2017) for Loggerhead which suggests that recorded sightings are vagrants.

Note: With the decreasing population trends observed for *Caretta caretta* on a regional level in the Indian Ocean (Casale and Tucker 2017), ie: the Northeast Indian Ocean subpopulation is listed as Critically Endangered under criterion D, and Northwest Indian Ocean subpopulation listed as Critically Endangered under criterion A4b, the criterion DD at national level should be treated with caution for conservation of this species at regional and global level

REFERENCES

- Casale P and Tucker AD 2017. *Caretta caretta*. The IUCN Red List of Threatened Species 2017: e.T3897A119333622. <http://dx.doi.org/10.2305/IUCN.UK.2017-2.RLTS.T3897A119333622.en>
- Deraniyagala PEP 1933. The loggerhead turtles (Carettidae) of Ceylon. The Ceylon Journal of Science Section B: Biology & Geology 18: 61-67
- Emme | Olive Ridley Project. 2017., from <https://oliveridleyproject.org/sea-turtle-rescue-rehabilitation/turtle-patients/emme>, Viewed 25 January 2022
- Hashim S 2021. Marine protected areas on Laamu Atoll: A proposal by Blue Marine Foundation. Maldives, unpublished.
- Hughes GR 1974. The sea turtles of south-east Africa. I. Status, morphology and distributions. Investigative Report No. 35, South African Association for Marine Biological Research: Oceanographic Research Institute. 144 pp.
- Luschi P, Hughes GR, Mancacci R, De Bernardi E, Sale A, Broker R, Bouwer M and Papi F 2003. Satellite tracking of migrating loggerhead sea turtles (*Caretta caretta*) displaced in the open sea. Marine Biology 143(4): 793-801.
- Mancacci R, De Bernardi E, Sale A, Lutjeharms JR and Luschi P 2010. Influence of oceanic factors on long-distance movements of loggerhead sea turtles displaced in the southwest Indian Ocean. Marine Biology 157(2): 339-349.
- SEAMARC 2015. Maldives Sea Turtle Identification Program: Project Update March 2015, Republic of Maldives, 9pp. Available online: <http://marinesavers.com/wordpress/wp-content/uploads/2015/01/Maldives-Turtle-ID-Report-March-2015-ID-2015.03.pdf>