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**MEMORANDUM OF UNDERSTANDING  
ON THE CONSERVATION AND  
MANAGEMENT OF MARINE TURTLES  
AND THEIR HABITATS OF THE INDIAN  
OCEAN AND SOUTH-EAST ASIA**

CMS/IOSEA/MOS8/Inf.7.1.u

25 September 2019

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8<sup>TH</sup> MEETING OF THE SIGNATORY STATES

Da Nang, Viet Nam, 21-25 October 2019

Agenda Item 9.1

**FRANCE – NATIONAL REPORT 2019**

*(Prepared by France)*

# IOSEA MARINE TURTLE MEMORANDUM OF UNDERSTANDING - NATIONAL REPORTING 2018

## IOSEA Marine Turtle MoU - National Reports

The purpose of completing the national report is to provide information on your country's implementation of the IOSEA Marine Turtle MoU including, as far as possible, contributions of cooperating non-governmental partners. Implementation will be assessed in terms of the six objectives of the Conservation and Management Plan (CMP). The online questionnaire is divided into these six main objectives, and asks specific questions in relation to the activities that need to be carried out to fulfil those objectives.

Please answer all questions as fully and as accurately as possible. It may seem time-consuming, but once you have completed the first report, the next time will be much easier because you can simply revise your existing report online. Comprehensive responses to the questions posed in Section 1.4 should satisfy many of the reporting requirements of the 2004 FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations, thereby avoiding duplication of effort.

Description text is provided below some of the questions to explain what information needs to be provided. Text boxes can be expanded to accommodate longer answers or to explain and provide additional information, beyond what is requested. Details of future plans are especially encouraged. Wherever possible, please try to indicate the source of information used to answer a particular question, if a published reference is available. Remember that you are sharing information with other countries about your progress, so that it may be of benefit to them. At the same time, you may find it useful to look at other countries' reports to get ideas for marine turtle conservation that might be adapted to your context.

When working on the online questionnaire, save your information by clicking on the "Save all" button inside each section. An auto-save feature also saves any changed responses every 30 seconds, and whenever you move between sections. Feel free to attach additional material (published reports, maps etc) to this questionnaire.

Throughout the questionnaire, alongside each question you will find one or more 3-letter abbreviations within square brackets. These are used to indicate the purpose for which the information provided will be used in the subsequent analysis of all of the national reports, as shown in the following table.

To some extent, the order in which these different types of information are listed below is a reflection of their importance – ranging from critical indicators of performance to factual details that are merely informative.

### **Abbreviation**

#### **Type**

#### **Treatment / Purpose**

IND

Indicator

The information provided serves, in and of itself, as a key indicator of successful implementation or of pre-requisites for same (eg. of core actions undertaken, resource availability, capacity etc.) PRI

Priorities

The collective data will be synthesized to give an indication of what has been done already (helping to avoid duplication of effort); what is generally not being done (gaps that need to be addressed); and what interventions or specific assistance may be required.

TSH

Trouble-shooting

Particular implementation problems and issues (possibly of special interest to a small group of countries) are identified/highlighted with a view to stimulating remedial action in the short-term.

BPR

Best practice

Well-documented examples of best practices / success stories will be compiled and presented as approaches that other Signatory States might consider pursuing (ie adopting or adapting to suit their own circumstances). SAP

#### Self-Appraisal

Self-assessment of effectiveness and completeness of actions undertaken – intended to stimulate reflection within a given Signatory State on what more could or should be done in relation to a particular activity. INF

#### Information

The information will be collected and compiled, with little or no modification, mainly for purpose of sharing of information that could be of interest or value to other readers and/or other analyses.

## GENERAL INFORMATION

Signatory State: France

Which agency or institution has been primarily responsible for the preparation of this report?

**Kelonia and CEDTM (la Réunion)** Agence française pour la biodiversité, Parc Naturel Marin de Mayotte, Conseil départemental de Mayotte (Mayotte), Administration des Terres australes et antarctique françaises (Iles Eparses),

with national coordination of the Ministère de la transition écologique et solidaire

In red in the report : La Réunion

In green in the report : Mayotte

In blue in the report : Iles Eparses (TAAF)

In pink in the report : France national

List any other agencies, institutions, or NGOs that have provided input:

›Oulanga Na Nyamba

Memorandum in effect in Signatory State since (dd/mm/yyyy):

›

This report was last modified : 2014 (likely)

›

Designated Focal Point (and full contact details): Florian Expert, chargé de mission protection des espèces marines menacées, Ministère de la transition écologique et solidaire, Tour Séquoïa, 92055 La Défense cedex ; [florian.expert@developpement-durable.gouv.fr](mailto:florian.expert@developpement-durable.gouv.fr) ; 0033 1 40 81 32 09

## OBJECTIVE I: REDUCE DIRECT AND INDIRECT CAUSES OF MARINE TURTLE MORTALITY

### 1.1 Introduction to marine turtle populations and habitats, challenges and conservation efforts

#### Introduction to marine turtle populations and habitats, challenges and conservation efforts

Please introduce and summarise, in an abstract of less than a page, the marine turtle populations and their habitats in your country. Comment on their status and highlight the main conservation challenges and achievements to date. It is not necessary to list here by name the individual nesting beaches, feeding areas and developmental habitats that are important for marine turtles in your country, as this information can be generated from the 'Site-Threat' data sheets to be completed in Annex 1. [INF]

La Réunion: Une seule espèce nidifie à la Réunion la tortue verte (*Chelonia mydas*). La population reproductrice est extrêmement fragile puisque uniquement 2 femelles ont été revues en ponte plusieurs saisons de suite depuis 2004. La priorité du Plan National d'Action (PNA) pour le volet Réunion est la restauration de plages par replantation de la végétation littorale indigène afin de favoriser la ponte des tortues marines. Les

populations de *Chelonia mydas* et *Eretmochelys imbricata* sur les habitats de développement et d'alimentation sont en croissance régulière depuis la mise en œuvre des mesures de préservation. Elles recolonisent des habitats qu'elles avaient abandonnées comme les lagons. Les suivis aériens et le développement d'un programme de science participative s'appuyant sur la photo-identification permettent un suivi régulier de ces tortues côtières. 3 autres espèces sont présentes au large avec par ordre de fréquence d'observation *Caretta caretta*, *Lepidochelys olivacea* et *Dermochelys coriacea*. Les données sur ces dernières espèces proviennent des captures accidentelles par les pêcheries réunionnaises; des mesures d'atténuation ont été mises en œuvre à l'initiative de certains pêcheurs et en partenariat avec le centre de soins de Kelonia. Ce partenariat a notamment montré le fort impact des déchets plastique ingérés par les tortues caouannes notamment. Un suivi de l'évolution de l'ingestion des déchets plastique est réalisé en routine depuis 2007 au Centre de soins. La bonne connaissance de la connectivité entre les habitats fréquentés par les tortues marines à La Réunion et ceux des autres régions de l'Océan Indien est un enjeu important. Des suivis de déplacement par balise Argos, mais également des études génétiques ont permis de lever un coin du voile pour les tortues vertes, caouannes et dans une moindre mesure pour les imbriquées.

Iles Eparses : Elles présentent des lieux favorables aux juvéniles de tortues en développement et aux femelles nidifiantes. Les tortues vertes (*Chelonia mydas*) viennent pondre en abondance sur Tromelin et Europa. Les tortues imbriquées pondent uniquement sur Les Glorieuses et Juan de Nova. Le nombre total de femelles par an est estimé entre 6 530 et 15 410 sur les îles Eparses.

L'arrêté n° 13/DG/IOI du 18 novembre 1975 a classé les îles Tromelin, Glorieuses, Europa et Bassas da India en réserve naturelle, sous l'autorité du délégué du gouvernement et du directeur de Météo France. Il est à noter que Juan de Nova n'est pas concernée par cet arrêté. Ce classement en tant que réserve naturelle interdit « toute déprédation de la nature tant terrestre que marine, aussi bien en ce qui concerne la flore que la faune », texte réglementaire s'appliquant donc également aux tortues marines. Par ailleurs, l'arrêté préfectoral du 15 février 1994 énonce que « toute pêche est interdite à l'intérieur des eaux territoriales des îles Tromelin, Glorieuses, Juan de Nova, Europa et Bassas da India ». Ceci se traduit par une protection intégrale de la faune et de la flore marines dans les eaux territoriales, tortues comprises, avec tout de même des possibilités de dérogation pour les recherches scientifiques. Le 27 octobre 2011, Europa est devenu la 42e Zone Humide d'Importance Internationale française (classement en site RAMSAR). Parmi les critères avancés pour son inscription, il apparaît que cette île constitue l'un des principaux sites mondiaux de reproduction et de ponte des tortues vertes (*Chelonia mydas*), et le fait que la mangrove soit un habitat de développement important pour les tortues vertes et imbriquées immatures. Un parc naturel marin (PNM) a été créé aux Glorieuses en 2012 (décret ministériel n° 2012-245 du 22 février 2012). Les actions mises en œuvre dans le cadre de ce plan de gestion sont en cohérence avec les orientations fixées dans le décret de création du parc marin, parmi lesquelles figure la « protection du patrimoine naturel, particulièrement des tortues, des récifs coralliens et des mammifères marins, notamment par une surveillance maritime adaptée aux enjeux et la sensibilisation des acteurs et des usagers ».

En termes de conservation des tortues marines, les aires d'alimentation des tortues, pour la plupart situées en dehors des îles Eparses, subissent des pressions importantes impactant les populations de tortues venant se reproduire sur les îles Eparses. Il faut rappeler aussi que pour Juan de Nova, les populations ont été très impactées du fait d'un passé proche où les pressions humaines ont été fortes. Il faut néanmoins considérer les îles Eparses comme des territoires de référence pour cette espèce, du fait de l'absence de pressions humaines majeures, liée au statut de protection et à l'isolement de ces territoires, et de leur important gradient latitudinal. En effet, même si les pressions et menaces sont fortes sur les habitats de développement et d'alimentation des populations de tortues nidifiant aux îles Eparses, les populations sont assez importantes pour se renouveler sans impact significatif sur l'effectif des tortues.

De par leur absence de population humaine, les îles Eparses sont épargnées par bon nombre de menaces inhérentes à la présence de l'Homme. Malgré cela et bien que quantitativement très limitées, les activités de braconnage sont une réalité qu'il faut prendre en compte. Les autres menaces qui pèsent sur les tortues marines sont plus ou moins complexes à gérer, réglementer ou limiter, soit parce qu'elles relèvent d'une problématique régionale, voire internationale (pollution par les hydrocarbures, débris marins), soit par l'éloignement géographique des îles et, paradoxalement, leur absence de présence humaine continue (le braconnage, les collisions accidentelles avec des bateaux, les captures accidentelles liées à la pêche). La principale interaction entre activités humaines et tortues marines dans les îles Eparses est la pêche. Les captures accidentelles de tortues marines autour de ces îles sont uniquement dues à l'activité des palangriers pélagiques et des thoniers senneurs océaniques opérant dans la ZEE des îles Eparses. Afin de réduire les maillages et la mortalité, les TAAF ont modifié leurs prescriptions techniques en mars 2010 et ont interdit, depuis le 1er janvier 2011, l'utilisation de DCP dérivants comportant des risques d'emmêlement d'espèces non ciblées comme les tortues marines. L'abandon de DCP (radeau sans balises) a également fait l'objet d'une interdiction dans les prescriptions techniques des TAAF en 2012, dans la perspective de limiter la multiplication des radeaux vieillissants abandonnés et potentiellement pêchant dans les ZEE des îles Eparses. En parallèle, les TAAF ont mis en place en 2008 un programme d'observateurs visant entre autres à surveiller les niveaux de capture accidentelle de tortues marines par les palangriers et senneurs ainsi que les taux de mortalité qu'ils engendrent.

Mayotte : A Mayotte autour de 4 000 pontes de tortues vertes ont pu être recensées sur une année, et plus de 200 pour ce qui concerne la tortue imbriquée. Les tortues en phase d'alimentation se rencontrent par ailleurs régulièrement sur les platiers de l'île hébergeant des herbiers (*Chelonia mydas*) et sur les récifs frangeants, les barrières et les patates éparses dans le lagon (*Eretmochelys imbricata*).

La tortue caouane se rencontre régulièrement dans le lagon alors que la tortue luth est couramment vue en plein mer par les pêcheurs.

Une unique observation de tortue olivâtre confirmée à été renseignée.

Les instances locales connaissent de longue date ce patrimoine exceptionnel et le rôle central de Mayotte dans la préservation mondiale de ces espèces et se sont mobilisées pour le suivi des populations locales à divers stades de leur cycle.

C'est d'abord le service environnement de la DAF relayé par le conseil départemental qui accueille en son sein l'observatoire des tortues marines.

La création du Parc naturel marin de Mayotte (PNMM) en 2010 permet de mobiliser de nouvelles ressources autour de la gestion de ces populations.

La dynamique des populations présentes est donc assez bien évaluée et des travaux sont menés en coopération avec les autres territoires français de la région mais aussi avec les pays voisins pour évaluer les connections entre populations.

Le plan de gestion du PNMM fait une part importante à cette problématique et la Parc est impliqué dans la mise en œuvre du PNA qu'il anime de 2015 à 2017.

Les menaces identifiées pour les populations de tortues marines sont en premier lieu une pression de braconnage importante, suivi de la problématique de l'aménagement durable des territoires, dans un contexte foncier contraint lié à l'insularité. La gestion des déchets, l'errance canine sont également des facteurs de menace sur ces espèces.

Les captures accidentelles par la pêche locale semblent rares mais elles peuvent être mal renseignées.

## 1.2 Best practice approaches to minimizing threats

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. **[BRP]**

### La Réunion

- Restauration des plages de ponte par replantation de la végétation littorale indigène avec la participation du public. 50% des pontes on lieu sur les sites restaurés.
- Partenariat avec les pêcheurs volontaires pour réduire l'impact des captures accidentelles: formation et fourniture de kit d'extraction des hameçons, récupération par le centre de soins des tortues après déclaration, parrainage des tortues par des scolaires lors de la remise en mer.
- Sensibilisation des usagers et du public à la préservation des tortues marines et de leurs habitats: organisation depuis plus de 20 ans de journées des tortues marines (4 000 participants sur 2 jours) et ouverture de Kelonia au public (170 000 visiteurs/an dont 15 000 scolaires).

### Iles Eparses:

- Reconduite des partenariats pour la recherche et la conservation (notamment sur les tortues imbriquées)
- Mise en place des mesures de gestion basées sur les connaissances scientifiques (notamment sur les captures accidentelles)
- Renforcement de la coopération régionale et implication active dans les réseaux régionaux
- Poursuite des efforts de mise en protection des Îles Éparses
- Sensibilisation des principaux acteurs de la conservation des tortues présentes dans les Îles Éparses (militaires, gendarmes, pêcheurs, etc.)

### Mayotte :

- suivi régulier des populations en ponte et des populations en alimentation sur des sites pilotes
- nombreux axes de recherche et de développement autour de l'amélioration des connaissances de ces populations au niveau local et régional
- actions de dissuasions du braconnage coordonnées par occupation nocturne des plages
- actions de répression du braconnage menées par le service de police de l'environnement
- animation de GT autour des modalités d'approche respectueuse
- partage des protocoles de suivi
- sensibilisation des collectivités, des acteurs socio professionnels
- sensibilisation du grand public.

## 1.3 Programmes to correct adverse economic incentives

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]**

Elaborate on the nature of the socio-economic study/ activity undertaken, the results obtained (successful or otherwise) and the desirability/ suitability for replication. Include references to published reports, where available.

- programme de science participative de restauration des plages de ponte
- programme de science participative grâce à la photo-identification
- soutien aux pêcheurs volontaires pour réduire l'impact des captures accidentelles
- médiatisation de l'impact des déchets plastique sur les tortues marines.

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

### **[TSH]**

- High prices commended by from turtle products relative to other commodities
- Lack of affordable alternatives to turtle products
- Ease of access to the turtle ressource (e.g. by virtue of proximity or ease of land/water access)  Low cost of land near nesting beaches (Mayotte)
- Low penalties against illegal harvesting

Others (Please describe)

Aucun (Iles Eparses)

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

*Please select only one option*

Yes (If yes, please describe these measures in detail)

Surveillance, actions de répression, de dissuasion (Mayotte)

>

No

Not applicable (No adverse economic incentives exist) (Iles Eparses)

## 1.4 Reduction of incidental capture and mortality

**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 and interact with marine turtles.**

Tick 'YES' to indicate that a fishery is present and interacting marine turtles or 'NO' to indicate that a fishery is not present or is not interacting with marine turtles. [INF]

If a fishery is present, use the text box to indicate, for example, the approximate geographic distribution of the fishery, how long it has been operating, how many vessels are involved, etc.

a) Shrimp trawls:

*Please select only one option*

Yes (Please provide details)

>

No (Please provide details)

Pas de pêche au Chalut à la Réunion>

b) Set gill nets:

*Please select only one option*

Yes (Please provide details)

>

No (Please provide details)

Pas de pêche au filet à La Réunion

c) Anchored Fish Aggregating Devices (FADs):

*Please select only one option*

Yes (Please provide details)

>

No (Please provide details)

>

d) Purse seine (with or without FADs):

*Please select only one option*

Yes (Please provide details)

>

No (Please provide details)

>

e) Longline (shallow or deepset):

*Please select only one option*

Yes (Please provide details)

25 bateaux, en moyenne 30 tortues/an ramenées au Centre de soins de Kelonia. Taux de survie 70%>

No (Please provide details)

>

f) Driftnet:

Please select only one option

Yes (Please provide details)

>

No (Please provide details)

>

g) Others (Please provide details)

Pêche à la ligne depuis la côte. Activité très développée par endroits. Provoque des enchevêtrements parfois mortels: 5 à 10 cas/an

>

h) None of the above (Please provide details)

>

**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]. Select from one of the following descriptions: RELATIVELY HIGH, MODERATE, RELATIVELY LOW, NONE (i.e. not present), UNKNOWN (i.e. unable to answer for whatever reason).**

a) Shrimp trawls

Please select only one per line

	UNKNOWN	NONE	RELATIVELY LOW	MODERATE	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fishing efforts:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

>

b) Set gill nets

Please select only one per line

	UNKNOWN	NONE	RELATIVELY LOW	MODERATE	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fishing effort:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

>

c) Anchored Fish Aggregating Devices (FADs)

Please select only one per line

	UNKNOWN	NONE	RELATIVELY LOW	MODERATE	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fishing effort:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Source of information / clarification

>

d) Purse seine (with or without FADs)

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	<input type="checkbox"/>	X	X	<input type="checkbox"/>
Fishing efforts:	<input type="checkbox"/>	<input type="checkbox"/>	X	X	<input type="checkbox"/>

- Source of information / clarification

>

e) Longline (shallow or deepset)

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
Fishing effort:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

- Source of information / clarification

>

f) Driftnet

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fishing effort:	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

>

g) Others (from 1.4.1 g )

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Perceived impact:	<input type="checkbox"/>	X	<input type="checkbox"/>	X	<input type="checkbox"/>
Fishing effort:	<input type="checkbox"/>	X	<input type="checkbox"/>	X	<input type="checkbox"/>

- Source of information / clarification

Centre de soins de Kelonia>

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]

[Pêche illicite, non déclarée, non réglementée \(INN\) à Juan de Nova et aux Glorieuses pouvant impacter les tortues marines.](#)

**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)

Please select only one option

X YES (Details/future plans)



[Formation et fourniture de kit d'extraction d'hameçon](#)

[Pareil](#)

NO (Details/future plans)

>

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

>

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

*Please select only one option*

YES (Details/future plans)

>

NO (Details/future plans)

>

UNDER INVESTIGATION or [NOT APPLICABLE](#) (Details/future plans)

[pas applicable](#)

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

*Please select only one option*

YES (Details/future plans)

[formation des observateur embarqués](#)

[Pareil](#)

NO (Details/future plans)

>

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

>

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

*Please select only one option*

YES (Details/future plans)

>

NO (Details/future plans)

>

UNDER INVESTIGATIONS or NOT APPLICABLE (Details/future plans)

[pas d'impact significatif observé sur hook design](#)

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

YES (Details/future plans)

[Gestion des DCP par Comité Régional des pêches](#)

>

>

NO (Details/future plans)

UNDER INVESTIGATION or NOT APPLICABLE

**f) Net retention and recycling schemes**

*Please select only one option*

YES (Details/future plans)

>

NO (Details/future plans)

>

X UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

**pas applicable**>

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

*Please select only one option*

YES (Details/future plans)

>

NO (Details/future plans)

>

X UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

**pas applicable**>

**h) Effort management control**

*Please select only one option*

X YES (Details/future plans)

contribution réunion IOTC>

**Suivi des prises par le SIH (système d'information halieutique : suivi des débarquements de poissons pêchés aux débarcadères autour de Mayotte)**

NO (Details/future plans)

>

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

>

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]**

Please use the corresponding text boxes to explain/clarify each of your responses, including 'NOT APPLICABLE' responses, and indicate future plans in this regard. [IND]

Please describe the collaboration, when/where the programmes were introduced, any difficulties encountered, and general results obtained (i.e. successful and unsuccessful). Provide references to publications, where available.

**a) Onboard observer programmes**

X YES (Details/future plans)

**sur les senneurs et certains palangriers**>

**sur palangriers**

>

>

>

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

**b) Vessel monitoring systems**

*Please select only one option*

YES (Details/future plans)

NO (Details/future plans)

NOT APPLICABLE (Details/future plans)

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

*Please select only one option*

YES (Details/future plans)

>

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

**d) Training programmes / workshops** to educate fishers

*Please select only one option*

YES (Details/future plans)

[pour les pêcheurs palangriers, via le syndicat des pêcheurs et dans cadre coopération pêcheurs/centre de soins](#)

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

**e) Informative videos, brochures, printed guidelines** etc.

*Please select only one option*

YES (Details/future plans)

[Via une newsletter mais qui a été abandonnée en 2017](#)

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

- Other OR none of the above  Other

(list and explain):

>

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 efficiency? **[SAP]**

>

>

>

*Please select only one option*

YES (Please give details)

Suivi des taux de survie des tortues ramenées>

NO (Please provide details)

>

UNSURE (Please provide details)

>

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]**

suivi des tortues en alimentation

suivi des tortues en ponte

suivi des échouages et des tortues en détresse

intégration des données à la base régionale en cours (TORSOOI)

- amélioration des connaissances sur la biologie des espèces impactées (Caouanne notamment): origine, migration, connectivité,..

- intégration des données dans la base régionale , nationale (SEXTAN) et international (SWOT)>

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]**

*Please select only one option*

YES (If yes, please give details of the exchanges/technical assistance) Contribution aux ateliers IOTC

Echanges et convention avec le parc national de Mohéli

NO

UNSURE

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]**

>

## 1.5 Addressing harvest of, and trade in, marine turtles; and protecting of habitat

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]**

Please provide details (title/date) of the relevant legislation, as well as any exemptions (e.g. for traditional harvest) under that legislation.

*Please select only one option*

YES

Arrêté ministériel de 2005>

NO

>

UNSURE

>

1.5.2 Which, among the following list, are economic uses and cultural values of marine turtles in your country? **[INF]**

Please rate the relative prevalence / importance of each consumptive or non-consumptive use. Use the text boxes

below each rating to explain or clarify your responses.

>

>

>

**a1) Meat consumption**

*Please select only one option*

YES

>

NO

prohibited since 1983 for wild product, and 1997 for all products (wild and farmed)>

(illegal)

**a2) Meat consumption: relative prevalence/importance**

*Please select only one option*

HIGH

>

MODERATE

>

LOW

Very LOW>

UNKNOWN

NO

**b1) Egg consumption**

*Please select only one option*

YES

>

NO

pas de consommation d'œufs>

**b2) Egg consumption: relative prevalence/importance**

*Please select only one option*

HIGH

>

>

>

>

MODERATE

LOW

UNKNOWN

NO

### c1) Shell products

*Please select only one option*

X YES

Production à partir de stocks de l'ancien élevage de tortues (1977-1997)>

NO

>

### c2) Shell products: relative prevalence/importance

*Please select only one option*

HIGH

>

MODERATE

>

X LOW

LOW concerne uniquement un stock ancien (tortues prélevées dans la nature avant 1984)>

UNKNOWN

NO

>

### d1) Fat consumption

*Please select only one option*

YES

>

X NO

NON>

### d2) Fat consumption: relative prevalence/importance

*Please select only one option*

HIGH

>

MODERATE

>

LOW

>

UNKNOWN

>

>NO

**e1) Traditional medicine**

*Please select only one option*

YES

>

X NO

NON>

**e2) Traditional medicine: relative prevalence/importance**

*Please select only one option*

HIGH

>

MODERATE

>

LOW

UNKNOWN

NO

**f1) Eco-tourism programmes**

*Please select only one option*

X YES

Très ponctuellement, observation des tortues en snorkeling ou PMT (palmes, masques, tuba)

Observation des tortues en apnée ou plongée scaphandre>

Turtle watching en développement (à encadrer)

NO

>

**f2) Eco-tourism programmes: relative prevalence/importance**

*Please select only one option*

HIGH

>

MODERATE

>

X LOW

faible. Existe une charte d'approche>

UNKNOWN

>

**g1) Cultural / traditional significance**

*Please select only one option*

X YES

Les tortues marines font partie de l'imagerie réunionnaise au même titre que le volcan, et plus récemment les baleines>

Présentes dans la mythologie mahoraise

NO

>

>

>

g2) Cultural/traditional significance: relative prevalence/importance

Please select only one option

HIGH

>

MODERATE

Modérée>

Pareil

LOW

>

UNKNOWN

>

h) Other (list and rank):

>

1.5.3 Please indicate the relative level and impact of traditional harvest on marine turtles and their eggs.

[IND, TSH]

	RELATIVELY HIGH	UNKNOWN	NON E	RELATIVELY LOW	MODERATE
Impact of harvest:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Level of harvest:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Source of information / explanation:

Kelonia centre de soins>

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

Use the text box to give details.

Please select only one option

YES

>

NO

NON>

UNKNOWN

>

1.5.5 Describe any management agreements negotiating 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]

>

## 1.6 Minimizing mortality through nesting beach programmes

### 1.6.1 Measures and effectiveness

First, tick one of the YES/NO-boxes 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]

Use the text boxes below each rating to elaborate on your responses, including any lessons learned that might be of value to other Signatory States, and indicate your plans for the coming year. Please explain any "Not Applicable (N/A)" responses. a1

#### Monitoring/protection programmes

Please select only one option

YES

OUI Suivi des plages de ponte, des femelles en ponte et des nids>

Actions de dissuasion par occupation nocturne des plages de ponte

NO



>

N/A

>

**a2) Monitoring/protection programmes: relative effectiveness**

*Please select only one option*

EXCELLENT

>

GOOD

Taux de suivi des femelles excellent, taux de survie des nids bon>

LOW

Taux de braconnage non négligeable sur les femelles en ponte

>

UNKNOWN

>

**b1) Education/awareness programmes**

*Please select only one option*

YES

Par Kelonia centre permanent de sensibilisation qui accueille 170 000 visiteurs/an dont 15 000 scolaires, et les actions de ses partenaires ONG, Réserve marine>

Programme de sensibilisation en milieu scolaire mené, sensibilisation de la société civile et des collectivités par le Parc naturel marin de Mayotte, financement de programmes de sensibilisation par des partenaires locaux (Oulanga Na Nyamba, les naturalistes de Mayotte, ..)

Formation des membres du réseau échouage

NO

>

N/A

>

**b2) Education/awareness programmes: Relative effectiveness**

*Please select only one option*

EXCELLENT

A bien fait évolué la perception des tortues marines et le nombre d'actions en leur faveur au cours de dernières années>

GOOD

>

LOW

>

>

UNKNOWN

### c1) Egg relocation/hatcheries

Please select only one option

YES

lorsque les nids sont menacés par les conditions météorologiques>

NO

>

N/A

>

### c2) Egg relocation/hatcheries: Relative effectiveness

Please select only one option

EXCELLENT

>

GOOD

Taux de survie lors des translocations bon ou causes d'échec identifiées>

LOW

>

UNKNOWN

>

### d1) Predator control

Please select only one option

YES

Contrôle des chiens errants>

programme de lutte contre les chiens errants

NO

>

N/A

>

### d2) Predator control: Relative effectiveness

Please select only one option

EXCELLENT

>

GOOD

>

LOW

Mesures de lutte pas suffisantes au regard de l'errance animale>

Pareil

UNKNOWN

>

### e1) Vehicle / access restrictions

Please select only one option

YES

Plage interdite aux véhicules>

NO

>

>

>

N/A

>

e2) Vehicle/access restriction: relative effectiveness

*Please select only one option*

EXCELLENT

Règlementation en place et bien respectée>

GOOD

LOW

UNKNOWN

>

f1) Removal of debris / clean-up

*Please select only one option*

YES

Nettoyage régulier des plages + actions citoyennes>

YES

Nettoyage régulier des plages + actions citoyennes>

NO

>

N/A

>

f2) Removal of debris /clean-up: relative effectiveness

*Please select only one option*

EXCELLENT

>

GOOD

GOOD Prise de conscience des collectivités et des citoyens, mais efforts à poursuivre>

LOW

Beaucoup de déchets sur les plages, abandonnés sur place ou apportés par la marée

>

UNKNOWN

>

g1) Re-vegetation of frontal dunes

*Please select only one option*

YES

Action prioritaire du PN volet Réunion, implication de nombreux acteurs et du public>

NO

>

N/A

>

g2) Re-vegetation of frontal dunes: relative effectiveness

*Please select only one option*

EXCELLENT

>

>

>

X GOOD

15 hectares végétalisés depuis 2000>

LOW

>

UNKNOWN

>

### **h1) Building location/design regulations**

*Please select only one option*

X YES

Bonne application de la loi littorale. >

NO

>

N/A

>

### **h2) Building location/design regulations: relative effectiveness**

*Please select only one option*

EXCELLENT

GOOD

X LOW

destruction de certaines constructions illégales ces derniers mois>

UNKNOWN

>

### **i1) Light pollution reduction**

*Please select only one option*

X YES

Travail sur la pollution lumineuse >

Travail sur la pollution lumineuse, contribution aux Nuits sans lumière depuis la première édition >

Même chose

NO

>

N/A

>

### **i2) Light pollution reduction: Relative effectiveness**

*Please select only one option*

EXCELLENT

>

GOOD

>

X LOW

Participation aux Nuits sans lumière, et début d'actions des collectivités pour réduire la pollution lumineuse

>

UNKNOWN

>

>

j.) Other (list and rate them)

>

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

Use the text box to elaborate on your response, if necessary.

*Please select only one option*

YES

[Suivi des traces de tortues au quotidien et suivi hebdomadaire des pontes](#)

[Suivi des femelles en ponte et des nids durant l'incubation](#)>

NO

>

NOT APPLICABLE

>

>

## OBJECTIVE II: PROTECT, CONSERVE AND REHABILITATE MARINE TURTLE HABITATS

### 2.1 Measures to protect and conserve 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]**

>

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

Use the text box to elaborate on your response.

*Please select only one option*

YES

[oui dans le cadre des suivis par Kelonia et du PNA](#)>

[Oui, suivis régulier par le conseil départemental, le Parc et Oulanga Na Nyamba](#)

NO

>

NOT APPLICABLE

>

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

*Please select only one option*

YES

[Oui dans le cadre de la directive cadre sur l'eau](#)>

NO

>

NOT APPLICABLE

>

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

Use the text box to elaborate on your response.

*Please select only one option*

YES

[Ce genre de pratique est interdite et n'est pas pratiquée](#)>

[Ce genre de pratique est interdite et n'est pas pratiquée](#)

NO

>

NOT APPLICABLE

>

### 2.2 Rehabilitation of degraded marine turtle habitats

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]**

Provide sufficient details of the measures taken, especially those measures shown to have been effective in recovering degraded coral reefs. Please indicate future plans in this regard.

*Please select only one option*

YES (Details/future plans)

[Mise en place d'une réserve Naturelle Marine, avec Plan de gestion périodiquement évalué](#)>

NO (Details/future plans)

>

NOT APPLICABLE (no degraded coral reefs)

>

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]**

*Please select only one option*

YES (Details/future plans)

Elaboration d'un plan de gestion des mangroves sous la maîtrise du Conservatoire du littoral

>

NO (Details/future plans)

>

NOT APPLICABLE (no mangrove habitats important for turtles)

Pas de mangrove à La Réunion>

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]**

*Please select only one option*

YES (Details/future plans)

Les études sur les suivis des herbiers sont récentes (thèse Alexis CUVELIER en 2017 Université de La Réunion). Les herbiers sont peu nombreux et soumis à de fortes variations (houle, courant, température, piétinement, herbivorie des tortues)>

Mise en place de dispositif d'amarrage pour éviter l'impact des mouillages sauvages, communication / sensibilisation sur les herbiers marins, interdiction de pêche au filet sur les herbiers

NO (Details/future plans)

>

NOT APPLICABLE (No degraded sea grass habitats)

>

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

### 3.1 Studies on marine turtles and their habitats

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]

>

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]

Please give details of the nature, duration and continuity of these programmes.

*Please select only one option*

YES

Suivi quotidien des traces de tortues sur les plages depuis les années 1960

suivi aérien sur habitats côtiers depuis 1996, photo-identification depuis 2004, suivi de la reproduction depuis 2004

Suivi des plages de ponte et des tortues en alimentation.

NO

>

UNSURE

>

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

Please give details (e.g. which species, which populations?).

*Please select only one option*

YES

Oui pour les tortues vertes, caouanne. Imbriquées en cours

Pareil

NO

>

UNSURE

>

**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] a) Tagging**

*Please select only one option*

YES (Details/future plans)

>

NO (Details/future plans)

>

#### **b) Satellite tracking**

*Please select only one option*

YES (Details/future plans)

plus de 200 balises posées depuis 20 ans

Programmes souvent partagés

NO (Details/future plans)

>

#### **c) Other OR None of the above**

*Please select only one option*



Other (List and provide details)

>

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]**

*Please select only one option*

YES

Oui données du Centre de soins de Kelonia>

NO

>

UNSURE

>

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

*Please select only one option*

YES

Oui centre de soins de Kelonia>

vigilance fibropapillomatose notamment dans le cadre du réseau échouage

NO

>

UNSURE

>

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

*Please select only one option*

YES

>

NO

NON>

UNSURE

>

### 3.2 Collaborative research and monitoring

- 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]**

Use the text box to elaborate on your response.

Développement de la base de données Régionale TORSOOI qui regroupe des données de La Réunion, Iles Eparses, bientôt Mayotte et certains sites des Comores, de Madagascar

Implémentation des données pour la définition des unités de gestion régionale

Implémentation des bases de génétique pour les tortues vertes, caouannes, imbriquées

Etude de la connectivité des habitats et des couloirs migratoires dans SWOI>

Plan National d'Actions tortues marines

Projets scientifiques divers sur les tortues marines (Ifremer, Kelonia-CEDTM, etc.)

**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

Please select only one option

YES (Details/future plans)

Programme génétique sur Vertes, Caouannes et imbriquées›

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

#### b) Conservation status

Please select only one option

YES (Details/future plans)

Par suivi d'indicateurs: nombre de traces sur les sites de ponte, nombre de tortue observées lors de survols aériens›

Pareil, et suivi des tortues en phase d'alimentation

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

#### c) Migrations

Please select only one option

YES (Details/future plans)

Pose de plus de 200 balises depuis 1990›

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

#### d) Other biological and ecological aspects

Please select only one option

YES (Details/future plans)

Etude de l'alimentation et des Herbiers (réseau régional)›

NO (Details/future plans)

>

NOT APPLICABLE (Details/future plans)

>

### 3.3 Data analysis and applied research

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]**

Cf Red List UICN Eparses et Réunion

*Eretmochelys imbricata* : en danger critique d'extinction (CR)

*Chelonia mydas*: en danger (EN)

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]**

Please select only one option

YES

OUI dans cadre du PNA et lors de l'instruction de dossier de demande de financements européens›

NO

>

UNSURE

>

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]**

Les résultats des recherches ont permis de définir l'état initial lors de l'élaboration du PNA 2015 et seront analysés lors de l'évaluation de celui-ci 2020›

### 3.4 Information exchange

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]**

*Please select only one option*

YES [If yes, please give details of the agreed protocol(s)]

Oui par la base de données TORSOOI et pour permettre l'interopérabilité avec les base nationales et internationales.›

NO

›

UNSURE

›

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

*Please select only one option*

OFTEN (SYSTEMATICALLY) Souvent avec les autres territoires français, les Comores, Madagascar, les autres pays de la COI.

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]**

Convention cadre de partenariat, accueil de personnel, mission de terrain avec formation, développement de programme d'étude commun. Cela à permis la poursuite d'actions sur plusieurs années

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

Please give details **[INF]**

*Please select only one option*

YES

Oui dans la base de données TORSOOI (données Réunion, Iles Eparse, Mohéli, Iranja, bientôt Mayotte)›

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 Public education and information programmes

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

Details/future plans:

Kelonia: centre permanent de sensibilisation à la préservation du patrimoine naturel et culturel associé aux tortues marines. Il accueille 170 000 visiteurs par an dont 15 000 scolaires

Développement des jeux éducatifs pour Pc, tablette et smartphone (français/anglais)

Films documentaires, vidéo immersives (certains français /anglais)

Charte d'approche des tortues marines, formation et information sur place, sorties tortues sur le terrain, films, etc.

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 (describe):

>

None of the above

>

Additional information

>

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

Please give details and indicate future plans

*Please select only one option*

YES

Kelonia (170 000 visiteurs/an)

NONO

>

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

Sensibilisation à la présence de tortues en mer et à la réduction des vitesse de navigation, Impact des déchets plastique et réduction de leur production, impact de la pollution lumineuse sur la reproduction des tortues

### 4.3 Stakeholder participation

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]**

Restauration des plages de ponte par la replantation de la végétation littorale indigène, Suivi individuel des tortues par photo-identification

Suivi des tortues par le gendarme, sensibilisation des militaires et opérations de sauvetage des tortues adultes sur plage

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]**

Mesures compensatoires lors de grands chantiers pour restaurer des habitats importants pour les tortues, partenariat avec les pêcheurs pour réduire l'impact de leur activité sur les tortues, sensibilisation des clubs de plongée pour une observation respectueuse des tortues et participation à la photo-identification, incitation des opérateurs économique pour réduire les déchets plastiques

## **OBJECTIVE V: ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION**

### **5.1 Collaboration with, and assistance to, signatory and non-signatory States**

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]**

*Please select only one option*

YES (If yes, please elaborate briefly)

>

NO

>

NOT APPLICABLE

>

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

*Please select only one option*

YES (If yes, please provide details of these training programmes)

>

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]**

Please give details of particularly successful interventions and prosecutions; and/or mention any difficulties experienced that impede progress in this area. Please provide references to any published reports (e.g. already prepared for CITES purposes) that give a more ample explanation.

*Please select only one option*

YES

traçabilité des produits en écaille de tortue provenant de l'ancien élevage en ranch.

Surveillance depuis la terre (gendarme et militaires) et depuis la mer (Marine Nationale et patrouilleur).

NO

>

NOT APPLICABLE

>

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]**

>

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]**

>

## 5.2 Prioritisation, development and implementation of national action plans

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]**

Please explain.

*Please select only one option*

YES

[PNA pour les tortues des territoires français de l'Océan Indien incluant 4 volets: Iles Eparses, Réunion, Mayotte et volet régional validé en 2015; évaluation prévue en 2020](#)

NO

>

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? (List up to 10 activities from the IOSEA Conservation and Management Plan). **[PRI]**

>

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 achieve progress. **[PRI]**

In other words, how important is **international** cooperation for addressing these issues?

*Please select only one per line*

	NOT AT ALL	LIMITED	IMPORTANT	ESSENTIAL
Genetics studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Habitat studies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tagging / satellite tracking	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identification of migration routes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Identification of turtle populations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alternative livelihood development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Training / capacitybuilding	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Oil spills, pollution, marine debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Development of gear technology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Poaching, illegal trade in turtle products	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hunting/harvest by neighboring countries	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Enforcement/patrolling of territorial waters	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Incidental capture by foreign fleets	<input type="checkbox"/>	<input type="checkbox"/>	X	X
Illegal fishing in territorial waters	<input type="checkbox"/>	<input type="checkbox"/>	X	X

Use the text box to list and rank any other local management issues for which international cooperation is needed to achieve progress.

>

### 5.3 Cooperation and Information exchange

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]**

Commission de l'Océan Indien. Elle a financé plusieurs ateliers ou actions qui ont favorisé les échanges entre les équipes des pays concernés, et permis d'engager des programmes de suivi et de coopération dont certains perdurent aujourd'hui (Mohéli/Réunion, Iranja-Madagascar/Réunion)

WIOMSA dont les réunions périodiques ont permis aux acteurs « tortues » de se rencontrer et d'échanger.

MTTF-WIO/IOSEA a permis d'identifier des points focaux par pays et facilité les échanges en vue de la définition ou de la mise en œuvre de programmes communs

SWOT permet de regrouper les données pour la définition des Unités de Gestion Régionales

IUCN-MTSG

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

Please select only one option

X YES (if yes, give details)

Regional Data Base TORSOOI

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? Please describe the interventions made in this regard, referring to specific RFBs. **[SAP]**

Participation à IOTC: prochain atelier en septembre 2019 à La Réunion

### 5.4 Capacity-building

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]**

pour La Réunion pas de besoin spécifique

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]**

Réunion du Groupe Tortues Marine de France (GTMF) en Novembre 2018  
training manual for TORSOOI BD

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]**

Conventions Cadre *Kelonia*/CEDTM/Ifremer; TAAF/CEDTM-*Kelonia*

## 5.5 Enforcement of conservation legislation

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]**

>

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]**

Please give details.

*Please select only one option*

YES

[A l'occasion de la rédaction et validation du PNA 2015/2020](#)>

NO

>

UNSURE

>

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]**

Please give details.

*Please select only one option*

YES

>

NO

>

UNSURE

>

## OBJECTIVE VI: PROMOTE IMPLEMENTATION OF THE MOU, INCLUDING THE CMP

### 6.1 IOSEA Marine Turtle MoU membership and activities

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

>

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

*Please select only one option*

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]**

*Please select only one option*

YES (Use the text box to elaborate on your response, if necessary)  NO (Use the text box to elaborate on your response, if necessary)

>

NO VIEW (Use the text box to elaborate on your response, if necessary)

>

### 6.2 Secretariat and Advisory Committee

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]**

>



### 6.3 Resources to support implementation of the MoU

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]**

>

6.3.2 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]**

*Please select only one option*

YES (If yes, give details of the approaches made (both successful and unsuccessful))

>

NO

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

>

### 6.4 Coordination among government agencies

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]**

Please elaborate, as necessary.

*Please select only one option*

YES

>

NO

>

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]**

Use the text box to elaborate.

*Please select only one option*

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]**

This question seeks to ascertain whether Signatories have made a serious examination of which agencies have a role to play in marine turtle conservation, either directly or indirectly, and which therefore should be apprised of the IOSEA MoU and its provisions.

If no internal review of interagency roles and responsibilities has been or will be undertaken, please elaborate if only to indicate that the necessary arrangements are already clear and not in need of further review.

*Please select only one option*

YES (Use the text box to elaborate)

>

NO (Use the text box to elaborate)

>

UNSURE (Use the text box to elaborate)

>

## OTHER REMARKS

Please provide any comments/suggestions to improve the present reporting format.

›

Feel free to include additional information not covered above:

›

Les tortues marines sont protégées en France par l'Arrêté du 14 octobre 2005 fixant la liste des tortues marines protégées sur le territoire national et les modalités de leur protection.

Au niveau international, une résolution RAMSAR (XIII.24) a été adoptée le 29 octobre 2018 à l'issue de la dernière réunion des Parties à cette convention. Elle est relative au Renforcement de la conservation des habitats côtiers des tortues marines, et désignation au titre de Ramsar des sites à enjeux majeurs.

# ANNEX 1: SPECIES, HABITAT AND THREAT DATA [PRI, INF]

PLEASE COMPLETE A SEPARATE SECTION FOR EACH SITE/AREA

## Site 1

### Name of site/area:

[Iles Eparses](#)

### Geographic coordinates (North/South)

*Please select only one option*

North

>

South

Les îles Eparses se répartissent entre le 10° et 25° de latitude sud.

### On-site research activities:

Tagging

Genetic Sampling

Satellite tracking

Foraging surveys

### Province / State:

[Iles Eparses](#)

### Name of person / agency who has provided the information:

[Maxime AMY](#)

Chargé d'études Biodiversité terrestre

Direction de l'Environnement

Service de la préservation et de la valorisation des Iles Eparses

Terres Australes et Antarctiques Françaises

### Information was last updated: (dd/mm/yyyy)

[06/08/2019](#)

### Short description of the site (optional):

Les îles Eparses, d'une superficie terrestre de 43 km<sup>2</sup>, totalisent plus de 640 000 km<sup>2</sup> d'eaux sous juridiction française. L'isolement géographique, le caractère insulaire et une occupation humaine historiquement très limitée ont largement contribué à préserver ces havres de biodiversité. Ces îles coralliennes ont une importance majeure en milieu tropical où elles abritent des écosystèmes parmi les plus diversifiés et complexes de la planète (mangroves ou récifs coralliens). Les plages des îles Eparses sont un des lieux de ponte primordiaux du sud-ouest de l'océan Indien pour les tortues marines (tortue verte principalement et tortue imbriquée).

### Indicate the species occurrence / use and relative importance of the site:

Abbreviations: Loggerhead *Caretta caretta* (CC); Olive Ridley *Lepidochelys olivacea* (LO); Green Chelonia *mydas* (CM);

Hawksbill *Eretmochelys imbricata* (EI); Leatherback *Dermochelys coriacea* (DC); Flatback *Natator depressus* (ND) Use one of the following

symbols or letters to indicate the presence or absence of a species at this site in the table above, including details (if known) about the relative importance of the site for nesting, feeding or development.

Insufficient information is available on the presence or absence of the species (leave box empty)

---

The species is **not present** or does not use this particular habitat type at this site.

?

It is speculated (only) that the species is present at this site and may be using one or more particular habitat types. In the absence of definitive information, place a ? in the appropriate box(es).

✓

The species is definitely **known to be present** at this site; however no information is available on the relative importance of the site for nesting, feeding or development.

✓ H

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **high importance** for this species, relative to other sites in the country. ✓

**A**

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **average importance** for this species, relative to other sites in the country. ✓

**L**

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **lower importance** for this species, relative to other sites in the country.

**a - h****Additional information on nesting habitat (where available):**

Indicate the estimated number of nests per year for each species by inserting, in the appropriate boxes, one of the letters 'a' through 'f', corresponding to the following scale: **a:** 1 - 10 nests ; **b:** 11 - 100 nests ;

**c:** 101 - 500 nests ; **d:** 501 - 1,000 nests ; **e:** 1,001 - 5,000 nests ; **f:** 5,001 - 10,000 nests ; **g:** 10,001 - 100,000 nests; **h:** more than 100,000 nests

	ND Flatback	DC Leatherback	EI Hawksbill	CM Green	LO Olive Ridley	CC Loggerhead
Developmental		X	X	X	X	X
Feeding			X	X		
Nesting			X	g		

**Describe the nature of and intensity of threats to marine turtles at this site:**

	High (common occurrence)	Medium	Low (rare event)	None	Unknown
Other (type in):					
Natural threats, disease, predation of nests/nesting females (e.g. by domestic / feral animals), or natural predation at sea			X		
Sand mining / removal				X	
Vehicles				X	
Habitat degradation (e.g. coastal erosion, debris that obstructs nesting etc.)				X	
Artificial lighting (on land or near shore)			X		
Agricultural/urban/tourism development (e.g. construction that disrupts nesting activities)				X	
Inshore oil pollution			X		
Industrial effluent				X	

Marine debris (e.g. plastics at sea, flotsam)		X			
Boat strikes			X		
Incidental capture in coastal fisheries		X			
Egg collection (i.e. direct harvest by humans)				X	
Direct harvest of animals in coastal waters at or near the site				X	
Exploitation of nesting females (i.e. direct harvest on land)				X	

What measures have been introduced to remove threats to marine turtles at this site?

Monitoring / protection programmes

Education / awareness programmes

Egg relocation / hatcheries

Requirements for modification of fishing gear or fishing practices (e.g seasonal or temporal closures)

Designation / management of protected areas, sanctuaries, exclusion zones etc.

Regulations on building location / design

Regulations on artificial lighting

Vehicle / access restrictions

Removal of debris / beach clean-up

Removal of debris / beach clean-up

Other (Please specify)

Nesting beaches restoration›

Please give further details or clarification about any of the information provided, as appropriate / necessary.

## Site 2

**Name of site/area:**

›Mayotte

**Geographic coordinates (North/South)**

Please select only one option

North

›

South 12 50 35

›

**On-site research activities:**

Tagging

Genetic Sampling

Satellite tracking

Foraging surveys

Province / State: France

›

**Name of person / agency who has provided the information:**

**Information was last updated:** (dd/mm/yyyy)

›

Short description of the site (optional):

›

**Indicate the species occurrence / use and relative importance of the site:**

Abbreviations: Loggerhead *Caretta caretta* (CC); Olive Ridley *Lepidochelys olivacea* (LO); Green Chelonia *mydas* (CM); Hawksbill *Eretmochelys imbricata* (EI); Leatherback *Dermochelys coriacea* (DC); Flatback *Natator depressus* (ND) Use one of the following symbols or letters to indicate the presence or absence of a species at this site in the table above, including details (if known) about the relative importance of the site for nesting, feeding or development.

Insufficient information is available on the presence or absence of the species (leave box empty)

---

The species is **not present** or does not use this particular habitat type at this site.

?

It is speculated (only) that the species is present at this site and may be using one or more particular habitat types. In the absence of definitive information, place a ? in the appropriate box(es).

✓

The species is definitely **known to be present** at this site; however no information is available on the relative importance of the site for nesting, feeding or development.

✓ **H**

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **high importance** for this species, relative to other sites in the country. ✓

**A**

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **average importance** for this species, relative to other sites in the country.

✓

**L**

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **lower importance** for this species, relative to other sites in the country.

**a - h**

**Additional information on nesting habitat (where available):**

Indicate the estimated number of nests per year for each species by inserting, in the appropriate boxes, one of the letters ' a ' through ' f ', corresponding to the following scale: **a:** 1 - 10 nests ; **b:** 11 - 100 nests ; **c:** 101 - 500 nests ; **d:** 501 - 1,000 nests ; **e:** 1,001 - 5,000 nests ; **f:** 5,001 - 10,000 nests ; **g:** 10,001 - 100,000 nests; **h:** more than 100,000 nests

	ND Flatback	DC Leatherback	EI Hawksbill	CM Green	LO Olive Ridley	CC Loggerhead
Developmental			A	A	✓	
Feeding		A	A - c	A - e		L
Nesting			A	A		

**Describe the nature of and intensity of threats to marine turtles at this site:**

	High (common occurrence)	Medium	Low (rare event)	None	Unknown
Other (type in):					

Natural threats, disease, predation of nests/nesting females (e.g. by domestic / feral animals), or natural predation at sea				X	
Sand mining / removal		X			
Vehicles			X		
Habitat degradation (e.g. coastal erosion, debris that obstructs nesting etc.)		X			
Artificial lighting (on land or near shore)			X		
Agricultural/urban/tourism development (e.g. construction that disrupts nesting activities)			X		
Inshore oil pollution			X		
Industrial effluent			X		
Marine debris (e.g. plastics at sea, flotsam)			X		
Boat strikes			X		
Incidental capture in coastal fisheries			X		
Egg collection (i.e. direct harvest by humans)			X		
Direct harvest of animals in coastal waters at or near the site			X		
Exploitation of nesting females (i.e. direct harvest on land)		X			

What measures have been introduced to remove threats to marine turtles at this site?

Monitoring / protection programmes

Education / awareness programmes

Egg relocation / hatcheries

Requirements for modification of fishing gear or fishing practices (e.g seasonal or temporal closures)  Designation / management of protected areas, sanctuaries, exclusion zones etc.

Regulations on building location / design

Regulations on artificial lighting

Vehicle / access restrictions

Removal of debris / beach clean-up

Removal of debris / beach clean-up

Other (Please specify)

>

Please give further details or clarification about any of the information provided, as appropriate / necessary.

>

### Site 3

#### Name of site/area:

La Reunion>

#### Geographic coordinates (North/South)

Please select only one option

North

>

South

21° 06' 52" sud, 55° 31' 57" est

>

#### On-site research activities:

X Tagging

X Genetic Sampling

X Satellite tracking

X Foraging surveys

Province / State:

>

#### Name of person / agency who has provided the information:

Kelonia et CEDTM>

#### Information was last updated: (dd/mm/yyyy)

20/09/2019>

Short description of the site (optional):

>

#### Indicate the species occurrence / use and relative importance of the site:

Abbreviations: Loggerhead *Caretta caretta* (CC); Olive Ridley *Lepidochelys olivacea* (LO); Green Chelonia *mydas* (CM);

Hawksbill *Eretmochelys imbricata* (EI); Leatherback *Dermochelys coriacea* (DC); Flatback *Natator depressus* (ND) Use one of the following

symbols or letters to indicate the presence or absence of a species at this site in the table above, including details (if known) about the relative importance of the site for nesting, feeding or development.

Insufficient information is available on the presence or absence of the species (leave box empty)

---

The species is **not present** or does not use this particular habitat type at this site.

?

It is speculated (only) that the species is present at this site and may be using one or more particular habitat types. In the absence of definitive information, place a ? in the appropriate box(es).

✓

The species is definitely **known to be present** at this site; however no information is available on the relative importance of the site for nesting, feeding or development.

✓ H

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **high importance** for this species, relative to other sites in the country. ✓

A

The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **average importance** for this species, relative to other sites in the country. ✓

L



The species is known to be present at this site and definitely uses this particular habitat. The site is considered to be of **lower importance** for this species, relative to other sites in the country.

**a - h**

**Additional information on nesting habitat (where available):**

Indicate the estimated number of nests per year for each species by inserting, in the appropriate boxes, one of the letters ' a ' through ' f ', corresponding to the following scale: **a**: 1 - 10 nests ; **b**: 11 - 100 nests ; **c**: 101 - 500 nests ; **d**: 501 - 1,000 nests ; **e**: 1,001 - 5,000 nests ; **f**: 5,001 - 10,000 nests ; **g**: 10,001 - 100,000 nests; **h**: more than 100,000 nests

	ND Flatback	DC Leatherback	EI Hawksbill	CM Green	LO Olive Ridley	CC Loggerhead
Developmental		?	A	A	?	A
Feeding		?	A	A	?	A
Nesting				A - a		

**Describe the nature of and intensity of threats to marine turtles at this site:**

	High (common occurrence)	Medium	Low (rare event)	None	Unknown
Other (type in):					
Natural threats, disease, predation of nests/nesting females (e.g. by domestic / feral animals), or natural predation at sea			X		
Sand mining / removal				X	
Vehicles				X	
Habitat degradation (e.g. coastal erosion, debris that obstructs nesting etc.)			X		
Artificial lighting (on land or near shore)	X				
Agricultural/urban/tourism development (e.g. construction that disrupts nesting activities)		X			
Inshore oil pollution			X		
Industrial effluent			X		
Marine debris (e.g. plastics at sea, flotsam)	X				
Boat strikes		X			

Incidental capture in coastal fisheries		X			
Egg collection (i.e. direct harvest by humans)				X	
Direct harvest of animals in coastal waters at or near the site			X		
Exploitation of nesting females (i.e. direct harvest on land)				X	

What measures have been introduced to remove threats to marine turtles at this site?

- X Monitoring / protection programmes
- X Education / awareness programmes
- X Egg relocation / hatcheries
- X Requirements for modification of fishing gear or fishing practices (e.g seasonal or temporal closures)
- X Designation / management of protected areas, sanctuaries, exclusion zones etc.
- X Regulations on building location / design
- X Regulations on artificial lighting
- X Vehicle / access restrictions
- X Removal of debris / beach clean-up
- X Other (Please specify) nesting beaches rehabilitation

>

Please give further details or clarification about any of the information provided, as appropriate / necessary.

- 170 000 persons visit Kelonia the sea turtle observatory and awareness center every year
- Cooperation program with longliners to mitigate impact on sea turtle
- Participative science to monitoring sea turtle by photo-ID
- Participative restoration of nesting beaches>

>