Sri Lanka

GENERAL INFORMATION

Agency or institution primarily responsible for the preparation of this report:

Department of Wildlife Conservation, Sri Lanka (DWC)

Other agencies, institutions, or NGOs that have provided input:

IUCN - The World Conservation Union,
Sri Lanka Country Office (IUCN-SL)
Turtle Conservation Project of Sri Lanka (TCP)
National Aquatic Resources Research and Development Agency (NARA)
Marine Pollution Prevention Authority (MPPA)
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OBJECTIVE I. REDUCE DIRECT AND INDIRECT CAUSES OF MARINE TURTLE MORTALITY

1.1 Introduction to marine turtle populations and habitats, challenges and conservation efforts. [INF]

The island Republic of Sri Lanka is located southeast of India (5°55' and 9°51' N latitude, and 79°41' and 81°53' E longitude) and has a coastline of about 1,620 km.

Five species of marine turtles (the Loggerhead (Caretta caretta), the Green (Chelonia mydas), the Olive ridley (Lepidochelys olivacea, the Leatherback (Dermochelys coriacea), and the Hawksbill (Eretmochelys imbricata) nest along the coastal belt of Sri Lanka.

Turtle nesting beaches are distributed all around the coast, except in Puttalam and Gampaha districts. Turtles still occasionally use beaches near Colombo, in Kalutara and Matara districts.

The primary nesting beaches are distributed on the western, southwestern, and southern coasts of the island where the human population density is very high.

Induruwa: Green Turtle, Olive Ridley Turtle and Leatherback Turtle;
Kosgoda: Loggerhead Turtle, Hawksbill Turtle, Green Turtle, Olive Ridley Turtle and Leatherback Turtle;
Akurala: Green Turtle;

Mavela: Green Turtle and Leatherback Turtle;
Usangoda: Leatherback Turtle.
Ambalantota: Green Turtle and Leatherback Turtle;
Bundala: Green Turtle, Olive Ridley Turtle, Leatherback Turtle, Loggerhead Turtle and Hawksbill Turtle;
Yala: Green Turtle, Leatherback Turtle and Olive Ridley Turtle.

Galle and Hambantota districts host the most used nesting beaches. Kosgoda-Induruwa area in Galle district and Rekawa beach in Hambantota district have been identified as turtle rookeries. Foraging areas probably occur around the island wherever appropriate food can be found. Offshore in Kandakuliya, thousands of Olive Ridley Turtles are found every year but no nesting has been found.

In Sri Lanka, it is an illegal to capture, kill, injure or possess sea turtles or their eggs. In addition Sri Lanka has banned the international trade of sea turtle products. However, turtles around Sri Lanka face entanglement in small and large mesh gillnet fisheries and tuna long-line fishery. Other than incidental by-catch in fisheries, major threats to marine turtles in Sri Lanka include unquantified egg collection, destruction of nesting and foraging grounds through coastal development, and inappropriate activities at turtle hatcheries.

See:
Joseph, J. (2003). NATIONAL REPORT OF SRI LANKA on the Formulation of a Transboundary Diagnostic Analysis and Strategic Action Plan for the Bay of Bengal Large Marine Ecosystem Programme.

Kapurusinghe, T. (2006). Status and Conservation of Marine Turtles in Sri Lanka. In: Marine turtles of Indian sub-continent: status, threats and conservation, . eds. K. Shanker & B. C. Choudhury, Universities Press, Hyderabad.

Rajakaruna, R. S., Naveen, D.M., Dissanayake, J., Ekanayake, E.M. Lalith, Ranawana, K. B. (2009). Sea turtle conservation in Sri Lanka: assessment of knowledge, attitude and prevalence of consumptive use of turtle products among coastal communities. Indian Ocean Turtle Newsletter 10(1): 1-13.

And citations in Section 3.1.1

1.2.1 Describe any protocol or approaches practiced in your country, which you consider exemplary, for minimising threats to marine turtle populations and their habitats, which may be suitable for adaptation and adoption elsewhere. [BPR]

National Marine Turtle Conservation Action Plan has been developed by DWC in collaboration with stakeholders.

National practices to minimizing treats of turtles
• The National Marine Turtle Conservation Action Plan will be published in 2005 by theDWLC. The working draft was updated at a one day workshop on March in collaboration with all stakeholders.
• Community participation for the turtle conservation - Community around BNP, Rekawa and Kosgoda beach, Kalametiya Wildlife Sanctuary, and Yala.
• National Park involves in beach patrolling and in-situ turtle conservation activities.
• All stake holders were involved to prepare the Management Plan for the BNP.
• Youth participation in turtle conservation
• Community based Eco-Tourism activities in Rekawa and Kosgoda area.
• Fishing communities in down south area are educated to minimize the captureing and by catching of turtles. The following management activities and mitigation measures are taken.
• Promoting long line fishing instead of drift gill nets in offshore fisheries- NARA
• Banning Tammel netting in coral reef areas –NARA
• Banning use of explosives and chemicals in marine fisheries- NARA
• Banning of dynamite fishing –NARA
• Declaration of Hikkaduwa and Pegion Island Marine National Parks and Bar Reef Sanctuary as Marine Protected Areas under theDWLC
• Declared the shallow sea are (10 m depth) from Little Bass to Buthawa point as a fisheries management area in 2002.
• Controlling fishing gear, monitoring landing sites and awareness campaigns for fisherman and general public

Best practices for hatchery management and eco-tourism have not yet been adopted in Sri Lanka. Guidelines are being developed.

1.3.1 Describe any socio-economic studies or activities that have been conducted among communities that interact with marine turtles and their habitats. [BPR, INF]

Socio-economic activities have been conducted at communities that interact with marine turtles and their habitats, for example:

- Rekawa by TCP
- Bundala National Park by DWC
- Kalutara and Galle districts by NARA
- Entire coastline from Tangalle to Pilinnawa (Yala National Park) by IUCN-SL
- At Bundala National Park and Yala National Park trained nest protectors are employed from the surrounding villages

With a focus on Sri Lanka, Clem, T. and C. Wilson (2003) provide a review of the roles hatcheries in relation to tourism and conservation; they provide ideas for gaining benefits while reducing conflicts. See: Clem, T. and C. Wilson (2003). Open-Cycle Hatcheries, Tourism and Conservation of Sea Turtles: Economic and ecological Analysis. Economics, Ecology and the Environment, The University Of Queensland. Working Paper 78.

1.3.2 Which of these adverse economic incentives are underlying threats to marine turtles in your country? [TSH]

☐ High prices earned from turtle products relative to other commodities

☐ Lack of affordable alternatives to turtle products

☐ Ease of access to the turtle resource (eg. by virtue of proximity or ease of land/water access)

☐ Low cost of land near nesting beaches

☐ Low penalties against illegal harvesting

☐ Other1:

☐ Other2:

☐ Other3:

■ None of the above or Not Applicable

Control of development along the costal line, protecting turtle nesting areas against egg collection and predation. Although they are occurring, to some extent, the following activities need to be improved to reduce local threats to marine turtles:

a) Community participation in conservation activities.
b) Eco-tourism development.
c) Regulatory mechanism for hatchery practices.
d) Training & incentives for animal husbandry for coastal communities.
e) Protecting turtle nests in situ or by translocating eggs to ex situ facilities.

Economic incentives are needed as part of the program to reduce threats in Sri Lanka.

1.3.3 Has your country has taken any measures to try to correct these adverse economic incentives? [BPR]

■ YES ☐ NO ☐ NOT APPLICABLE (no adverse economic incentives exist)

a) The communities around the Bundala National Park, Rekawa beach and Kosgoda (a critical turtle nesting habitat in Sri Lanka) and Kalametiya Sanctuary areas are involved actively in beach patrolling and in-situ turtle conservation activities. Trained nest protectors are employed from the surrounding villages.

b) There are economic incentives for youth participating in turtle research (as data collectors) in Ussangoda, Kahanda Modara, Wellaodae, Rekawa & Godawaya - Walawa modara areas.

c) Community-based Eco tourism activities in Rekawa by Turtle Conservation Project (www.tcpsrilanka.org)

1.4.1 Indicate, and describe in more detail, the main fisheries occurring in the waters of your country, as well as any high seas fisheries in which flag vessels of your country participate, that could possibly interact with marine turtles. [INF]

a) Shrimp trawls: ■ YES ☐ NO

Approximately 25% (based on tonnage landed) of the total catch (Blue Ocean Institute, Project Global)

Source: BOBLMEP/National Report Sri Lanka

b) Set gill nets: ■ YES ☐ NO

Approximately17% (based on tonnage landed) of the total catch (Blue Ocean Institute, Project Global)

Source: BOBLMEP/National Report Sri Lanka

c) Anchored Fish Aggregating Devices (FADs):

Information not available

d) Purse seine (with or without FADs): ■ YES ☐ NO

Approximately 12% (based on tonnage landed) of the total catch (Blue Ocean Institute, Project Global)

Source: BOBLMEP/National Report Sri Lanka

e) Longline (shallow or deepset): ■ YES ☐ NO

Information not available

f) Driftnet: ■ YES ☐ NO

Approximately 6% (based on tonnage landed) of the total catch (Blue Ocean Institute, Project Global)

Source: BOBLMEP/National Report Sri Lanka

g) Other1:

h) Other2:

☐ **None of the above**

1.4.2 Please indicate the relative level of fishing effort and perceived impact of each of the above fisheries on marine turtles (e.g. in terms of by-catch). [TSH]

a) Shrimp trawls

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Source: See citations above

b) Set gill nets

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Source: See citations above

c) Anchored Fish Aggregating Devices (FADs)

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Source: See citations above

d) Purse seine (with or without FADs)

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Source: See citations above

e) Longline (shallow or deepset)

Fishing effort:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source: See citations above

f) Driftnet

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Source: See citations above

g) Other1 (from 1.4.1):

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ■ **NONE** ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ■ **NONE** ☐ UNKNOWN

Source:

h) Other2 (from 1.4.1):

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ■ **NONE** ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ■ **NONE** ☐ UNKNOWN

Source:

1.4.3 Describe any illegal fishing that is known to occur in or around the waters of your country that may impact marine turtles. Describe the measures being taken to deal with this problem and any difficulties encountered in this regard. [TSH]

None. Sri Lanka's Monitoring, Control and Surveillance (MCS) capabilities are rudimentary and leave its waters exposed to poaching by foreign fishing boats. (BOBLMEP/National Report Sri Lanka)

1.4.4 Which of the following methods are used by your country to minimise incidental capture/mortality of marine turtles in fishing activities? [IND]

a) **Appropriate handling** of incidentally caught turtles (e.g. resuscitation or release by fishers using equipment such as de-hooking, line cutting tools and scoop nets)

■ **YES** ☐ NO ☐ NOT APPLICABLE

Resuscitation or release by fishers using equipment such as de-hooking, line cutting tools and scoop nets.

b) **Devices that allow the escape of marine turtles** (e.g. turtle excluder devices (TEDs) or other measures that are comparable in effectiveness)

☐ YES ■ **NO** ☐ NOT APPLICABLE

c) **Measures to avoid encirclement** of marine turtles in purse seine fisheries

☐ YES ■ **NO** ☐ NOT APPLICABLE

d) **Appropriate combinations** of hook design, type of bait, depth, gear specifications and fishing practices

☐ YES ☐ NO ☐ NOT APPLICABLE

e) **Monitoring and recovery of fish aggregating devices** (FADs)

☐ YES ☐ NO ☐ NOT APPLICABLE

f) **Net retention and recycling schemes**

☐ YES ☐ NO ☐ NOT APPLICABLE

g) **Spatial and temporal control of fishing** (e.g. seasonal closures of fishing activities)

■ **YES** ☐ NO ☐ NOT APPLICABLE

Fishing is controlled at national level and at the regional level with a focus on particular stocks through permits; enforcement is often weak. Commercial fisheries (Multiday, longline) are not spatially or temporally restricted but artisanal fishing (18-23' boats, traditional craft, beach seines) has restrictions (Flewwelling and Hosch 2006).

See: Flewwelling, Peter and Hosch, Gilles (2006). Country review: Sri Lanka. De Young, C. (ed.) Review of the state of world marine capture fisheries management: Indian Ocean. FAO Fisheries Technical Paper. No. 488. Rome, FAO. 2006. 458p.

h) **Effort management control**

■ **YES** ☐ NO ☐ NOT APPLICABLE

Fisheries Laws and Regulations facilitate fisheries management through stakeholder involvement. Over-exploitation leading to declining resources, reduced income for communities and loss of biodiversity remain as significant problems that are being addressed. "In Sri Lanka, output control tools such as total allowable catch (TAC) limits, individual transferable quotas (ITQs) or non-transferable quotas have not yet been introduced " (FAO 2006).

See: FAO (2006). Sri Lanka - National Fishery Sector Overview (from NFSO). FAO Fishery and Aquaculture Country Profiles. (on-line)

☐ Other (list and explain):

☐ None of the above

1.4.5 Which of the following programmes has your country developed - in consultation with the fishing industry and fisheries management organisations - to promote implementation of measures to minimise incidental capture and mortality of turtles in national waters and in the high seas? [IND]

Onboard observer programmes

☐ YES ☐ NO ☐ NOT APPLICABLE

None

Vessel monitoring systems

☐ YES ☐ NO ☐ NOT APPLICABLE

None

Inspections (i.e. at sea, in port, at landing sites)

■ **YES** ☐ NO ☐ NOT APPLICABLE

MPPA Act 59 of 1981, presently being implemanting by MPPA (ensure the use of port facilities for the disposal of ship-borne waste).

Training programmes / workshops to educate fishers

■ **YES** ☐ NO ☐ NOT APPLICABLE

Promoting long line fishing instead of drift gill nets in offshore fisheries ??? NARA

Informative videos, brochures, printed guidelines etc.

■ **YES** ☐ NO ☐ NOT APPLICABLE

By Government and NGOs

Other (list and explain):

■ **YES** ☐ NO ☐ NOT APPLICABLE

- Banning Tammel netting in coral reef areas - NARA
- Temporary banning of encircling nets in both coastal and offshore areas: 2003 - NARA
- Banning use of explosives and chemicals in marine fisheries (Fisheries & aquatic resources (amendment) act, no. 4 of 2004).
- Banning of dynamite fishing Temporary baning of encircling fishing.
- Declaration of Hikkaduwa and Pegion island Marine National Parks & Barreef Sanctuary as Marine Protected Areas, under the DWC.
- Declared the shallow sea area(10 m depth) from Little Bass to Buthawa point as a fisheries management area in 2002.

☐ **None of the above**

1.4.6 Are the mitigation measures described in 1.4.4 and 1.4.5, periodically reviewed and evaluated for their efficacy? [SAP]

☐ YES ☐ NO ☐ UNSURE

1.4.7 In your country, what types of data collection, research and development have been undertaken to support the reduction of marine turtle incidental catch (while taking into consideration the impact of various mitigation measures on other species)? [SAP]

Data collected depends on the requirements of the study being conducted

See citations in Section 3.1.1

See also:
Hewavisenthi, S. (1990). "Exploitation of marine turtles in Sri Lanka: historic background and their present status." Marine Turtle Newsletter 48: 14-19.

Kapurusinghe, T. (2006). Status and Conservation of Marine Turtles in Sri Lanka. In: Marine turtles of Indian sub-continent: status, threats and conservation. eds . K. Shanker & B. C. Choudhury, Universities Press, Hyderabah.

Kapurusinghe, T. and R. Cooray (2002). Marine turtle by-catch in Sri Lanka. TCP Survey report September 1999 to November 2000. Turtle Conservation Project, Sri Lanka.

Kapurusinghe, T. and M. M. Saman (2002). MARINE TURTLE BY-CATCH IN SRI LANKA. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 46-49.

1.4.8 Has your country exchanged information and provided technical assistance (formally or informally) to other Signatory States to promote the activities described in 1.4.4, 1.4.5 and 1.4.7 above? [SAP]

■ **YES** ☐ NO ☐ UNSURE

Exchanged tag data with Indian Turtle tagging programme: with reference to a dead turtle washed off and found in Palatupana beach (Yala National Park) in 2002.

TCP has already distributed its by-catch survey findings internationally and therefore shared the information. These findings were compared with findings we received from many countries through many different organisations.

1.4.9 What legislative and practical measures has your country taken in support of UN General Assembly Resolution 46/215 concerning the moratorium on the use of large-scale driftnets? [SAP]

Promoting long line fishing instead of drift gill nets in offshore fisheries - NARA

1.5.1 Does your country have legislation to prohibit direct harvest and domestic trade in marine turtles, their eggs, parts and products; and to protect important turtle habitats? [IND]

■ **YES** ☐ NO ☐ UNSURE

In Sri Lanka, under the Fauna and Flora Protection Ordinance (FFPO, 1938 amended in 1972, amended in 1993) it is an offence to capture, kill, injure or possess sea turtles or their eggs. The Fauna and Flora Protection Ordinance (Chapter 469) covers the legislative aspects in respect to the protection of sea turtles in Sri Lanka. Section 31(III) was amended to Schedule III to include all other sea turtles.

See; Rajakaruna, Rupika S., Naveen, D.M., Dissanayake, J., Ekanayake, E.M. Lalith, and Ranawana, Kithsiri B. (2009). Sea turtle conservation in Sri Lanka: assessment of knowledge, attitude and prevalence of consumptive use of turtle products among coastal communities Indian Ocean Turtle Newsletter 10(1): 1-13.

1.5.2 Which, among the following list, are economic uses and cultural values of marine turtles in your country? Please rate the relative prevalence / importance of each consumptive or non-consumptive use. [INF]

USES / VALUES	RELATIVE PREVALENCE / IMPORTANCE
Meat consumption	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ■ **LOW** ☐ UNKNOWN
Turtles are culturally and traditionally significant in Sri Lanka, but the level of significance differs in different locations	
Egg consumption	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ■ **LOW** ☐ UNKNOWN
Shell products	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ■ **LOW** ☐ UNKNOWN
Fat consumption	
☐ YES ■ **NO**	☐ HIGH ☐ MODERATE ☐ LOW ☐ UNKNOWN
Traditional medicine	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ☐ LOW ☐ UNKNOWN
Eco-tourism programmes	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ■ **LOW** ☐ UNKNOWN
Cultural / traditional significance	
☐ YES ■ **NO**	☐ HIGH ☐ MODERATE ☐ LOW ☐ UNKNOWN

Other

Other than incidental by-catch in fisheries, major threats to marine turtles in Sri Lanka include unquantified egg collection, destruction of nesting and foraging grounds through coastal development, and inappropriate activities at turtle hatcheries.

1.5.3 Please indicate the relative level and impact of traditional harvest on marine turtles and their eggs. [IND, TSH]

Level of harvest:

■ **RELATIVELY HIGH** ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Impact of harvest:

■ **RELATIVELY HIGH** ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source of information:

R.M.M Chandraratne. 1997. Some reptile bones from the Gedige excavation in 1985, the citadel of Anuradhapura, Sri Lanka. Lyriocephalus, 3(2): 7-15.

Prof. Jindas's papers

Site Deraniyagala's papers cross reference in the 1st paper

Turtle egg collection is very high as a traditional harvesting practice in Sri Lanka and therefore having a high impact on turtle populations (pers. com. - TCP)

TCP interviewed old traditional turtle egg collectors and they confirmed that in earlier times there were large numbers of turtles nesting on the local beaches, but today numbers have been dramatically reduced. As an example old egg collectors in Rekawa have mentioned that 20 years ago there were about 40 turtles per night nesting on the beach during the peak season. Today however it has reduced to a maximum of 10-15 in Rekawa.

1.5.4 Have any domestic management programmes been established to limit the levels of intentional harvest? [SAP]

■ **YES** ☐ NO ☐ UNKNOWN

Community members who were intentionally harvesting turtle eggs are now employed as turtle nest protectors at several beaches such as Kosgoda, Rekawa, and Bundala.

Under the Fauna and Flora Protection Ordinance (FFPO, 1938 amended in 1972, amended 1993), it is an offence to capture, kill, injure or possess sea turtles or their eggs. Also Sri Lanka has banned the international trade of sea turtle products.

See comments and survey results in:
Rajakaruna, Rupika S., Naveen, D.M., Dissanayake, J., Ekanayake, E.M. Lalith, and Ranawana, Kithsiri B. (2009). Sea turtle conservation in Sri Lanka: assessment of knowledge, attitude and prevalence of consumptive use of turtle products among coastal communities Indian Ocean Turtle Newsletter 10(1): 1-13.

1.5.5 Describe any management agreements negotiated between your country and other States in relation to sustainable levels of traditional harvest, to ensure that such harvest does not undermine conservation efforts. [BPR]

Sri Lanka is working with other BOBLME countries on a regional approach to marine conservation and management. (BOBLMEP/National Report Sri Lanka)

1.6.1 First, select one of the options at left to indicate whether or not your country has any of the following measures in place to minimise the mortality of eggs, hatchlings and nesting females. If yes, then

estimate the relative effectiveness of these measures. [IND, SAP]

MEASURES	RELATIVE EFFECTIVENESS
Monitoring / protection programmes	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ■ **GOOD** ☐ LOW ☐ UNKNOWN

Night patrolling done by DWC staff in their protected areas and Rekawa beach. Placing of specially designed concrete rings to protect nests by natural predators (wild pig, jackal, mongoose, crabs and water/land monitors) practiced in Bundala National Park.

Night patrolling done by DWC staff in protected areas (Bundala and Yala National Park) and Rekawa beach (a critical turtle nesting habitat in Sri Lanka).

Building construction on the coastal areas has been regulated under the Coast Conservation Act. Artificial lighting which disturbs the wildlife is prohibited under Flora & Fauna Protection Ordinance (FFPO)

Transit of vehicles in Turtle nesting areas is prohibited in Protected areas under FFPO

Yala beach is protected legally and conservation programmes are scheduled. Bundala beach is protected legally, and a community-based programme for in situ conservation by the Department of Wildlife Conservation is continuing. Rekawa, one of the important nesting beaches, is not legally protected, but in-situ conservation programmes are undertaken by NGOs and the Department of Wildlife Conservation. The DWC has established a "wildlife beat" office at Rekawa beach and regular patrolling is conducted there.

TCP has organised many beach cleaning programmes in Rekawa between 1996 and 2000. Similar programmes have been conducted by TCP on nesting beaches in Tangalle area with the participation of school children.

As a result of the December 2004 tsunami, Kosgoda beach was covered with debris. TCP immediately organised a beach cleaning programme with local community participation and foreign volunteers.

TCP conducts a 24 hour beach patrol in Kosgoda to protect nests from natural predators.

Education / awareness programmes

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ■ **GOOD** ☐ LOW ☐ UNKNOWN

Educational and awareness programmes conducting by DWLC in Bundala National Park (for school children, rural communities, government officers).

Egg relocation / hatcheries

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ■ **GOOD** ☐ LOW ☐ UNKNOWN

Predator control

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN

DWLC (Bundala) use concrete cylinders to protect nests from predators. (wild boars, dogs, land monitors)

Vehicle / access restrictions

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN

Transit of vehicles in Turtle nesting areas is prohibited in Protected areas under FFPO.

It is totally banned to access vehicles in Bundala and Yala national parks areas .

Removal of debris / clean-up

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN

TCP has organised many beach cleaning programmes in Rekawa between 1996 and 2000. Similar programmes have been conducted by TCP on nesting beaches in Tangalle area with the participation of school children.

As a result of the December 2004 tsunami, Kosgoda beach was covered with debris. TCP immediately organised a beach cleaning programme with local community participation and foreign volunteers. Bundala Natinal Park (DWLC) working with NGOs and rural people, school children and university students for removing debris and to clean the beach of Bundala. Foreign volunteers worked with DWLC (Bundala) removing debris and beach cleaning .

Re-vegetation of frontal dunes

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN

Building location/design regulations

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ■ **GOOD** ☐ LOW ☐ UNKNOWN

Building construction on the coastal areas has been regulated under the Coast Conservation Act. Artificial lighting which disturbs the wildlife is prohibited under Flora & Fauna Protection Ordinance (FFPO).

Light pollution reduction

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN

Other (list and rate them)

■ **YES** ☐ NO ☐ N/A

Placing of specially designed concrete rings to protect nests by natural predators (wild pig, jackal, mongoose, crabs and water/land monitors) practiced in Bundala National Park.

1.6.2 Has your country undertaken any evaluation of its nest and beach management programmes? [SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE

The Departmant of Wildlife conservation has been evaluating the effectiveness of its nest and beach management at Rakewa, Bundala and Yala National Park Since 1999.

TCP has published several research papers on beach management programmes conducted by TCP in Rekawa and Kosgoda. A list of TCP publications is available at TCP website.(www.tcpsrilanka.org).

OBJECTIVE II. PROTECT, CONSERVE AND REHABILITATE MARINE TURTLE HABITATS

2.1.1 What is being done to protect critical habitats *outside* of established protected areas? (NB: It is assumed that legislation relating to established protected areas will have been described in Section 1.5.1) [BPR, SAP]

Local community members at Rekawa beach (a critical turtle nesting habitat in Sri Lanka) are trained, and given incentives for collecting turtle eggs for the DWLC ex-situ conservation programme.

TCP previously trained Rekawa community members in in-situ nest protection and research techniques and employed them as nest protectors between 1996 and 2000. This programme will be restarted in March 2005.

In-situ Conservation in Bundala National Park, Yala National Park, Rekawa and Kalametita areas are conducted by the DWLC with the assistance of Turtle Conservation Project (TCP).

Training has been given for wildlife officials by TCP and NARA to assure adequate protection. The Department of Wildlife Conservation (DWLC) has trained Bundala community members in in-situ nest protection and employed them as nest protectors since 2000.

Outside BNP along the beach at Hambanthota area is monitor by DWLC to find out other places where turtles nest outside the protected areas.

2.1.2 Are assessments routinely made of the environmental impact of marine and coastal development on marine turtles and their habitats? [IND, SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE

Marine turtle nesting habitat assessment has been conducted under the - RUK Turtle Conservation Project - implemented by IUCN-SL in collaboration with DWC for the beach stretch from Tangalle to Pilinnawa (Yala National Park) in 2005 - a stretch of approximately 96 km. The final report is under preparation.

TCP has conducted a habitat assessment on marine turtles between Tangalle and Hambantota in 1999 (unpublished report is available on request) The journal of Wildlife Department (vol 1) was published about the marine turtle conservation project in Bundala National Park which concerns the number of nesting sites, number of eggs, % of success rate and mortality, etc. of different species of turtle nesting in the Bundala beach.

2.1.3 Is marine water quality (including marine debris) monitored near turtle habitats? If yes, describe the nature of this monitoring and any remedial measures that may have been taken. [SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE

Hatchery water quality has been examined by NARA and need improvements with the Central Environmental Authority.

Contact MPPA,CCD for future interventions (ballast water, etc.)

2.1.4 Are measures in place to prohibit the use of poisonous chemicals and explosives? [SAP]

■ YES ☐ NO ☐ NOT APPLICABLE

A majority of critical habitats are within protected areas, and it is strictly prohibited to carry such toxic chemicals into these areas.

Fauna & Flora Protection Ordinance Part V 53 A described that no person shall use any poison, explosive or stupefying substance for the purpose of poisoning , kiliing or stupefying any animal.

Fisheries & Aquatic Resources (Amendment) Act, no. 4 of 2004.

Contact CEA & MPPA for details.

2.2.1 Are efforts being made to recover degraded coral reefs? If yes, give details (location, duration, effectiveness, lessons learned, future plans etc). [IND, SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE (no degraded coral reefs)

Multiple threats (e.g., Coral mining, Coral bleaching, Destructive fishing practices, High visitor pressure Sedimentation) are impacting coral reefs in Sri Lanka.

Multiple recovery/restoration projects are underway: In Rumassala Reef- since 1998 by NATCOG. (Contact Mr. Prasanna Weerakkody regarding the success of this activity). In Hikkaduwa National Park & Bar Reef Sanctuary by NARA - since 2001 - effective but slow in growth. In Hikkaduwa National Park by University of Ruhuna - Contact Temy or Dr. Ruchira Kumarathunga.

See:
Joseph, L. (2003). National report of Sri Lanka on the Formulation of a Transboundary Diagnostic Analysis and Strategic Action Plan for the Bay of Bengal Large Marine Ecosystem Programme.Unpublished report prepared for the BOBLME Programme. Unedited version at www.BOBLME.org.

Staples, D. 2010). Transboundary Diagnostic Analysis of the Bay of Bengal Large Marine Ecosystem Volume 2: Background and environmental assessment. Bay of Bengal Large Marine Ecosystem Project. Food and Agriculture Organisation of the United Nations.

2.2.2 Are efforts being made to recover degraded mangrove habitats that are important for turtles? If yes, give details (location, duration, effectiveness, lessons learned, future plans etc.) [IND, SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE (no mangrove habitats important for turtles)

Multiple threats (e.g., Clearing for security reasons, shrimp culture, urban development, domestic uses) are impacting mangroves in Sri Lanka. Mangrove cover was reduced by about 50% between 1986 and 2002 (Joseph, 2003).

Mangrove recovery programmes:
Mangrove recovery programmes conducted in Rekawa by the Rekawa Development Foundation (RDF).

TCP has replanted mangroves in Rekawa lagoon and in Puttlam lagoon and still maintains these rehabilitated areas. TCP has also conducted many educational programmes on mangrove conservation among the school children and fishing communities.

Contact C. Negambo Lagoon, Chilaw Lagoon and Dr. Mala Amarasinghe (University of Kelaniya)

d.Negambo Lagoon (Kadol Kele) and Kalpitiya by NARA

e.Pambala (Chila), Kirala Kele (Ambalanthota) etc. - By Small Fishiries Federation

Additional comments see:
Joseph, L. (2003). National report of Sri Lanka on the Formulation of a Transboundary Diagnostic Analysis and Strategic Action Plan for the Bay of Bengal Large Marine Ecosystem Programme.Unpublished report prepared for the BOBLME Programme. Unedited version at www.BOBLME.org.

Staples, D. 2010). Transboundary Diagnostic Analysis of the Bay of Bengal Large Marine Ecosystem Volume 2: Background and environmental assessment. Bay of Bengal Large Marine Ecosystem Project. Food and Agriculture Organisation of the United Nations

2.2.3 Are efforts being made to recover degraded sea grass habitats? If yes, give details (location, duration, effectiveness, lessons learned, future plans etc.). [IND, SAP]

☐ YES ■ **NO** ☐ NOT APPLICABLE (no degraded sea grass habitats)

Multiple threats (e.g., Destructive fishing / collecting techniques, eutrophication due to excessive nutrients from upstream activities, Sedimentation) are impacting sea grass beds. Unfortunately, no recovery programmes have been implemented on sea grass beds.

Additional comments see:
Joseph, L. (2003). National report of Sri Lanka on the Formulation of a Transboundary Diagnostic Analysis and Strategic Action Plan for the Bay of Bengal Large Marine Ecosystem Programme.Unpublished report prepared for the BOBLME Programme. Unedited version at www.BOBLME.org.

Staples, D. 2010). Transboundary Diagnostic Analysis of the Bay of Bengal Large Marine Ecosystem Volume 2: Background and environmental assessment. Bay of Bengal Large Marine Ecosystem Project. Food and Agriculture Organisation of the United Nations

OBJECTIVE III. IMPROVE UNDERSTANDING OF MARINE TURTLE ECOLOGY AND POPULATIONS THROUGH RESEARCH, MONITORING AND INFORMATION EXCHANGE

3.1.1 Give a list of available literature that includes baseline information from studies carried out in your country on marine turtle populations and their habitats. [INF]

For Bibliography to 2005, see: de Silva, A. (2006). An annotated bibliography of publications on marine turtles of Sri Lanka. Indian Ocean Turtle Newsletter 3: 12-26.

TCP will provide all published papers on marine turtles and their habitats.

Amarasooriya, D. (1996). Turtle hatcheries: Is it additional disaster for the turtle fauna of Sri Lanka? In: Proceedings of the International Conference on the Biology and Conservation of the Amphibians and Reptiles of South Asia, Kandy, Sri Lanka.

Amarasooriya, D. and Dayaratne. P. (1997). A survey on the existing turtle hatcheries and mapping of nesting beaches of turtles along the North-west, West, South-west, South and South-east coasts of Sri Lanka. National Aquatic Resources Research and Development Agency. Crow Island, Colombo, Sri Lanka.

Amarasooriya, K. D. and Jayathilaka, M. R. A. (2002). Marine turtle nesting on the beaches of the north-western, western, and southern provinces of Sri Lanka. NOAA Technical Memorandum NMFS-SEFSC 477: 93-95.

Andrews, H. V. (2001). Threatened herpetofauna of the Andaman and Nicobar Islands. In: An overview of the threatened herpetofauna of South Asia. ed. C.N.B Bambaradeniya & V.N.Samarasekara, IUCN Sri Lanka & Asia Regional Biodiversity Programme, Colombo, Sri Lanka. : 39-47.

Anon (2006). Sri Lanka Tsunami Situation Report. Tusunami Information Project. Tamil Information Centre.

Anon. (1992). Marine Turtles of Sri Lanka. Coastal Zone Management Programme. Turtle Conservation Project.

Anonymous. (2002). Abstracts of Papers Presented at the National Symposium on Sea Turtle Biology, Conservation & Management. The National Symposium on Sea Turtle Biology, Conservation & Management, Columbo, Sri Lanka. Turtle Conservation Project (TCP). 15 p.

Brodie, J., Sanjayan, M. et al. (2008). Effects of the 2004 Indian Ocean Tsunami on Sea Turtle Populations in Sri Lanka. Chelonian Conservation and Biology 7(2): 249-251.

Camacho-Mosquera, L., Amorocho, D. et al. (2008). Genetic characterization of the olive ridley sea turtle -Lepidochelys olivacea- in Gorgona National Natural Park (Colombian Pacific) from mitochondrial DNA sequences. Boletin de Investigaciones Marinas y Costeras 37(1): 79-94.

Cooray, R. (1998). The Marine Turtles in Rekawa; a Survey on Nesting Activities and Exploitation. Sri Lanka Naturalist: Journal of Ecology and Nature II(1&2): 1-8.

Dattari, S. (1982). Beach Development in Sri Lanka. Marine Turtle Newsletter 22: 4-5.

Dattari, S. (1982). Sea Turtles in Sri Lanka. Hamadryad 7(3): 19-20.

Dattari, S., Vijaya, J. & Samarajiva, D. (1983). Turtle Survey in Southern Sri Lanka. Hamadryad 8(3): 15-17.

Dattatri, S. And Samarajeeva, D. (1982). The status and conservation of sea turtles in Sri Lanka. Project of the sea turtle rescue fund, Washington, D.C., U.S.A.

De Silva, A. (1996). Proposed Action Plan: Conservation, Restoration and Management of the Testudines and their Habitats in Sri Lanka. Department of Wildlife, Conservation & Global Environmental Facility Programme, Sri Lanka. 3-28.

de Silva, A. (1997). Marine turtles of Sri Lanka: an overview. Lyriocephalus 3(2): 16-25.

de Silva, A. (2006). An annotated bibliography of publications on marine turtles of Sri Lanka Indian Ocean Turtle Newsletter 3: 12-26.

de Silva, A. (2006). Marine turtles of Sri Lanka: A historic account. Marine turtles of Indian sub-continent: status, threats and conservation K. Snaker and B. Choudhury, Universities Press, Hyderabad, India : 188–199.

Ekanayake, E. M. L. (2002). A Collection of TCP Research Papers: Volume 1. Publication of TCP - Sri Lanka.

Ekanayake, E. M. L. a., Ranawana, K.B., et al. (2002). Estimation of the average number of nests for green turtle on the Rekawa Beach in southern Sri Lanka. THREE YEAR STUDY FROM SEPTEMBER 1996 TO SEPTEMBER 1999. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 43-45.

Ekanayake, E. M. L. and Ranawana, K.B. (2002). Estimation of sex ratio of green turtle hatchlings at Rekawa turtle rookery in Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 50-52.

Ekanayake, E. M. L. and Ranawana, K.B (2002). The average egg count for nesting sea turtles on Rekawa beach in Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 53-54.

Ekanayake, E. M. L., Kapurasinghe, T., Saman, M.M., & Premakumara, M.G.C. (2002). Estimation of the number of leatherbacks (Dermochelys coriacea) nesting at the Godavaya rookery in southern Sri Lanka during the nesting season in 2001. Kachhapa 6: 11-12.

Ekanayake, E. M. L., Kapurusinghe, L., T., Saman, M.M. and Premakumara, M.G.C. (2002). Estimation of the number of leatherback (Dermochelys coriacea) nesting at the Godavaya turtle rookery in southern Sri Lanka during the nesting season in the year 2001. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 55-57.

Ekanayake, L. and Kapurusinghe, T. (2002). The nesting frequency of marine turtles on the Rekawa turtle rookery in southern Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 28.

Ekanayake, L. E. M. and Ranawana, K. B. (2006). Average egg counts, weights and diameters for five turtle species nesting in Rekawa, southern Sri Lanka. NOAA Technical Memorandum NMFS-SEFSC 536: 172-173.

Ekanayake, L. E. M., Ranawana, K. B. et al. (2002). Marine turtle conservation in Rekawa turtle rookery in southern Sri Lanka. Ceylon Journal of Science Biological Sciences 30: 79-88.

Hewavisenthi, S. (1989). Abnormal hatchlings of green and olive ridley turtles, Victor Hasselblad Hatchery, Sri Lanka. Marine Turtle Newsletter 50: 15-16.

Hewavisenthi, S. (1989). Twin Green Turtle Hatchlings in Sri Lanka. Marine Turtle Newsletter 46: 9.

Hewavisenthi, S. (1990). Exploitation of marine turtles in Sri Lanka: historic background and their present status. Marine Turtle Newsletter 48: 14-19.

Hewavisenthi, S. (1990). Male Hawksbill Stranded at Kosgoda, Sri Lanka. . Marine Turtle Newsletter 51: 16-17.

Hewavisenthi, S. (1994). Bibliography of Literature Relating to Marine Turtles of Sri Lanka. Natural Resources, Energy and Science Authority of Sri Lanka. 1-17.

Hewavisenthi, S. (2001). Turtle Hatcheries in Sri Lanka: Boon or Bane. Marine Turtle Newsletter 60: 19-21.

Ilangakoon, A. (2000). Marine turtles: imperiled ancient ocean wanderers. Loris 22(3): 18-21.

Joseph, L. (2003). Summary of the National Report of Sri Lanka on the Formulation of a Transboundary Diagnostic Analysis and Strategic Action Plan for the Bay of Bengal Large Marine Ecosystem Programme. BOBLMEP/National Report Summary- Sri Lanka.

IUCN Sri Lanka, 2005. Marine Turtle Conservation Strategy and Action Plan for Sri Lanka. Department of Wildlife Conservation, Colombo.

Kapurusinghe, T., Cooray, R. (2002). Marine turtle by-catch in Sri Lanka. Turtle Conservation Project (TCP). Survey Report ISBN 955-8758-01-9.

Kapurusinghe, T. and Saman, M. M. (2001).Marine turtle by-catch in Sri Lanka, 1996-1999. Proceedings of the 21st Annual Symposium on Marine Turtle Biology and Conservation, Philadelphia, USA.

Kapurusinghe, T. (2002). Community participation in turtle conservation in Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 29-34.

Kapurusinghe, T. (2002). Community participation in turtle conservation in Sri Lanka: a summary of community-based turtle conservation projects (TCP) activities in Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 25-27.

Kapurusinghe, T. (2002). Destructive exploitation of natural resources and the decline of the nesting marine turtle population in Rekawa, Sri Lanka. 1993 - 1996. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 21-24.

Kapurusinghe, T. (2003). TCP, Sri Lanka initiates a new in-situ turtle nest protection programme. Kachhapa Newsletter 9: 8.

Kapurusinghe, T. (2006). Status of leatherback turtles in Sri Lanka. Indian Ocean – South-East Asian Leatherback Turtle

Kapurusinghe, T. (2006). Present status of marine turtles in Sri Lanka. In:, Proceedings of the Twenty-Third Annual Symposium on Sea Turtle Biology and Conservation,. . N. J. P. ed., NOAA Technical Memorandum NMFS-SEFSC-536.: 59.

Kapurusinghe, T. (2006). Status and Conservation of Marine Turtles in Sri Lanka. In: Marine turtles of Indian sub-continent: status, threats and conservation. Eds. K. Shanker & B. C. Choudhury, Universities Press, Hyderabad.

Kapurusinghe, T. and E. M. L. Ekanayake (2002). The nesting frequencies of marine turtles in Rekawa, southern Sri Lanka, september 1996 to September 1999. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 35-42.

Kapurusinghe, T. and L. Ekanayake (2002). Community participation in sea turtle conservation in Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 28.

Kapurusinghe, T. and M. M. Saman (2002). Marine turtle by-catch in Sri Lanka. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 46-49.

Kapurusinghe, T., L. Ekanayake, Saman, M. M. And Rathnakumara, Deshapriya Saman. (2008). Community-based marine turtle conservation in Kosgoda, Sri Lanka: nesting results from 2005 to 2007. Testudo 6(5): 40-47.

Pandav, B. C., B.C. (1998). Olive ridley Tagged in Orissa Recovered in the Coastal waters of Eastern Sri Lanka. Marine Turtle Newsletter 82: 9-10.

Pawlowski, S. and C. Kraemer (2008). A visit to two marine turtle hatcheries in Southwest Sri Lanka. Sauria 30(2): 33-40.

Rajakaruna, R. S., Dissanayake, D. M. N. J., Ekanayake, E.M. Lalith and Ranawana, K. B. (2009). Sea turtle conservation in Sri Lanka: assessment of knowledge, attitude and prevalence of consumptive use of turtle products among coastal communities. Indian Ocean Turtle Newsletter 10: 1-13.

Ram, P. S., S. A. Rao, and Sadhuram, Y. (2009). Drifting and Meandering of Olive Ridley Sea Turtles in the Bay of Bengal: Role of Oceanic Rossby Waves. Marine Geodesy 32(4): 372-378.

Richardson, P. (1994). The turtle conservation project (TCP) Sri Lanka: how much is a turtle worth? Testudo 4(1): 17-21.

Richardson, P. (1996). The Marine Turtle Hatcheries of Sri Lanka. A TCP review and assessment of current hatchery practices and recommendations for their improvement. Turtle Conservation Project and Centre for Herpetology, Madras Crocodile Bank. 04/08/(1996). 1-18 p.

Richardson, P. (2002). An Update of the progress of the turtle conservation project (TCP). A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 17-20.

Richardson, P. (2002). Tortoise shell industry in Sri Lanka: A SURVEY REPORT 1996. A collection of TCP Research Papers Vol 1. L. Ekanayake, The Turtle conservation Project (TCP) Sri Lanka: 1-15.

Rajakaruna, Rupika S., Naveen, D.M., Dissanayake, J., Ekanayake, E.M. Lalith, and Ranawana, Kithsiri B. (2009). Sea turtle conservation in Sri Lanka: assessment of knowledge, attitude and prevalence of consumptive use of turtle products among coastal communities Indian Ocean Turtle Newsletter 10(1): 1-13.

Sasamal, S. K. and Panigraphy, R. C. (2006). Influence of eddies on the migratory routes of the sea turtles in the Bay of Bengal. International Journal of Remote Sensing 27(15): 3115-3122.

Wilkinson, C., D. Souter, et al. (2006). Status of coral reefs in tsunami affected countries: 2005. Status of coral reefs in tsunami affected countries: 2005. i-vi, 1-154.

3.1.2 Have long-term monitoring programmes (i.e. of at least 10 years duration) been initiated or planned for priority marine turtle populations frequenting the territory of your country? [IND, BPR]

■ **YES** ☐ NO ☐ UNSURE

Several long-term monitoring projects are in progress:
Since 1994 in Bundala National Park by the DWC.
Since 1996 by TCP, and then continued from 2001 to date by the DWC - in Rekawa beach.

Since 1997 in Galle and Hambanthota districts by NARA.

See listed citations in Section 3.1.1

3.1.3 Has the genetic identity of marine turtle populations in your country been characterised? [INF, PRI]

☐ YES ■ **NO** ☐ UNSURE

Proposed study on the genome of the marine turtle species of Sri Lanka to be commenced in 2005, by NARA. The first phase of the project will concentrate on leatherback turtles.

3.1.4 Which of the following methods have been or are being used to try to identify migration routes of turtles? Use the text boxes to provide additional details. [INF, PRI]

Tagging ■ **YES** ☐ NO

Tagging was undertaken by the Turtle Conservation Project (TCP), and monitoring undertaken throughout the year. Titanium metal tags have been used for turtle tagging and two tags were fixed to the front flippers (one on each flipper).

See listed citations in Section 3.1.1

Satellite tracking ■ **YES** ☐ NO

Satellite tracking was undertaken by the Marine Turtle Research Group. This is the first time that turtles in Sri Lanka have been fitted with satellite transmitters. Six female green turtles were tagged after they nested on Rekawa Beach on the south coast of Sri Lanka between the 30th of July and the 8th of August 2006. Four more turtles were tagged in mid-June 2007. The project aims to reveal the internesting habitat, migratory routes and foraging grounds of this population.

Source: www.seaturtle.org [http://www.seaturtle.org/tracking/?project_id=149]

☐ **Other**

☐ **None of the above**

3.1.5 Have studies been carried out on marine turtle population dynamics and survival rates (e.g. including studies into the survival rates of incidentally caught and released turtles)? [INF, PRI]

■ **YES** ☐ NO ☐ UNSURE

TCP has conducted population dynamics and hatchling success studies in Rekawa and Kosgoda beaches. Several other papers have also been published on these titles.

Hatchability has been studied in in-situ and ex-situ turtle nest conservation programmes in Rekawa and Bundala NP by DWC field officers.

3.1.6 Has research been conducted on the frequency and pathology of diseases in marine turtles? [INF, PRI]

☐ YES ■ **NO** ☐ UNSURE

3.1.7 Is the use of traditional ecological knowledge in research studies being promoted? [BPR, PRI]

■ **YES** ☐ NO ☐ UNSURE

Traditional ecological knowledge has been used in the identification of species, nesting seasons, nesting frequencies, nesting hotspots etc. for ongoing field studies conducted by DWC, NARA, TCP and IUCN-SL.

See for example: Rajakaruna, Rupika S., Naveen, D.M., Dissanayake, J., Ekanayake, E.M. Lalith, and Ranawana, Kithsiri B. (2009). Sea turtle conservation in Sri Lanka: assessment of knowledge, attitude and prevalence of consumptive use of turtle products among coastal communities Indian Ocean Turtle Newsletter 10(1): 1-13.

3.2.1 List any regional or sub-regional action plans in which your country is already participating, which may serve the purpose of identifying priority research and monitoring needs. [INF]

The TCP will undertake an extensive research review to identify research and monitoring priorities under the - RUK Turtle Conservation Project - implemented by DWC.

The National Marine Turtle Action Plan includes the priorities for research and monitoring. (de Silva, A. 2005. Marine turtle conservation strategy and Action plan for Sri Lanka. Department of Wildlife Conservation, Sri Lanka.)

3.2.2 On which of the following themes have collaborative studies and monitoring been conducted? Use the text boxes to describe the nature of this international collaboration or to clarify your response. Answer 'NO' if the studies/monitoring undertaken do not involve international collaboration. [INF, PRI]

a) Genetic Identity ☐ YES ☐ NO ☐ NOT APPLICABLE

b) Conservation status ■ **YES** ☐ NO ☐ NOT APPLICABLE

CAMP workshop on herpetofauna held at the National Zoological gardens to discuss the conservation status of marine turtles in Sri Lanka in 2004.

Contact Mr. Anslem De Silva for details

c) Migrations ■ **YES** ☐ NO ☐ NOT APPLICABLE

Details given in the TCP's by-catch survey report

d) Other biological and ecological aspects ☐ YES ☐ NO ☐ NOT APPLICABLE

■ **Other**

A Marine Turtle Nesting Habitat Assessment of the beach stretch from Tangalle to Pilinnawa (Yala National Park) (approximately 96km) has been completed by IUCN-SL in collaboration with DWC, and future monitoing is planned by DWC field staff followed by a training programme.

Habitat assessment in the coastline between Tangalle and Hambantota was conducted by TCP in 1999.

See listed citations in Section 3.1.1

3.3.1 List, in order of priority, the marine turtle populations in your country in need of conservation actions, and indicate their population trends. [PRI]

Five species of marine turtles have been recorded in Sri Lanka in different abundances. Based on observations, the following order of priority for marine turtle conservation can be suggested for Sri Lanka:

1. Hawksbill Turtle
2. Leatherback Turtle
3. Loggerhead Turtle
4. Green Turtle
5. Olive ridley Turtle

3.3.2 Are research and monitoring activities, such as those described above in Section 3.1 periodically reviewed and evaluated for their efficacy? [SAP]

■ **YES** ☐ NO ☐ UNSURE

Evaluated within organisations or project implementing agencies.

3.3.3 Describe how research results are being applied to improve management practices and mitigation of threats (in relation to the priority populations identified in 3.3.1, among others). [SAP]

Research results are being used to improve the efficacy of conservation actions through management, threat mitigation, assessment of hatchery management practices and assessment of habitat loss.

3.4.1 Has your country undertaken any initiatives (nationally or through collaboration with other Range States) to standardise methods and levels of data collection? [BPR, INF]

☐ YES ■ **NO** ☐ UNSURE

Not presently, but this will be addressed under the regional co-operation sub-component of the - RUK Turtle Conservation Project - (DWC & IUCN-SL).

3.4.2 To what extent does your country exchange scientific and technical information and expertise with other Range States? [SAP, IND]

☐ OFTEN (SYSTEMATICALLY) ■ **OCCASIONALLY** ☐ RARELY ☐ NEVER

3.4.3 If your country shares scientific and technical information and expertise with other Range States, what mechanisms have commonly been used for this purpose? Comment on any positive benefits/outcomes achieved through these interactions. [INF]

The BOBLME project is facilitating exchange.

3.4.4 Does your country compile and make available to other countries data on marine turtle populations of a regional interest? [INF]

☐ YES ☐ NO ■ **UNSURE**

OBJECTIVE IV. INCREASE PUBLIC AWARENESS OF THE THREATS TO MARINE TURTLES AND THEIR HABITATS, AND ENHANCE PUBLIC PARTICIPATION IN CONSERVATION ACTIVITIES

4.1.1 Describe the educational materials, including mass media information programmes that your country has collected, developed and/or disseminated. [INF, PRI]

Government and NGOs have educational projects under way, for example,

DWC has conducted Awareness programmes in Bundala, Rekawa, Kalametiya, Hikkaduwa, etc. in coastal areas.

Additional awareness material developed by DWC includes posters, mobile exhibition units, and a documentary film. DWC with collaboration of Sri Lanka Broadcasting & Television Cooperation has produced short documentary programmes on nature (including turtle conservation). Also newsletters have been produced.

TCP has conducted awareness programmes, exhibitions, and workshops for local communities on turtle conservation, alternative income generation workshops for coral miners in Rekawa and Kosgoda and conducted many education and awareness programmes on coral conservation. TCP has also prepared documentaries and media programmes - e.g Kosgoda programme and turtle conservation exhibition with local media.

NARA has conducted awareness programmes on the importance of sea turtle conservation for schoolchildren and master teachers, in Hikkaduwa, Habaraduwa, Galle. Assisted school children (A/L students) in designing research projects which is a part of their syllabus, in conservation of natural resources. Articles in scientific journals and public papers have also been produced.

IUCN-SL has prepared handouts on turtles & assessing their habitats for capacity building of DWC officers. Several more are in preparation: (1) A laymen's guide on CMC; (2) Handbooks on In-situ conservation and Law enforcement for capacity-building of officers & communities engaged in turtle conservation. (3) An occasional paper on the habitat assessment of marine turtles from Tangalle to Yala - southern coast of Sri Lanka.

Sri Lanka contributes to the development of a web-based information resource for marine turtle conservation through data on marine turtle populations, nesting data, and information on projects.

Websites of DWC, TCP, NARA, Coast Conservation Department, Department of Fisheries and Aquatic Resources, Sri Lanka Customs, IUCN-SL. Bundala National park celebrates the World International Wetland day on 2nd of February annually. Many awareness programmes organise school children, government officers, community people etc. especially emphasising the importance of turtle conservation in Sri Lanka to mark the day.

4.1.2 Which of the following groups have been the targets of these focused education and awareness programmes described in above in Section 4.1.1? [PRI, INF]

- ☐ Policy makers
- ☐ Fishing industry
- ■ **Local/Fishing communities**
- ■ **Indigenous groups**
- ■ **Tourists**
- ■ **Media**
- ■ **Teachers**
- ■ **Students**
- ☐ Military, Navy, Police
- ☐ Scientists
- ■ **Other:Local Government Agencies, schools**
- ☐ None of the above

TCP - Teachers, School children, Communities, Media (details to be given)
DWC- Awareness workshops and information packs for and school children and teachers.rural people
Technical inputs to the school curriculum.
Policy circulars for Government agents.

4.1.3 Have any community learning / information centres been established in your country? [BPR, SAP]

■ **YES** ☐ NO

To be updated by TCP

4.2 Alternative livelihood opportunities [IND, BPR] Describe initiatives already undertaken or planned to identify and facilitate alternative livelihoods (including income-generating activities) for local communities.

DWC- Ecotourism practices planned for the Bundala National Park (Management Plans updated in 2008) with active local community participation.

TCP (details to be given)

4.3.1 Describe initiatives already undertaken or planned by your country to involve local communities, in particular, in the planning and implementation of marine turtle conservation programmes. Please include details of any incentives that have been used to encourage public participation, and indicate their efficacy. [BPR, IND]

DWC- Preparation of the Management Plan for Bundala National Park. All stakeholders were involved in decision-making through a number of workshops. The Plan was presented to the local community and their inputs were also considered.

Recruited volunteers from villages for the conservation project. Bundala (DWLC) TCP (details to be given)

4.3.2 Describe initiatives already undertaken or planned to involve and encourage the cooperation of Government institutions, NGOs and the private sector in marine turtle conservation programmes. [IND, BPR]

'National Turtle Conservation Steering Committee' to be established under the National Marine Turtle Conservation Action Plan, which will be established in mid 2005. (Exact details to be updated by DWC)

IUCN-SL Participation of DWC, TCP, local NGOs and the general public in 'RUK Turtle Conservation Project' Convening the National Level Steering Committee on the 'RUK Turtle Conservation Project' with representatives from the DWC, TCP, Coast Conservation Department (CCD), NARA, Marine Pollution Prevention Authority (MPPA), and Department of Customs. The committee also takes decisions on national level turtle conservation actions, where appropriate, in addition to steering the above project.

IUCN-SL- Participation of DWC, TCP, Local NGOs and general public in - RUK Turtle Conservation Project - Convening the National Level Steering Committee on the same project with representatives from the DWC, TCP, Coast Conservation Department (CCD), NARA, Marine Pollution Prevention Authority (MPPA), and Department of Customs.

NARA-Participation of local community in research data collection since 1998 in Ussangoda, Walawemodera, Unawatuna and Habaraduwa areas.

TCP (details to be given)

OBJECTIVE V. ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

5.1.1 Has your country undertaken a national review of its compliance with Convention on International Trade in Endangered Species (CITES) obligations in relation to marine turtles? [SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE

Under the Fauna & Flora Protection Ordinance marine turtles are protected.

5.1.2 Does your country have, or participate/cooperate in, CITES training programmes for relevant authorities? [SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE

5.1.3 Does your country have in place mechanisms to identify international illegal trade routes (for marine turtle products etc.)? Please use the text box to elaborate on how your country is cooperating with other States to prevent/deter/eliminate illegal trade. [SAP]

■ **YES** ☐ NO ☐ NOT APPLICABLE

Biodiversity unit in the Department of Customs negotiates with the Traffic International organisation and World Customs regarding information on illegal trade.

5.1.4 Which international compliance and trade issues related to marine turtles has your country raised for discussion (e.g. through the IOSEA MoU Secretariat, at meetings of Signatory States etc.)? [INF]

None

5.1.5 Describe measures in place to prevent, deter and eliminate domestic illegal trade in marine turtle products, particularly with a view to enforcing the legislation identified in Section 1.5.1. [INF]

Law enforcement through DWC officers.
Awareness programmes for Police officers, communities and schoolchildren.
Training for Police officers by DWC.
Publication on protected species (including CITES lists) by IUCN-SL.

5.2.1 Has your country already developed a national action plan or a set of key management measures that could eventually serve as a basis for a more specific action plan at a national level? [IND]

■ **YES** ☐ NO

The National Marine Turtle Conservation Action Plan (NMTCAP) has been developed by the DWC in collaboration with IUCN-SL (through a consultative process with all stakeholders).

5.2.2 From your country's perspective, which conservation and management activities, and/or which particular sites or locations, ought to be among the highest priorities for action? [PRI]

In-situ nest protection programmes involving community participation. (1.6)
Tagging programmes for monitoring Sri Lankan Turtle population. (3.1)
Establishment and operation of a dedicated unit for turtle conservation under the DWC. (5.4)
Development of a national database on Marine Turtles. (3.4)
Training on turtle biology, ecology and conservation for DWC officials and relevent partners. (5.4)
Information exchange and regional cooperation on turtle conservation. (5.3)
Research activities on turtle conservation spesely at Rekawa, Bundala and Yala (3.1)

5.2.3 Please indicate, from your country's standpoint, the extent to which the following local management issues require international cooperation in order to to achieve progress. [PRI]

Illegal fishing in territorial waters	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Incidental capture by foreign fleets	☐ ESSENTIAL ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Enforcement/patrolling of territorial waters	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Hunting/harvest by neighboring countries	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Poaching, illegal trade in turtle projects	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Development of gear technology	☐ ESSENTIAL ☐ IMPORTANT ■ **LIMITED** ☐ NOT AT ALL
Oil spills, pollution, marine debris	☐ ESSENTIAL ☐ IMPORTANT ■ **LIMITED** ☐ NOT AT ALL
Training / capacity-building	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Alternative livelihood development	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Identification of turtle populations	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Identification of migration routes	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Tagging / satellite tracking	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL

Habitat studies ☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL

Genetics studies ☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL

This will be addressed in the National Marine Turtle Conservation Action Plan, wich will be finalised and published in 2005 by the DWC in collaboration with IUCN-SL (through a consultative process with all stakeholders).

TCP (details to be given)

5.3.1 Identify existing frameworks/organisations that are, or could be, useful mechanisms for cooperating in marine turtle conservation at the sub-regional level. Please comment on the strengths of these instruments, their capacity to take on a broader coordinating role, and any efforts your country has made to enhance their role in turtle conservation. [INF, BPR]

Develop and update a national turtle database with the possibility to link with a regional database.

A symposium to exchange ideas and knowledge on marine turtle conservation in the region.

A turtle tagging programme covering the whole region, in order to understand their migration, biology and ecology.

Student exchange programmes between regional universities and conservation organisations.

5.3.2 Has your country developed, or is it participating in, any networks for cooperative management of shared turtle populations? [BPR, INF]

■ **YES** ☐ NO ☐ NOT APPLICABLE

5.3.3 What steps has your country taken to encourage Regional Fishery Bodies (RFBs) to adopt marine turtle conservation measures within Exclusive Economic Zones (EEZs) and on the high seas? [SAP]

No steps are being taken other than legislation.

5.4.1 Describe your country's needs, in terms of human resources, knowledge and facilities, in order to build capacity to strengthen marine turtle conservation measures. [PRI]

Sharing knowledge on biology, ecology & effective conservation practices on turtles in the region.

Technical & financial support for turtle research, participatory conservation mechanisms and local level capacity building programmes.

Technical support for developing a national database and a data exchange programme.

5.4.2 Describe any training provided in marine turtle conservation and management techniques (e.g. workshops held, training manuals produced etc.), and indicate your plans for the coming year. [PRI, INF]

Included turtle conservation and managements techniques in the training currriculum at the National Wildlife Training Center of DWC, to train all type of Department officials and volunteers for turtle conservation.

Training programmes, workshops etc. are coordinated by the DWC.

DWC has conducted training workshops in marine turtle conservation and management techniques in collaboration with TCP and NARA.

5.4.3 Specifically in relation to capacity-building, describe any partnerships developed or planned with universities, research institutions, training bodies and other relevant organisations. [BPR]

Under sponsorship of SARC countries, annually the DWC sends officers to Wildlife Institute of India to complete wildlife diploma courses.

DWC is involved in capacity-building of departmental and government officials with IUCN-SL on:
--- RAMSAR;
--- CMS;
--- law enforcement; and
--- the identification of turtles

5.5.1 National policies and laws concerning the conservation of marine turtles and their habitats will have been described in Section 1.5.1. Please indicate their effectiveness, in terms of their practical application and enforcement. [SAP, TSH]

Fauna & Flora Protection Ordinance and Fisheries Act and Custom laws are effective in turtle conservation.

5.5.2 Has your country conducted a review of policies and laws to address any gaps, inconsistencies or impediments in relation to marine turtle conservation? If not, indicate any obstacles encountered in this regard and when this review is expected to be done. [SAP]

■ **YES** ☐ NO ☐ UNSURE

IUCN has conducted a workshop to prepare the National Marine Conservation Action Plan.

5.5.3 From the standpoint of law enforcement, has your country experienced any difficulties achieving cooperation to ensure compatible application of laws across and between jurisdictions? [TSH]

☐ YES ■ **NO** ☐ UNSURE

Contact Mr. Jagath Gunewardana

OBJECTIVE VI. PROMOTE IMPLEMENTATION OF THE MoU INCLUDING THE CONSERVATION AND MANAGEMENT PLAN

6.1.1 What has your country already done, or will it do, to encourage other States to sign the IOSEA MoU? [INF]

Nothing

6.1.2 Is your country currently favourable, in principle, to amending the MoU to make it a legally binding instrument? [INF]

■ **YES** ☐ NO ☐ NO VIEW

6.1.3 Would your country be favourable, over a longer time horizon, to amending the MoU to make it a legally-binding instrument? [INF]

☐ YES ☐ NO ■ **NO VIEW**

Contact Mr. Jagath Gunewardane for legal advice

6.2 Secretariat and Advisory Committee

6.2.1 What efforts has your country made, or can it make, to secure funding to support the core operations of the IOSEA MoU (Secretariat and Advisory Committee, and related activities)? [IND]

none

6.3.1 What funding has your country mobilised for domestic implementation of marine turtle conservation activities related to the IOSEA Marine Turtle MoU? Where possible, indicate the specific monetary values attached to these activities/programmes, as well as future plans. [IND]

Consolidated funds of Government of Sri Lanka
GEF funds

6.3.2 Has your country tried to solicit funds from, or seek partnerships with, other Governments, major donor organisations, industry, private sector, foundations or NGOs for marine turtle conservation activities? [IND]

■ YES ☐ NO

GEF funding for the project on - Conservation of Biodiversity through integrated collaborative management in the Rekawa Ussangoda and Kalametiya coastal ecosystems - with a Turtle conservation component - Successful approach.

Multiple projects are operating in Sri Lanka. Consult Government and NGO web sites for details.

6.3.3 Describe any initiatives made to explore the use of economic instruments for the conservation of marine turtles and their habitats. [BPR]

None

6.4.1 Has your country designated a lead agency responsible for coordinating national marine turtle conservation and management policy? If not, when is this information expected to be communicated to the IOSEA MoU Secretariat? [IND]

☐ YES ■ **NO**

Identified Department of Wildlife Conservation as the lead agency in the National Marine Turtle Conservation Action Plan.

6.4.2 Are the roles and responsibilities of all government agencies related to the conservation and management of marine turtles and their habitats clearly defined? [IND]

☐ YES ■ **NO** ☐ UNSURE

6.4.3 Has your country ever conducted a review of agency roles and responsibilities? If so, when, and what was the general outcome? If not, is such a review planned and when? [SAP],

☐ YES ■ **NO** ☐ UNSURE

At present there are overlapping responsibilities, and policies. Most Government groups are working as individual bodies.

This lack of collaboration and national level coordinating agency for Turtle conservation makes progress slow.

Comments/suggestions to improve the present reporting format:

Additional information not covered above: