Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia

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REVIEW OF CMS EXISTING INSTRUMENTS AND PROJECTS ON MARINE TURTLES

1. In 2011, the Secretariat of the Convention on Migratory Species (the parent organisation of IOSEA) commissioned UNEP-WCMC to undertake a review of CMS instruments and projects on marine turtles. The review concentrated mainly on the IOSEA Marine Turtle MoU and its sister Memorandum *of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa*, often referred to as the Abidjan MoU. The work was undertaken pursuant to Resolution 9.2 on *Priorities for CMS Agreements* adopted at CMS COP9 (Rome, 2008).

2. The report, which has already been circulated to CMS Parties as document UNEP/CMS/Inf. 10.16, will be considered at the forthcoming meeting of the Conference of the Parties to CMS, taking place in Bergen, Norway, from 20-25 November 2011 -- two weeks prior to IOSEA SS6. The IOSEA Secretariat was not involved in the commissioning of the CMS report or in the subsequent consultancy, however it did provide responses to a standard questionnaire that UNEP/WCMC circulated to IOSEA stakeholders in May 2011, and it also took up an invitation to comment on a first draft of the report.

3. The full report is some 69 pages long and includes a one-page executive summary, which will be of interest to the IOSEA membership. Quoting from the report, the study concludes that: “IOSEA is widely recognised as successful, with i) active participation from its signatories, ii) regular Meetings of the Signatory States, iii) strong collaborations with various conservation and fisheries organisations, iv) regular donations from a number of Developed countries, v) good website facilities and vi) effective support from the IOSEA Secretariat and the Advisory Committee.”

4. The report makes a number of interesting recommendations pertaining to both IOSEA and Abidjan, namely that “both CMS existing instruments on marine turtles would benefit from *inter alia*: i) strengthening their CMPs through development of targets and indicators, ii) completion and regular review of regional species assessments, iii) developing programmes/initiatives on cross-cutting themes, iv) increased collaboration with exiting CMS and non-CMS instruments/ frameworks (including Regional Fisheries Management Organisations), v) establishment of a critical sites network and vi) sharing of online databases and resources.

5. Signatory States are invited to keep these recommendations in mind during the review of IOSEA implementation progress foreseen under Agenda item 7 -- in particular, the notion of incorporating targets and indicators into the existing Conservation and Management Plan (CMP) framework, and possibly developing initiatives on cross-cutting themes that have yet to be fully explored by IOSEA. These might include, for example, mitigation strategies to deal with climate change impacts, and addressing disturbance from light pollution.

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REVIEW OF CMS EXISTING INSTRUMENTS AND PROJECTS ON MARINE TURTLES

(Prepared by UNEP-WCMC for CMS)

Pursuant to Resolution 9.2 on *Priorities for CMS Agreements*, the CMS Secretariat commissioned UNEP-WCMC to undertake a review in 2011 of CMS instruments and projects on marine turtles. Their report, which discusses options for more effective implementation of CMS existing instruments and priorities for development, is presented in this Information Document in the original form in which it was delivered to the Secretariat. An executive summary is also provided as document UNEP/CMS/Conf.10.45.

Review of CMS existing instruments and projects on marine turtles

Produced by UNEP-WCMC

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ABOUT UNEP-WORLD CONSERVATION MONITORING CENTRE

The UNEP World Conservation Monitoring Centre (UNEP-WCMC), based in Cambridge, UK, is the specialist biodiversity information and assessment centre of the United Nations Environment Programme (UNEP), run cooperatively with WCMC, a UK charity. The Centre's mission is to evaluate and highlight the many values of biodiversity and put authoritative biodiversity knowledge at the centre of decision-making. Through the analysis and synthesis of global biodiversity knowledge, the Centre provides authoritative, strategic and timely information for conventions, countries and organisations to use in the development and implementation of their policies and decisions.

The **UNEP-WCMC** provides objective and scientifically rigorous procedures and services. These include ecosystem assessments, support for the implementation of environmental agreements, global and regional biodiversity information, research on threats and impacts, and the development of future scenarios.

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PREPARED FOR

The Convention on the Conservation of Migratory Species of Wild Animals (CMS), Bonn, Germany.

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Executive summary

1. Multilateral conservation efforts are particularly important for marine turtles due to their global distributions, long migrations and complex movement patterns at different stages of their life cycles. According to the IUCN Red List, six of the seven species of marine turtle are globally threatened, including three species classified as Critically Endangered. Marine turtles suffer multiple threats including incidental capture in fisheries, direct take of turtles and their eggs and coastal development, as well as climate change, pollution and pathogens and natural threats.

2. The CMS Appendices contain all marine turtle species and the two CMS existing instruments on marine turtles cover significant range areas in the Indian Ocean and Southeast Asia (the IOSEA MoU) and along the Atlantic Coast of Africa (the MoU of Abidjan). However, major gaps in the geographic coverage of CMS instruments include most of the Pacific Ocean and the central and western Atlantic Ocean (including important feeding grounds and migration routes).

3. A host of other multilateral instruments/frameworks cover marine turtles, their habitats or significant threats. These include i) IAC, SPREP and WIDECAST[1] addressing marine turtles; ii) IAC, the SPAW protocol, the Berne Convention and the EU Habitats Directive prohibiting the killing/capture/possession/trade of marine turtles; iii) regional fisheries agreements such as IOTC, SEAFDEC, SEAFO, ICCAT, IATTC, NAFO and WCPFC addressing fisheries bycatch; and the Nairobi, Abidjan, Lima and OSPAR Conventions, the SPAW protocol, PERSGA, PRCM and NEPAD/COSMAR protecting marine and coastal habitats. However, there is a lack of an overall mechanism to bring these disparate activities together in a common framework or coordinated response.

4. The two CMS existing instruments on marine turtles have had very different levels of success. IOSEA is widely recognised as successful, with i) active participation from its signatories, ii) regular Meetings of the Signatory States, iii) strong collaborations with various conservation and fisheries organisations, iv) regular donations from a number of Developed countries, v) good website facilities and vi) effective support from the IOSEA Secretariat and the Advisory Committee. The MoU of Abidjan has succeeded in having all major range States as signatories and in establishing a coordinating unit URTOMA. However, the MoU of Abijan appears to have made slow progress towards gathering the commitment and active participation of range States, securing adequate funding, collaborating with conservation and fisheries organisations and implementing (and reporting on) its Conservation Management Plan(CMP).

5. Priorities for strengthening these CMS instruments include giving the MoU of Abidjan additional support, including strengthening the coordination unit URTOMA.Both CMS existing instruments on marine turtles would benefit from *inter alia*: i) strengthening their CMPs through development of targets and indicators, ii) completion and regular review of regional species assessments, iii) developing programmes/initiatives on cross-cutting themes, iv) increased collaboration with exiting CMS and non-CMS instruments/frameworks (including Regional Fisheries Management Organisations), v) establishment of a critical sites network and vi) sharing of online databases and resources.

6. Future options are presented including expansion of existing instruments ordevelopment of new instruments. The priorities include exploring the development of a CMS/SPREP MoU on marine turtles in the Pacific Island region and the possibility of expansion of the MoU of Abidjan to the European Atlantic and Mediterranean coasts (or at least increase collaboration with key stakeholder in these regions), as well as improving collaboration with IAC.Anambitious option in the longterm may be to consider a single global instrument covering the geographic range of all marine turtles.

[1] See Annex I for a list of abbreviations

1. Introduction

1.1. Background

7. This report evaluates the two existing CMS instruments on marine turtles (the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia, and the Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa) and considers the extent to which they address the threats and issues facing those taxa. With input from stakeholders, options are proposed for the effective implementation of existing instruments and the further development of CMS instruments, in order to maximise the geographic coverage of CMS, enhancing its credibility and influence.

8. The Convention on the Conservation of Migratory Species of Wild Animals (CMS) was established following the recognition that an international agreement was required to address the special threats faced by terrestrial, marine and avian migratory species, their habitats and migration routes (Box 1). At the 9th Meeting of the Conference of the Parties (CMS COP9), Rome 2008, an inter-sessional process regarding the Future Shape of CMS was initiated to "explore the possibilities of strengthening the contribution of the CMS and the CMS family to the world wide conservation, management and sustainable use of migratory species over their entire range" (UNEP/CMS/Resolution 9.13). To identify options regarding the potential strategic evolution of CMS and its Family, an Inter-sessional Working Group on the Future Shape of CMS (ISWGoFS) was established (UNEP/CMS/Resolution 9.13/Addendum), and several reports were commissioned, to conduct an assessment of the current organisation and activities of CMS and the CMS family (Lee *et al.*, 2010) and propose different options that could improve its functioning (Lee *et al.*, 2011).

9. Migratory species covered by the Convention may be listed in Appendix I, Appendix II or both (Box 2). Six species of marine turtle are listed in both Appendix I and II (*Chelonia mydas*, *Caretta caretta*, *Eretmochelys imbricata*, *Lepidochelys kempii*, *Lepidochelys olivacea* and *Dermochelys coriacea*), whereas a seventh species is listed in Appendix II only (*Natator depressus*). Marine turtles were designated for Concerted Action in 1991 (UNEP/CMS Resolution 3.2). To date, two regional instruments that address marine turtles have been developed under the auspices of CMS. Both, the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA MoU) and the Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa (the MoU of Abidjan) are Article IV, Paragraph 4 agreements.

Box 1. Brief History and Organisational Structure of CMS

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) came into effect in 1983 and has 116 Parties (as of 1st July 2011)(UNEP/CMS Secretariat, 2009; UNEP/CMS, 2011a). The Secretariat for administration of the Convention is provided by the United Nations Environment Programme (UNEP) and is located in Bonn, Germany, with several offices for agreement coordination including Bangkok (Thailand) and Abu Dhabi (United Arab Emirates). CMS's principal decision-making body is the Conference of the Parties (COP), which meets once every three years, reviews process and sets the budget and priorities for the following three years. It also has a Standing Committee, to oversee the running of the Convention and the Secretariat between Conferences of the Parties (COPs), and a Scientific Council, which provides technical advice (UNEP/CMS Secretariat, 2009). The Convention is funded by mandatory Party contributions and voluntary contributions pledged by States, institutions (including UNEP and NGOs) and the private sector, including income coming from fundraising activities, such as those coordinated by the German-based non-profit association Friends of CMS (Freunde der Bonner Konvention).

Box 2. The CMS Appendices

CMS Appendix I contains species for which there is reliable evidence indicating that they are endangered, whereas Appendix II includes species with an unfavourable conservation status that require international agreements for their conservation and management and/or species with a status that would benefit from international cooperation (CMS, 1979). The Convention attaches greatest importance to species listed in Appendix I and identifies species deserving of special attention by passing Resolutions for Concerted Actions (UNEP/CMS Secretariat, 2009), whose conservation measures are obligatory for all Parties. Furthermore, Cooperative Actions for Appendix II species or populations were introduced in UNEP/CMS Recommendation 5.2, which recommends that Parties undertake cooperative action to improve the conservation status of these species, through Article IV, Paragraph 3 AGREEMENTS, which are inferred as being legally binding, or less formal Article IV, Paragraph 4 'agreements', which are normally implemented by a non-legally binding tool (such as a Memorandum of Understanding), but may evolve into formal AGREEMENTS (Devillers, 2008 and UNEP/CMS Resolutions 2.6 & 3.5). Parties that are Range States for Appendix I species should prohibit the taking of Appendix I animals (unless for certain exceptions detailed in Article III, Paragraph 5 of the Convention), as well as endeavour to restore their habitats, prevent/minimise adverse effects of activities that may impede the migration of species and prevent/control factors that are endangering the species. Parties that are Range States for Appendix II species shall endeavour to conclude Agreements where these would benefit the species and should give priority to those species with an unfavourable conservation status (CMS, 1979).

1.2. Methodology

10. In order to identify the main threats and issues facing taxa of marine turtle included in the CMS Appendices, a literature review was undertaken to compile information from the IUCN Red List, published and unpublished overviews of species' status and threats, recent scientific papers, CMS publications and the most recent national reports of CMS and its daughter agreements. This information was analysed by species and geographic region, as well as summarised for each species in tabulated format. Only CMS national reports submitted by 10th June 2011 (totalling 68 responses from Parties; noting that the deadline for submission of national reports was 20th May 2011) were used in production of this report.

11. Written enquiries in the form of a questionnaire (Annex III) were compiled and sent to range State focal points, agreement Secretariats, the Regional Coordination Unit for the Marine Turtles of the Atlantic Coast of Africa (URTOMA), and the Secretariat of the Pacific Regional Environment Programme (SPREP) to invite their input on: the effectiveness of current CMS instruments, their degree of cooperation/collaboration with international organisations and other CMS instruments, and which option they considered most appropriate for increasing the taxonomic and geographic scope of CMS instruments. In total, sixteen responses to the questionnaire were received, which represents 29 per cent of the questionnaire recipients (Annex IV). Furthermore, a draft version of the report was sent to eight marine turtle experts with questions regarding priorities in marine turtle conservation and the role of CMS, from which two responses were received before submission of the final report.

12. Information about the organisational structure, budgetary information and activities carried out by existing CMS instruments was gathered from meeting documents, Parties' national reports and publications from the CMS website and the websites of IOSEA and URTOMA. In addition, particular attention was paid to the various reports and meeting documents relating to the Future Shape process of CMS.

13. Methodological limitations included i) low number of responses (three) from the Atlantic Coast of Africa MoU range States, ii) lack of available national reports and other documents of the Atlantic Coast of Africa MoU, as the URTOMA database and projects facilities were not functioning on the website during the time this report was compiled and there was no other means of obtaining the material, and iii) the difficulty of contacting some range States as their correct email addresses could not be found.

14. For the purposes of this review, the oceanic regions where marine turtles occur were divided into six regions (Figure 1), namely i) Indian Ocean and South-East Asia, ii) Atlantic Coast of Africa, iii) SE Pacific/SW Atlantic (South American Coast), iv) Caribbean Sea, including adjacent areas of the Atlantic Ocean, NW Atlantic and NE Pacific (North American Coast), v) Mediterranean Sea and NE Atlantic (European Atlantic Coast), and vi) Central Pacific. This 'rough' division was made primarily following the range areas of multilateral instruments such as the IOSEA MoU and the MoU of Abidjan, also taking into account divisions used in sources of literature.

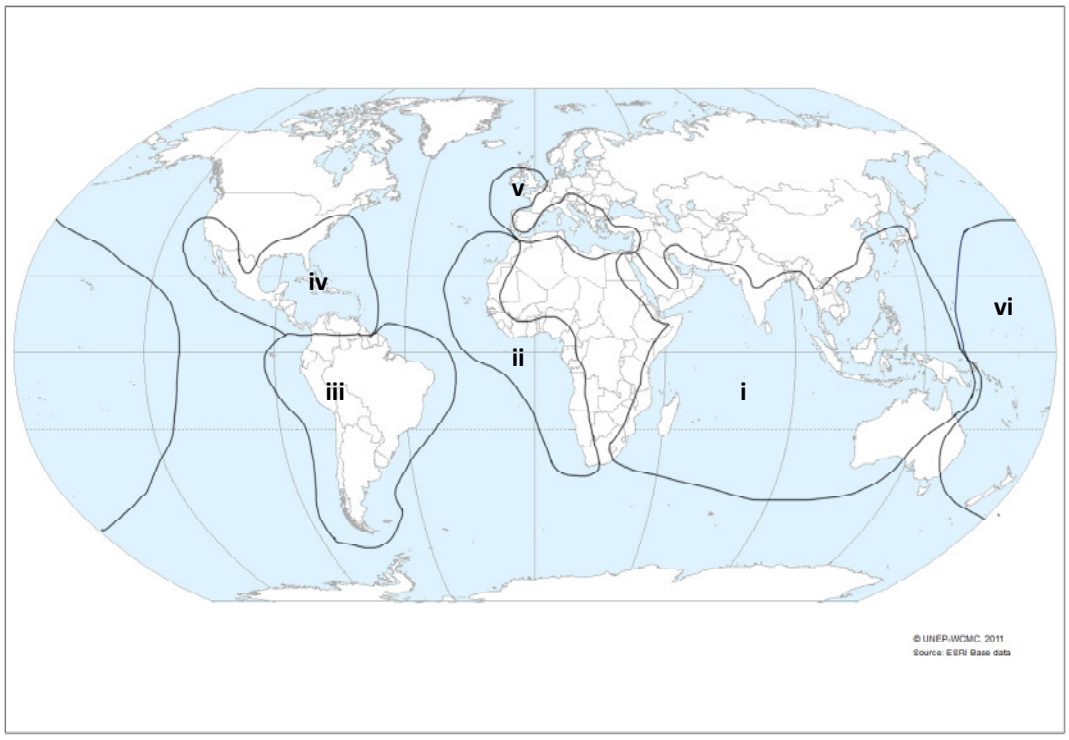

Figure 1. Ocean regions used in this report.
[i]Indian Ocean and South-East Asia (following the range area of the IOSEA MoU), [ii]Atlantic Coast of Africa, [iii]SE Pacific/SW Atlantic (South American Coast), [iv]Caribbean Sea, including adjacent areas of the Atlantic Ocean, NW Atlantic and NE Pacific (North American Coast), [v]Mediterranean Sea and NE Atlantic (European Atlantic Coast), and [vi]Central Pacific. Source: ESRI Base data.

2. Overview of the main threats and conservation issues affecting marine turtles included in the CMS Appendices

15. **Global:** Of the seven existing species of marine turtle (all of which are listed in the CMS Appendices), three are classified as Critically Endangered (Hawksbill turtle *Eretmochelys imbricata*, Kemp's ridley turtle *Lepidochelys kempii* and Leatherback turtle *Dermochelys coriacea*), two as Endangered (Green turtle *Chelonia mydas* and Loggerhead turtle *Caretta caretta*) and one as Vulnerable (Olive ridley turtle *Lepidochelys olivacea*), although these global classifications mask the disparate local population trends of these widely distributed species across different regions of the world (Seminoff and Shanker, 2008; Godfrey and Godley, 2008). A 'Top ten' list of the marine turtle populations most in need of urgent conservation action, prepared by members of the IUCN Marine Turtle Specialist Group(MTSG),highlighted the critical status of populations of *D. coriacea* in the Pacific and eastern Atlantic and itssouthwestern Atlantic foraging grounds; *L. olivacea* in Orissa, India; *L. kempii* throughout its range; *C. caretta* in the Pacific and Atlantic; *C. mydas* in the Mediterranean, Caribbean and Eastern Atlantic and its southwestern Atlantic foraging grounds; *E. imbricata* in the Caribbean and Indian Ocean; and all marine turtles throughout Southeast Asia (Mast *et al.*, 2006).

16. Marine turtles face a multitude of threats on nesting beaches and at sea,that vary in severity between species (Tables 1& 2) and geographic region (Table 3). The main global threats, as reported in published literature, are:

- **Fisheries impacts**, primarily bycatch/incidental capture (IAC, 2006a; IAC, 2006b; Donlan *et al.,* 2010; FAO, 2010a; IUCN MTSG, 2011a) but also habitat destruction and food web alterations (IUCN MTSG, 2011a).
- **Direct take** of eggs, turtles at sea and nesting females (for food, oil, leather and shell) (IAC, 2006b; Donlan *et al.,* 2010; IUCN MTSG, 2011a).
- **Coastal development**, including loss and degradation of shoreline and seafloor habitats due to construction, coastal armouring, sand mining and dredging (IAC, 2006b; Donlan *et al.,* 2010; IUCN MTSG, 2011a), tourism (IAC, 2006b) and artificial lighting (disorienting hatchlings) (IAC, 2006b; IUCN MTSG, 2011a).
- **Pollution and pathogens**, such aspetroleum by-products, discarded fishing gear, plastics, agricultural run-off (IUCN MTSG, 2011a), marine debris, contaminants and sediments on habitats, plastic waste and entanglement in nets and ropes (IAC, 2006b).
- **Climate change**,leading to loss of nesting beaches with sea-level rise, changes in beach and sea temperature and skewed primary sex ratios, changes in food availability and changes in dispersal patterns of hatchlings from alterations to currents (Limpus, 2006; Fish *et al.*, 2008; Poloczanska *et al.,* 2009; Foden and Stuart, 2009; Hawkes *et al.,* 2009; IUCN MTSG, 2011a).
- **Natural threats**, such as nest predation (IAC, 2006b; Donlan *et al.,* 2010).

17. **Fisheries impacts:**Fisheries bycatch can be defined as incidental catchthat is either discarded dead, released alive or retained (Davies *et al.*, 2009). Various types of fisheries, for example pelagic and demersal longlines, gillnets, trawls and purse seine, are known to affect marine turtles (Gilman *et al.*, 2007a). Incidental capture in fisheries was considered "perhaps the greatest threat to juvenile and adult sea turtle populations worldwide", with trawling, long-lining and gill-netting (as well as ingestion or entanglement in discarded or lost fishing gear) all cited as major sources of mortality (IAC, 2006a; Table 2). Due to their late maturity and long life span, marine turtle populations are particularly sensitive tothe loss of subadult and adult individuals, which are mostly affected by bycatch (Žydelis *et al.*, 2008). The total officially-reported global bycatch of marine turtles

1990-2008 was around 85,000 turtles; although this was estimated to represent less than one per cent of the actual bycatch, due to the majority of bycatch going un-reported (Wallace *et al*., 2010).Annual mortality of turtles in shrimp trawls alone was estimated at 150,000 individuals (IAC, 2006a).Overall, 37 CMS Parties that are range States for one or more marine turtle species responded to some or all of the questions on Appendix I marine turtles in their national reports submitted to the Tenth Meeting of the Conference of the Parties (CMS COP10). With regard to the migration of Appendix I marine turtles, bycatch was the most commonly reported obstacle, reported by 32 Parties.

18. Compared to industrial fishing, the impact of artisanal, subsistence and small-scale fisheries bycatch has been poorly recorded (Lewison *et al.*, 2004), although these fisheries contribute over half of the global marine catch (FAO, 2010b). Recent studies indicate that the amount of bycatch is more dependent on gear type and location than the size of the fishing fleet (Shester and Micheli, 2011); FAO (2004;2010a) highlighted the increasing concern over the local impact of coastal gill-net and other artisanal fisheries in the Pacific and Peckham *et al.* (2007) recorded high rates of bycatch in areas where small-scale fisheries overlap with areas of high abundance of *C. caretta* in Mexico.

19. The species most affected by pelagic longline fishing are considered to be*C. caretta*,*D. coriacea* and *L. olivacea* (Bolten and Bjorndal, 2005; Read, 2007; Casale and Margaritoulis, 2010; Table 2). *C. caretta* may also be particularly vulnerable to trawl fishing in coastal waters, where large size classes occur (Wallace *et al.*, 2008). Carranza *et al.* (2006) reported high capture rates of*L. olivacea* and *D. coriacea* in the Gulf of Guinea. In the southwest Atlantic, the long duration of trawl fisheries particularly in Brazil, Uruguay and Argentina was considered a particular threat to turtles; furthermore, some mortality was reported to occur in French Guiana and Guyana, with live-caught individuals often being killed with machetes in Guyana to minimise damage to nets (Turtle Expert Working Group, 2007). Ferraloli *et al.* (2004) showed that the *D. coriacea* 'hot spots' in the Atlantic basin overlap with areas of intensive fishing effort, and James *et al.* (2005) found *D. coriacea* particularly vulnerable to entanglement in fixed fishing gear along the coastal and shelf areas of the northwest Atlantic. Trawl fisheries in northwestern Atlantic may have a particularly strong impact on *C. caretta*, due to the location of its main nesting aggregations in the area (Warden, 2011). Ponwith (2011) recorded 675 mortalities per year of *D. coriacea* in pelagic long-line and shrimp fisheries in southeastern waters of the United States. In Canadian waters, records confirmed incidental capture of *D. coriacea* in pelagic longline fisheries targeting tuna and swordfish(Turtle Expert Working Group, 2007 and references therein). In the Mediterranean, *C. caretta* and/or *C. mydas* have been identified as species of particular concern (FAO 2004;2010; Casale and Margaritoulis, 2010); Casale (2008) estimated that there were in total >150,000 captures and >50,000 deaths per year in the Mediterranean. High rates of turtle bycatch, mainly *C. caretta*, were also recorded in the waters around the Azores (Bolten and Bjorndal, 2005), whereas a study based on a large number of fisheries observations in the Northeast Atlantic fisheries revealed that incidental capture rates may be low(Pierpoint, 2000). FAO (2004;2010a) highlighted the threat of long-line fisheries to *C. caretta* and *C. mydas* in the Pacific region. Wallace *et al.* (2010) suggested that the region-gear combinations warranting particular attention from conservation perspective include all fishing gear in the Mediterranean and eastern Pacific, gillnets and longlines in southwestern Atlantic, and longlines and trawls in northwestern Atlantic.

20. Records of global marine fisheries catch show that although the overall production has remained relatively stable over the past decade, the proportion of overexploited, depleted or recovering stocks has increased rapidly (FAO, 2010b). Problems of overfishing and resource depletion are linked to insecure resource ownership and vulnerability to natural disasters in many coastal and small-scale fisheries. Even though reduction targets have been established to reduce fisheries overcapacity, many

countries, including Cambodia, Indonesia, Viet Nam and Malaysia, have recently increased their fleet of motorized fishing boats (FAO, 2010b). With little sign of reduction in the overall global fishing effort, there is however evidence of reduced bycatch in many of the major fisheries, due to: i) the use of more selective fishing gear, ii) the introduction of bycatch regulations,; iii) improved enforcement of regulation, iv) reduction of effort in some fisheries and v) increased utilisation of bycatch (Kelleher, 2005). Recent studies show that bycatch mitigation technologies, such as circle hooks, may effectively help to minimisemarine turtle bycatch and the likelihood of mortality after release (Gilman *et al.*, 2007b; Read, 2007; Carruthers *et al.* 2009), and that through training on release techniques, mortality can be further reduced (Donoso and Dutton, 2010). Studies also indicate that through improved spatial knowledge of 'turtle hotspots' (i.e. turtle aggregation sites), the routes of fishing fleets could be altered to reduce interactions between turtles and fisheries (Gilman *et al.*, 2007b;Donoso and Dutton, 2010).

21. **Direct take:**Humans have exploitedeggs, meat, blood, oil, shell, skin, bones and other parts of marine turtles for centuries throughout their range (Frazier, 2005). The large-scale exploitation for export during the colonial era contributed to population collapse in many areas (Frazier, 2005; McClenachan *et al.*, 2006;Mancini and Koch, 2009). All marine turtle species continue to be exploited,with*E. imbricata*being especiallyfavoured in turtle-shell crafts (Fretey, 2001; UNEP/CMS, 2000; Turtle Expert Working Group, 2007; Mancini and Koch, 2009).In many areas, the consumption of marine turtles is linked to cultural traditions (Frazier, 2005; Mancini and Koch, 2009), and some local communities are reliant on turtle harvest as a source of nutrition and income(Garland and Carthy, 2010; Grayson *et al.*, 2010). Bell *et al.* (2006) showed that even small-scale low-intensity hunting may significantly affect turtle populations that are already small.Bräutigamand Eckert (2006) indicated that there was some evidence of international trade in commercial quantities (e.g. of *E. imbricata* shell items), in addition to an unknown quantity of items purchased and exported by foreign tourists. Records of international trade in *E. imbricata* from the CITES Trade Database 2000-2009 indicate virtually no reported trade in shells, with some trade in carvings (mainly pre-convention items), as well as some seizures of carapaces, carvings and bodies; the majority of reported trade consisted of scientific specimens (CITES/UNEP-WCMC, 2011).

22. In the Indian Ocean region, exploitation is a particular threat on the east coast of Africa, Madagascar, Seychelles and other oceanic islands, whereas in south Asia and the Near East, turtle exploitation is less common due to religious beliefs (Shanker, 2004 and references therein). Although turtles are consumed inthe Andaman and Nicobar Islands and Southeast Asian countries, such as Bali (Indonesia),the Philippines and Thailand, consumption was reported to be declining due to a decrease in populations and/or successful implementation of wildlife laws (Shanker, 2004 and references therein).Exploitation for food, oil, leather and ornamentation was reported as a main threat to marine turtles in the Western Indian Ocean region (WIO-MTTF, 2008). An analysis of the IOSEA annual reports revealed that of the signatory States responding, 75 per cent indicated that traditional harvest of marine turtles and their eggs occurred nationally, with 42 per cent reporting that the harvest was having a 'relatively high' or 'moderate' impact (IOSEA, 2008b). The online national reports showed that nearly half of the IOSEA Member States identified 'ease of access to the resource' as an adverse economic incentive that threatens marine turtles. Low penalties were identified as a problem by a third of the countries.

23. In his review of the biogeography and conservation of marine turtles of the Atlantic Coast of Africa, Fretey (2001) noted that *E. imbricata* and *D. coriacea* were widely exploited.An earlier review concerning conservation measures for marine turtles of the Atlantic Coast of Africa indicated that

females of all five species of marine turtles nesting within the region were being harvested, and all six species occurring in the region were harvested at sea (UNEP/CMS, 2000).

24. Along the South American coast and in Central America, turtles have been exploited for centuries, with high catch rates of *C. mydas*, *C. caretta* and *E. imbricata* up to the 1990s, when harvest was reduced in many countries due to legislation or overexploitation (Márquez-M., 2004 and references therein). It was estimated that widespread unregistered capture is still common in the region (Márquez-M., 2004), and a recent study showed that local consumption forms the main threat to marine turtles in the Baja California Sur in Mexico(Mancini and Koch, 2009). Bräutigam and Eckert (2006) indicated that in the Lesser Antilles, Central America, Colombia and Venezuela, turtle egg collection was "intensive and pervasive throughout the region" in spite of prohibitions, and that the consumption of turtles and turtle products was reportedly extensive in the mainland countries covered by the review. The Turtle Expert Working Group (2007) reported that illegal egg collection occurred in French Guiana and Suriname, but had been reduced to very low levels in Brazil. In the Mediterranean, the widespread direct exploitation of *C. mydas* and *C. caretta* was reported to have largely stopped due to legislative prohibitions, although an estimated several thousand turtles are killed annually in Egypt, and eggs are also consumed in Syria (Camiñas, 2004 and references therein).

25. In their review on the status of marine turtles in the Pacific, Chaloupka *et al.* (2004) noted that the overharvesting of eggs and subsistence/commercial harvest of adult turtles are main causes of population decline, particularly for *C. mydas*, *E. imbricata*, *D. coriacea* and *L. olivacea*. Unsustainable harvesting was also reported to be the main threat to marine turtles within the Pacific islands region (SPREP, 2007). On the other hand, the high cultural significance of marine turtles in Pacific Island communities is linked to a long history of control measures, and the high cultural value of the species was seen to make it easier to implement increased conservation measures (Adams, 2003).

26. **Coastal development:** The construction of tourism or industrial infrastructurecan reduce suitable nesting areas available for marine turtles (Márquez-M., 2004). Increased human presence and artificial lights may prevent turtles from nesting and disorientate hatchlings making them vulnerable to predators and desiccation during daylight hours, and vehicle use can cause compaction and destroy nests (Demetropoulos, 2000).Furthermore, the development of coastal areas is linked to overexploitation of natural resources, increased pollution (Lotze *et al.*, 2006) and boat collisions (Camiñas, 2004).

Within the Indian Ocean region, coastal development is a particular threat in the south Asian countries, where for example oil exploration, sand mining and harbor activities threaten nesting beaches (Shanker, 2004 and references therein). Coastal tourism is growing rapidly in many areas in Asia and Africa, but ecotourism is still relatively underdeveloped(Honey and Krantz, 2007). Along the South American coast, tourist facilities have been built along important nesting beaches, and the construction of large marinas and docks is causing nesting habitat degradation particularly in the western Atlantic, Caribbean sea and northeastern Atlantic (Márquez-M., 2004). Many *D. coriacea* nests were reported to be threatened by erosion in French Guiana and Guyana, but in Guyana this was mitigated by a programme to move eggs threatened by tidal erosion or poachers (Turtle Expert Working Group, 2007).Over recent decades, coastal development, particularly for tourism purposes has become the mainthreat to *C. caretta* and *C. mydas* in the Mediterranean, particularly in the important nesting beaches of Greece, Turkey and Cyprus (Camiñas, 2004; Casale and Margaritoulis, 2010; Demetropoulos, 2000).

27. Whilst the overall trend of coastal degradation linked to construction in coastal areasseems to be turning towards recovery in many Developed countries, population growth and growing pressures towards the use of coastal regions indicate that degradation linked to coastal development is increasingin many Developing countries (Lotze *et al.*, 2006).

28. **Pollution and pathogens:** Pollution affects marine turtles in various ways: turtles may feed on plastic waste, drown in discarded nets,orsuffer fromcontamination from agricultural and industrial sources and domestic sewage (Márquez-M., 2004; Camiñas, 2004). In their national reports submitted to CMS COP10, 18 Parties reported pollution as an obstacle to the migration of Appendix I marine turtles.

29. In the Atlantic region, oil spills were reported to be a common problem due to drilling and exploration; this problem is usually linked to coastal development, road building and the use of heavy vehicles (Márquez-M., 2004). In an investigation of dead stranded marine turtles in southern Brazil, anthropogenic debris was ingested by 61 per cent of the 38 *C. mydas* examined and accounted for 13 per cent of their deaths (Bugoni *et al.*, 2001).Increasing tourism in the Mediterranean causes plastic pollution in particular(Camiñas, 2004).

30. It has been suggested that the occurrence of fibropapillomatosis (a disease where turtles get external and internal tumours, which can be lethal, particularly when it affects the eyes and mouth of the turtle) (Greenblatt *et al.*, 2005; Formia *et al.*, 2007), may be linked toa weakened immune system caused by marine pollution(IUCN MTSG, 2011a; Márquez-M., 2004).

31. **Climate change:**Marine turtles are considered to be vulnerable to climate change due to their temperature-sensitive sex determination, long maturation and migrations (Poloczanska *et al.*, 2009).The changes in sea level and oceanic currents, along with other habitat changes, are likely to affect nesting and migration (Limpus, 2006;IUCN MTSG, 2011a). Increased temperatures on the nesting beaches have already been shown to skew the sex ratio of hatchlings towards females (Limpus, 2006), and cause hatchling abnormalities in *D. coriacea* (Foden and Stuart, 2009).Increasing sea level can destroy nests especially in areas where turtles nest at low elevations, such as in the Pacific Islands, the Caribbean, the Maldives and the Great Barrier Reef (Limpus, 2006).The impacts of reduction of suitable beach area are worsened by coastal development, which prevents the natural movement of the beach following sea level rise (Fish *et al.*, 2008). Chaloupka *et al.* (2008) suggested that within the Pacific, increasing ocean temperatures may be linked to reduced ocean productivity and food availability for *C. caretta*, causing population decline. It was suggested that turtles might be able to adapt to the change in temperatures by shifting their foraging habitat towards the cooler water areas around the Poles (Chaloupka *et al.*, 2008); however, Poloczanska *et al.*, (2009) noted that the synergistic effect of other human-induced threats may limit the turtles' ability of adaptation.

32. **Natural threats:** Feral dogs and pigs are typical predators of turtle eggs and hatchlings (Márquez-M., 2004), but also wild canids, ghost crabs and other wild animals destroy nests in many areas (Camiñas, 2004). Nesting losses of up to 70 per cent have been recorded in the Mediterranean (Camiñas, 2004 and references therein). A beach study in Costa Rica showed that 12 per cent of recently hatched*D. coriacea* were eaten by predators before reaching water (Tomillo *et al.*, 2010). At sea, particularly the first developmental stages and migrating turtles are sensitive to predation (Márquez-M., 2004).

33. Query of the site-based threats module of the IOSEA Online Reporting Facility suggested that natural threats and incidental capture were the main threats to marine turtles in the Indian Ocean-South-East

Asia region.Predation was also the second most frequently reported threat related to nesting in the Mediterranean countries (Casale and Margaritoulis, 2010).

Table 1. Main threats/issues affecting marine turtles in the CMS Appendices.

Species, Appendix and common name	World region[i]	Global Status[ii]and population trend[iii]	Main threats/issues
Chelonia mydas **I/II** Green turtle	Af, As, Eu, Oc, SCA, NA	EN ↓	Collection of eggs; hunting of adults for food; incidental capture in fisheries (e.g. trawl, drift-net and long-line); degradation and destruction of nesting beaches (e.g. coastal development, light pollution, beach armouring and sand extraction); and degradation of foraging habitat (e.g. pollution and harvest of near-shore algae). Potentially also disease (fibropapilloma) (Seminoff, 2004).
Caretta caretta **I/II** Loggerhead turtle	Af, As, Eu, Oc, SCA, NA	EN (a.n.)	Incidental capture in fisheries (particularly long-line); collection of eggs; hunting of adults for food; and degradation and destruction of nesting beaches (e.g. beach armouring and coastal development). Potentially also climate change (e.g. impact of increased sand temperature on hatchling sex ratio and changes in ocean currents) and boat strikes (Conant *et al.,* 2009).
*Eretmochelys imbricata***I/II** Hawksbill turtle	Af, As, Eu, Oc, SCA, NA	CR ↓	Exploitation for tortoiseshell trade; collection of eggs; hunting of adults for food; degradation and destruction of nesting beaches (due to tourism and coastal development); human disturbance in nesting areas; degradation of foraging habitat (e.g. coral reefs); hybridisation with other turtle species; incidental capture in fisheries; entanglement in 'ghost nets'; ingestion of marine debris; and oil pollution (Mortimer and Donnelly, 2008; IAC, 2010). Potentially also climate change (e.g. loss of nesting areas with sea-level rise and changes in ocean currents) (Case, 2005).
Lepidochelys kempii **I/II** Kemp's ridley turtle	Af, Eu, SCA, NA	CR (a.n.)	Incidental capture in fisheries (particularly trawl, but also gill-net and hook-and-line); boat strikes; and predation (by native species). Potentially also oil pollution, climate change and red tides / harmful algal blooms (National Marine Fisheries Service *et al.,* 1992).
Lepidochelys olivacea **I/II** Olive ridley turtle	Af, As, Oc, SCA, NA	VU ↓	Collection of eggs; hunting of adults for food; incidental capture in fisheries (particularly trawl and long-line); degradation and destruction of nesting beaches (due to aquaculture, tourism and harbour development); and infestation of eggs by insect larvae. Potentially also climate change (e.g. impact of increased sand temperature on hatchling sex ratio) (Abreu-Grobois and Plotkin, 2008).
Natator depressus **II** Flatback turtle	As, Oc	DD (a.n.)	Collection of eggs; hunting for food; incidental capture in fisheries (particularly trawl and gill-net); and entanglement in 'ghost nets'. Potentially also degradation (e.g. light pollution) and destruction (due to industrial development)of nesting beaches and climate change (Limpus, 2007; Donlan *et al.,* 2010).

Species, Appendix and common name	World region[i]	Global Status[ii] and population trend[iii]	Main threats/issues
Dermochelys coriacea **I/II** Leatherback turtle	Af, As, Eu, Oc, SCA, NA	CR ↓	Collection of eggs; hunting of adults for food and oil; incidental capture in fisheries (e.g. long-line and drift-net); ingestion of marine debris (e.g. plastics); and loss of nesting beaches (due to coastal development) (Sarti Martinez, 2000; Chacón-Chaverri, 2004; Hamann *et al.*, 2006). Potentially also climate change (e.g. impact of increased sand temperature on hatchling sex ratio, loss of nesting areas with sea-level rise and changes in ocean currents) (Foden and Stuart, 2009).

[i] **World Regions in which the CMS-listed population occurs:** Eu = Europe, Af = Africa, As = Asia, Oc = Oceania, SCA = South & Central America & the Caribbean, NA = North America.
[ii] **Global threat status according to the IUCN Red List:** DD = Data Deficient, VU = Vulnerable, EN = Endangered, CR = Critically Endangered.
[iii] **Global population trend according to the IUCN Red List:** ↓= decreasing populationtrend, a.n. = assessment needed.

Table 2. Predicted impact scores for each hazard pooled across geographic region for each marine turtle species. Source: Donlan *et al.*, 2010.

	Coastal development	Direct take	Fisheries bycatch	Global warming	Nest predation	Pathogens	Pollution
Caretta caretta	5.9	4.7	**6.4**	5.7	5.7	5	5.9
Chelonia mydas	**6**	5.9	**6.1**	5.8	5.8	5.1	5.9
Dermochelys coriacea	5.6	5.5	**6.6**	5.9	**6.1**	4.9	**6.1**
Eretmochelys imbricata	**6.5**	**6.2**	**6.1**	**6.0**	**6.4**	4.4	**6.2**
Lepidochelys kempii	5.8	3.9	**6.3**	5.4	4.7	4.5	5.6
Lepidochelys olivacea	5.9	**6.7**	**6.9**	5.7	**6.7**	5.0	**6.4**
Natator depressus	5.2	4.4	5.2	**6.1**	5.7	4.6	5.4

Key Impact scores: 0–2, no or negligible impact of hazard; 3–5, low impact; 6–7,medium impact; 8–9, high impact.

Table 3. Predicted impact scores for each hazard pooled across marine turtle species for each geographic region. Source: Donlan *et al.*, 2010.

	Coastal development	Direct take	Fisheries bycatch	Global warming	Nest predation	Pathogens	Pollution
W. Atlantic	**6.2**	3.9	**6.2**	5.4	5.3	4.9	5.9
Mediterranean	**6.2**	4.8	**6.6**	5.6	5.9	5.0	5.8
W. Pacific	**6.0**	5.2	**6.1**	5.9	5.8	4.9	5.9
Caribbean	**6.3**	5.5	**6.3**	5.8	5.7	4.7	5.9
E. Atlantic	5.3	**6.2**	**6.6**	5.8	**6.3**	5.1	**6.0**
E. Pacific	5.9	5.9	**6.5**	5.8	**6.2**	5.0	**6.3**
Indian Ocean	**6.4**	**6.2**	**6.6**	5.8	**6.2**	4.8	**6.0**

Key Impact scores: 0–2, no or negligible impact of hazard; 3–5, low impact; 6–7,medium impact; 8–9, high impact.

3. Coverage and evaluation of existing CMS and non-CMS multilateral instruments/frameworks

34. Multilateral conservation efforts have been considered particularly important for the conservation of marine turtles due to their long migrations and complex movement patterns in various stages of their life cycle.The geographic ranges of the seven species of marine turtle are partially covered by the two CMS marine turtle MoUs, the key features of which are summarised in Annex V. Marine turtles are also covered by a number of non-CMS instruments/frameworks, international organisations and projects (Annex VI).

3.1. Coverage of existing CMS and non-CMS multilateral instruments/frameworks

CMS Instruments

35. The Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA MoU) aims to conserve and replenish depleted populations of marine turtles in the Indian Ocean and South-East Asia (IOSEA Secretariat, 2011). It came into effect in 2001, with the 1st Meeting of the Signatory States held in 2003, and the 5th, most recent Meeting of the Signatory States in 2008. The geographic coverage of the IOSEA MoU includes the waters and coastal States of the Indian Ocean and South-East Asia and adjacent seas (IOSEA Secretariat, 2011). The range area was expanded at the 2ndMeeting of the Signatory States to include China, Japan and Republic of Korea (IOSEA, 2004b), mainly in recognition of their importance as distant water fishing nations, with potential fisheries-turtle interactions, but also in view of the fact that marine turtles are known to frequent their waters. In the east, the region is delimited by the Torres Strait. The geographic range includes 44 States, with 32 signatories. Six of the seven marine turtle species (all species that occur in the range area) are included in the IOSEA MoU: *Caretta caretta*, *Lepidochelys olivacea*, *Chelonia mydas*, *Eretmochelys imbricata*, *Dermochelys coriacea* and *Natator depressus* (IOSEA Secretariat, 2011).

36. The Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa (the MoU of Abidjan) aims to safeguard marine turtle populations that have declined due to excessive exploitation and habitat degradation (UNEP/CMS, 1999). The MoU of Abidjan came into effect in 1999 and Meetings of the Signatories have been held in 2002 and 2008. The MoU covers coastal areas that extend about 14,000 km from Morocco to South Africa.It is currently signed by 23 of the 26 range States; Portugal (Azores & Madeira), Spain (Canary Islands) and the UK (Ascension Island) are considered range States due to their overseas territories, but are not signatories. Six of the seven marine turtle species (all species that occur in the range area)are included in the Atlantic Coast of Africa MoU: *Caretta caretta*, *Lepidochelys kempii*, *L. olivacea*, *Chelonia mydas*, *Eretmochelys imbricata* and *Dermochelys coriacea* (UNEP/CMS, 1999).

37. Both the IOSEA MoU and the MoU of Abidjan are non-legally binding instruments open to signature by all States that by their actions have an impact on marine turtles (IOSEA, 2003; UNEP/CMS, 2008b).

Non-CMS instruments and projects by region

38. **Indian Ocean and South-East Asia:** The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment in the Eastern African Region entered into force in 1996, and was amended in 2010 (UNEP, 2011b). It has 10 participating countries, and acts in a coordinating role in various projects under the New Partnership for Africa's Development (NEPAD) initiative. The Convention has a Protocol Concerning Protected Areas and Wild Fauna and Flora, which lists *L. olivacea*, *C. caretta* and *D. coriacea* in Annex II (species of wild fauna requiring special protection). In addition, *E. imbricata* is considered a 'harvestable species of wild fauna requiring

protection' under Annex III and *C. mydas*, *E. imbricata*, *L. olivacea*, *C. caretta* and *D. coriacea* are listed as 'protected migratory species' under Annex IV(UNEP, 2011b). There are also two protocols targeting marine pollution under the Nairobi Convention.

39. The African Convention on the Conservation of Nature and Natural Resources (Algiers Convention) was originally adopted in 1968, and revised as the 'Maputo Convention' during the African Union Summit in 2003 (IUCN, 2004). The main aim of the Convention is the sustainable use and conservation of natural resources. Marine turtles are listed as 'class A' i.e. 'critically endangered species'. The revised Convention has 37 signatories, although only eight countries have ratified it, hence it has not yet entered into force.

40. The Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora came into force in 1996, and currently has six Parties and three signatories (Lusaka Agreement, 2011). Its main objective is "to reduce and ultimately eliminate illegal trade in wild fauna and flora and to establish a permanent Task Force for this purpose" (Lusaka Agreement, 1994). However, much of its work to date has focused on illegal trade in ivory and rhino horn.

41. The Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) under the Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (Jeddah Convention) has a Regional Action Plan for the Conservation of Marine Turtles and their Habitats in the Red Sea and Gulf of Aden (PERSGA/GEF, 2004).

42. The Association of Southeast Asian Nations (ASEAN) has an MoU on Marine Turtle Conservation (ASEAN, 2011). However, there are indications in the IOSEA national reports that this MoU may be inactive and has not developed a functioning Action Plan.

43. The 'MoU of a Tri-National Partnership between the Government of the Republic of Indonesia, the Independent State of Papua New Guinea and the Government of Solomon Islands on the Conservation and Management of Western Pacific Leatherback Turtles at Nesting Sites, Feeding Areas and Migratory Routes in Indonesia, Papua New Guinea and Solomon Islands' aims at collaborative efforts in the conservation of *D. coriacea* (Tri-National Partnership, 2011).

44. In addition to the regional MoUs, Philippines and Malaysia have established a bilateral Memorandum of Agreement (MoA) on the Establishment of the Turtle Island Heritage Protected Area (TIHPA-MoA) comprising nine islands (Esteban, 2008).

45. Due to the importance of bycatch as a threat to the marine turtle species of the region, several fisheries organisations have an important role in conservation. The Indian Ocean Tuna Commission (IOTC) has a Working Party on ecosystems and bycatch, which is tasked withmonitoring bycatch and reviewing research on the impacts of fisheries on marine turtles (IOTC, 2009). IOTC Recommendation 05/08 encourages the IOTC Contracting and Cooperating Parties to mitigate the impact of fishing operations on marine turtles and to coordinate the implementation measures related to IOTC and the IOSEA MoU and IOTC Resolution 06/09 sets guidelines for the mitigation of marine turtle bycatch. The Commission for the Conservation of Southern Bluefin Tuna has established binding and non-binding measures related to bycatch mitigation (CCSBT, 2011) and the Western and Central Pacific Fisheries Commission has adopted a Resolution to Mitigate the Impact of Fishing for Highly Migratory Fish Species on Sea Turtles (2005-04), and a measure for the Conservation and Management of Sea Turtles (2008-03) (WCPFC, 2009).

46. The Southeast Asian Fisheries Development Center (SEAFDEC) has a Marine Fishery Resources Development and Management Department which deals with the conservation and management of marine turtles (SEAFDEC-MFRDMD, 2011). As a follow-up of the programme 'Research for Stock Enhancement of Sea Turtles", the ASEAN-SEAFDEC Fisheries Consultative Group has established a research programme on 'Research and Management of Sea Turtles in Foraging Habitats in the Southeast Asian Waters' for 2010-2014, the main activities of which include i) organising regional workshops and meetings, ii) conducting research on marine turtle foraging populations, and training personnel, iii) conducting studies on fisheries interactions, and iv) formulating management plans (SEAFDEC, 2010).

47. Two WWF marine ecoregions, the Eastern African Marine Ecoregion, and the Sulu Sulawesi Marine Ecoregion are relevant to turtle conservation in the region. Together with Indonesia, Malaysia and the Philippines collaborate in terms of the Sulu-Sulawesi Marine Ecoregional Conservation Plan which was ratified in 2004 (Pilcher, 2009). The Sulu-Sulawesi Seascape Programme that works under the Conservation Plan has a Regional Action Plan for the Conservation of Marine Turtles and their Habitats (Pilcher, 2009). TheBay of Bengal Large Marine Ecosystem Project (BOBLME) aims at improving the regional management of the environment and fisheries in the Bay of Bengal area (BOBLME, 2011).

48. **Atlantic Coast of Africa:** The Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention) came into force in 1984 (UNEP, 2011a). It has 22 Member States, of which 14 have ratified the Convention. The Convention acts as a platform for implementing the NEPAD Environment Action Plan for the coastal and marine environment. It aims at controlling pollution in marine and coastal areas, and it has an Article concerning specially protected areas (UNEP, 2011a). The Lusaka Agreement, discussed above, also overlaps with this region.

49. The West African Regional Marine and Coastal Conservation Programme (Programme Régional de Conservation de la Zone Côtiere et Marine en Afrique de l'ouest, PRCM) aims at ensuring the "effective, sustainable, and equitable management of all critical habitats and endangered species, with a view to preserving the biological and cultural diversity of the West African coastal and marine zone" (PRCM, 2010). The Programme is currently in Phase II (2008-2012). The Guinea Current Large Marine Ecosystem Project, a counterpart of BOBLME,was implemented between 2004 and 2010 and aimed at assisting countries in the Gulf of Guinea region in achieving environmental and resource sustainability (GCLME, 2011). The WWF West African Marine Ecoregion project also has a component on the 'Conservation and sustainable use of marine turtles' (WWF, 2011).The Wildlife Conservation Society has conducted research and conservation work on *D. coriacea* and *L. olivacea*, and a project on oil and gas exploration in the Gulf of Guinea (WCS, 2011). Furthermore, NEPAD has a Coastal and Marine Programme (COSMAR) that aims to reverse the trend of marine environmental degradation and mainstream coastal and marine issues (NEPAD/COSMAR, 2011).

50. The Regional Convention on Fisheries Cooperation among African States bordering the Atlantic Ocean (Dakar Convention) entered into force in 1995 and has 13 Contracting Members amongst the African States (Tematea, 2011). Article 12 of the Convention emphasises the protection and preservation of the marine environment (Tematea, 2011). There are also two regional fishery/ management organisations that have relevant Resolutions in terms of marine turtle conservation in the region. The South East Atlantic Fisheries Organization (SEAFO) adopted a Resolution (01/06) to Reduce Sea Turtle Mortality in SEAFO Fishing Operations (SEAFO, 2006), and the International Commission for the Conservation of Atlantic Tunas (ICCAT) adopted a Resolution on Sea Turtles in 2003. ICCAT has also produced papers on turtle bycatch in longline fisheries (ICCAT, 2011).

51. **SE Pacific/SW Atlantic (South American Coast):** The Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC) is the only legally-binding multilateral agreement that focuses on marine turtles. It aims to promote the "protection, conservation and recovery of the populations of sea turtles and those habitats on which they depend." IAC entered into force in 2001 and its geographic scope covers the waters of South and North America, of which 15 countries are Parties to the Convention. IAC requires a strict ban on all domestic use of marine turtles and has adopted Resolutions for the conservation of *D. coriacea* and *E. imbricata* and a Resolution concerning the adaptation of marine turtle habitats to climate change (IAC Secretariat, 2009). It has also established guidelines to evaluate and mitigate fisheries interactions with marine turtles, which act as a guide to implementing the Resolution on the reduction of the adverse impacts of fisheries on marine turtles (IAC Secretariat, 2006).

52. The Convention for the Protection of the Marine Environment and Coastal Area of the Southeast Pacific (Lima Convention) came into force in 1986. It concentrates on pollution control, but also has a Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the Southeast Pacific (UNEP, 2011d). The bilateral framework developed by Mexico and the United Statesin 1978 to conserve *L. kempii* has been considered a success story, leading to the stabilisation of populations in ten years, and preventing the likely extinction of the species (Dutton and Squires, 2008). A similar bilateral collaboration has been established on *D. coriacea* between the United States National Marine Fisheries Service and the Mexican Instituto Nacional de Investigaciones Biológicos Pesqueras. It has, however, been noted that due to the pelagic and highly migratory nature of *D. coriacea*, such efforts may be less successful, particularly on the Pacific coast of Mexico where the populations are highly depleted (Dutton and Squires, 2008). The bilateral efforts were reported to suffer from a lack of resources and an inability to influence rapid land development on nesting habitats (Dutton and Squires, 2008).

53. The Inter-American Tropical Tuna Commission has adopted two Resolutions that have significance to marine turtle protection: the Resolution to Mitigate the Impact of Tuna Fishing Vessels on Sea Turtles (C-07-03) was adopted in 2007, whilst the Consolidated Resolution on Bycatch (C-04-05) deals more generally with all bycatch (IATTC, 2011).

54. **Caribbean Sea, including adjacent areas of the Atlantic Ocean, NW Atlantic and NE Pacific (North American Coast):**Most countries in the region are Parties to IAC. The other multilateral instrument with major significance to marine turtles is the Protocol Concerning Specially Protected Areas and Wildlife (SPAW Protocol) of the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (Cartagena Convention) (CEP, 2011). Annex II of the SPAW Protocol lists *C. caretta*, *C. mydas*, *E. imbricata*, *D. coriacea*, *L. kempii* and *L. olivacea* as protected under Article 11(1) (b), which prohibits the taking, possession, killing, commercial trade and where possible, disturbance of these species, their eggs, parts or products (CEP, 2011). Lausche (2008) however, noted that even though all species of marine turtle are protected under the SPAW Protocol, many range States permitmarine turtles to be exploited legally or have no enforcement measures to control their use. Furthermore, the lack of membership from countries in the range area was considered to limit the effectiveness of the instrument (Lausche, 2008).

55. The Convention for the Conservation of the Biodiversity and the Protection of Wilderness Areas in Central America aims to support the conservation and sustainable use of biodiversity in the Central American region and entered into force in 1994 (Ecolex, 2011).

56. The Wider Caribbean Sea Turtle Conservation Network (WIDECAST) aims to link together various stakeholders in the conservation of Caribbean marine turtles, including scientists, conservationists,

managers and users of resources, policymakers, industry and educators (WIDECAST, 2011). WIDECAST is involved in producing national Sea Turtle Recovery Action Plans and other publications (WIDECAST, 2011).

57. The Northwest Atlantic Fisheries Organisation (NAFO) has adopted a Resolution to Reduce Sea Turtle Mortality in NAFO Fishing Operations (Doc. 06/7) (NAFO, 2011). Two advisory fisheries bodies working in the region, Organización del Sector Pesquero y Acuícola del Istmo Centroamericano (Organisation of the Fisheries and Aquaculture Sector) and the Organización Latinoamericana de Desarrollo Pesquero (Latin American Organisation for Fisheries Development), have signed MoUs with IAC (IAC, 2011).

58. **Mediterranean Sea and NE Atlantic (European Atlantic Coast):** Several international Conventions address marine turtle conservation in the Mediterranean Sea and northeast Atlantic region. The Barcelona Convention Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD) was ratified in 1999. Its implementation is assisted by the Regional Activity Centre for Specially Protected Areas, which also acts as an instrument for implementing the Convention on Biological Diversity in the Mediterranean region regarding coastal and marine biodiversity (RAC/SPA, 2011). The SPA/BD Protocol has 18 signatories, and it lists *C. caretta*, *C. mydas*, *D. coriacea*, *E. imbricata* and *L. kempii* as endangered or threatened under Appendix II (SPA/BD, 2009). The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) aims to conserve wild flora and fauna (particularly endangered species and including migratory species) and their natural habitats, and increasing European co-operation in conservation efforts (Council of Europe, 2011). It has been ratified by 50 countries. Five marine turtle species, *C. caretta*, *C. mydas*, *E. imbricata*, *L. kempii* and *D. coriacea* are listed as 'strictly protected fauna species' in Appendix II of the Bern Convention. The framework of the group of experts on amphibians and reptiles has worked with Mediterranean turtles by organising conferences and opening files for presumed violations on nesting beaches (Council of Europe, 2011). Within the EU, the Habitats Directive (Council Directive 92/43/EEC of 21 May 1992) on the conservation of natural habitats and of wild fauna and flora maintains a system of protected species and the Natura 2000 network of protected sites (European Commission, 2011). Five marine turtles (*C. mydas*, *C. caretta*, *E. imbricata*, *L. kempii* and *D. coriacea*) are included in Annex IV (Animal and plant species of Community interest in need of strict protection), and two of these (*C. mydas* and *C. caretta*) are also listed in Annex II (Animal and plant species of Community interest whose conservation requires the designation of special areas of conservation) (European Council, 2007).

59. The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) aims to guide international cooperation on the protection of the marine environment of the North-East Atlantic (OSPAR Commission, 2011). The OSPAR Convention entered into force in 1998. Its Annexes deal with the prevention and elimination of pollution from land-based sources and the assessment of the quality of the marine environment. Two marine turtle species occurring in the area (*C. caretta* and *D. coriacea*) are included in the 'list of threatened and/or declining species' (OSPAR Commission, 2011).

60. **Central Pacific:** There is a lack of a strong multilateral instrument related to marine turtles in the Pacific Region. The Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (Noumea Convention) entered into force in 1990 as the Pacific region component of the UNEP Regional Seas Programme (UNEP, 2011c). The main aim of the Convention is pollution control. The Apia Convention on the Conservation of Nature in the South Pacific entered into force in 1990; however it is not currently operational (SPREP, 2011b).

61. The Secretariat of the Pacific Regional Environment Programme (SPREP) has 21 Pacific Island Member States, and four other participating countries with direct interests in the region. The aim of the Programme is to "promote cooperation in the Pacific islands region and to provide assistance in order to protect and improve the environment and to ensure sustainable development for present and future generations" (SPREP, 2011a). SPREP has a Pacific Islands Regional Marine Species Programme 2008-2012, which is a regional strategy for the cooperative conservation and management of dugongs, marine turtles, whales and dolphins (SPREP, 2007). The programme includes a Marine Turtle Action Plan 2008-2012, which concerns all Pacific marine turtles (*N. depressus*, *C. mydas*, *E. imbricata*, *D. coriacea*, *C. caretta* and *L. olivacea*). The main themes of the Action Plan include: i) the development of collaboration and partnership, including direct contact and formal communication with IOSEA; ii) reducing threats to marine turtles in the Pacific Islands region; iii) building capacity for marine turtle conservation; iv) improving education and awareness on marine turtles; v) improving policy and legislation in regard to marine turtles; vi) supporting and promoting traditional knowledge and customary practices related to marine turtles; vii) promoting the sustainable use of marine turtles; viii) implementing a 'turtle database' research and monitoring system; and ix) undertaking research and monitoring to identify all major turtle nesting beaches in the region (SPREP, 2007). In addition, SPREP has produced fact sheets on *D. coriacea* and the tagging of marine turtles.

62. The South Pacific Commission (SPC) division of Fisheries, Aquaculture and Marine Ecosystems works with fisheries development and has produced materials regarding, for example, turtle bycatch and the use of circle hooks. The Pacific Islands Forum Fisheries Agency (FFA) has an Action Plan regarding the mitigation of marine turtle-fisheries interactions; however, the Action Plan acknowledges the limited resources available for turtle conservation measures in the region. The main conservation strategies defined in the plan include i) collection and monitoring of fishery data, ii) research and investigations and iii) the introduction of concrete mitigation measures. The activities of the FFA Action Plan are implemented in collaboration with SPREP and SPC (Cameron and Preston, 2008).

63. The Western and Central Pacific Fisheries Commission (WCPFC) has adopted a Resolution (2005-04) to mitigate the impact of fishing on marine turtles, and a Conservation and Management Measure (2008-3) on marine turtles, which requires that the members and participating non-members implement the FAO Guidelines to reduce marine turtle mortality and report of the progress of implementation of these guidelines (WCPFC, 2009).

64. **Global instruments:** Besides CMS, there are various other global instruments that are relevant in terms of marine turtle conservation. The 193 Parties of the Convention on Biological Diversity (CBD) are required to regulate or manage biological resources important for the conservation of biological diversity, promote the recovery of threatened species, adopt measures for the recovery, rehabilitation and reintroduction of threatened species, as well as protecting and restoring habitats and promoting sustainable use (United Nations, 1992). All marine turtles are included in the Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), with 175 Parties, which aims to ensure that international trade in wild animal and plant species does not threaten their survival (CITES, 1973). Marine turtle habitats and nesting sites are covered by many Multilateral Environmental Agreements (MEAs) protecting habitats and ecosystems, including the Convention on Wetlands of International Importance (Ramsar Convention), which currently has 160 contracting Parties (UNESCO, 1971), and the World Heritage List of the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO, 1972; UNESCO World Heritage Centre, 2011), which has 187 State Parties. The United Nations Framework Convention on Climate Change (United Nations, 1992) is also relevant to marine turtles due to the increasingly significant

threat of climate change and the United Nations Convention on Law of the Sea (UNCLOS) establishes general rules on the use of oceans and oceanic resources (United Nations, 2010).

65. The FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations were endorsed at the 26thsession of the FAO Committee of Fisheries to support the FAO Code of Conduct for Responsible Fisheries. The guidelines present measures for minimising marine turtle interactions in fisheries, and consolidating the existing guidelines of release and handling (FAO, 2010a). The work of many internationalconservation organisations and their regional offices is also highly relevant for marine turtle conservation, and in many countries, much of the field work is undertaken by international or local NGOs.For example WWF, IUCN, TRAFFIC and BirdLife International have all conducted relevant projects and programmes, and the IUCN Marine Turtle Specialist Group has produced several reports and tools, including the 1995 Global Strategy for the Conservation of Marine Turtles (IUCN MTSG, 2011b).

3.2 Contribution of CMS existing instruments to the conservation of target species and their habitats

66. **IOSEA MoU:** The IOSEA MoU (amended 1st March 2009) defines its objective as to "protect, conserve, replenish and recover marine turtles and their habitats, based on the best scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the signatory States" (UNEP/CMS, 2009). It acknowledges that "human activities that may threaten marine turtle populations directly or indirectly include harvesting of eggs and turtles, inappropriate hatchery operations, destruction or modification of habitats, coastal development, pollution, fishing activities, mariculture and tourism" and requires signatory States to i) cooperate closely in order to achieve and maintain a favourable conservation status for marine turtles and their habitats, ii) implement the provisions of the Conservation and Management Plan, iii) review and harmonise relevant national legislation and iv) consider ratifying or acceding to international instruments most relevant to marine turtles and conservation of their habitats (UNEP/CMS, 2009).

67. The Conservation and Management Plan (CMP), first created in July 2001 (IOSEA, 2003) contains 24 programmes and 105 specific activities, which are grouped under six main objectives: i) reduction of mortality from direct and indirect causes, ii) protection, conservation and restoration of habitats, iii) research and monitoring of ecology and populations, iv) increasing public awareness on threats and public participation in conservation, v) enhancing national, regional and international cooperation and vi) promoting the implementation of the MoU, including the CMP (UNEP/CMS, 2009). Programmes specified to reduce mortality from direct and indirect causes include activities addressing incidental capture and mortality from fisheries and prohibiting direct harvest and domestic trade in marine turtles, their eggs, parts of products (with certain exceptions for traditional harvest), as well as developing nesting beach management programs to maximise hatchling recruitment (UNEP/CMS, 2009). The CMP is used as a baseline in national reporting, which collects information on relevant activities conducted by Governments, NGOs and other organisations (IOSEA, 2003). The national reporting mechanism of IOSEA has been developed and improved based on various discussions at the Meetings of the Signatory States and by 2008, nearly all national reports were submitted online (IOSEA, 2008c).

68. According to the most recent review of national reports (IOSEA, 2008b; 2008c), significant progress had been made in reporting and implementing the CMP. The level of knowledge about the interactions of fisheries and marine turtles in the region, as well as the uses and values of the species, were considered to have increased significantly. Many signatory States reported activities such as research and training programmes, trials, workshops or legislative prohibitions to reduce turtle

bycatch, and virtually all countries had produced educational materials on turtle issues. Virtually all countries had banned direct harvest and domestic market of marine turtles and their products in their national legislation, and over half had conducted socio-economic studies or activities related to marine turtle use in local communities. There were also initiatives in place to identify and facilitate alternative livelihoods in most countries. The majority had established mechanisms to prevent illegal international trade, and two-thirds had reviewed their compliance with CITES in regard to marine turtle issues. Furthermore, most States reported that they were conducting environmental assessments on coastal development, and regulating the use of poisonous chemicals and explosives harmful to marine turtles. Monitoring and education programmes related to the conservation of nesting beaches had been established in the majority of countries, and there were collaborative efforts with regard to genetic and migration studies. About half of the signatory States reported that they were participating in regional or sub-regional Action Plans (IOSEA, 2008b). However, many of these actions may have been in place prior to the entry into force of the MoU.

69. The role of the IOSEA Secretariat, as defined in the MoU text, is to assist in communication, facilitate activities, manage the national reporting and conduct a periodic review of the progress of the CMP (UNEP/CMS, 2009). The other main component of the institutional structure is the Advisory Committee (AC), which provides scientific, technical and legal advice to the signatory Stateson the conservation and management of marine turtles and their habitats. The AC, with a maximum size of 10 volunteer members, is formed of individuals with areas of expertise in marine turtle biology, marine resource management, coastal development, socio-economic law, fisheries technology, and other relevant disciplines. The meetings are normally organised immediately prior to the Meetings of the Signatory States, and each subregion (Southeast Asia and Australia, including United States; Northern Indian Ocean; Northwestern Indian Ocean, and Western Indian Ocean) may send a representative to these meetings. The AC has been charged with the production ofspecies assessments and identifying the strengths and weaknesses of the conservation situation. A comprehensiveassessment on*D. coriacea*was finalisedin 2006, containing many useful recommendations.A further assessment on *C. caretta* was reported to have 'stalled' in 2007 (IOSEA, 2008c), and an update on its preparation with issues to be resolved was presented at the 5th Meeting of the Signatory States (Hamann, 2008). The AC has also engaged in preliminary discussions that may lead to the development of a training course for marine turtle practitioners (Hykle, 2011).

70. IOSEA has adopted a Resolution to promote marine turtle bycatch reduction measures (IOSEA, 2008c), a Resolution urging the Indian Ocean Tuna Commission (IOTC) and its Member States to address marine turtle bycatchissues within the IOSEA Region (Resolution 3.1) and a Resolution regarding policies for fisheries and coastal development activities in the Indian Ocean and Southeast Asia in the aftermath of the tsunami of 26thDecember 2004 (Resolution 3.2) (IOSEA, 2006b). Additional measures to improve habitat conservation in the area have been proposed in the form of a network of sites of importance for marine turtles (IOSEA, 2004a). The aims of the network are related to i) protection and conservation of marine turtles, ii) enhancing the recognition of the significance of marine turtles among decision-makers and stakeholders and iii) improving international collaboration. Site selection was planned to be made based on nominations by signatory States, and evaluation against a list of criteria, including i) ecological and biological significance, ii) current protection and management status, iii) research and monitoring significance, iv) socio-political importance and v) significance to the overall aims of IOSEA (IOSEA AC, 2008). During 2010-2011, the network concept and selection criteria were reviewed and refined by the IOSEA Secretariat and a Working Group established for this purpose. A questionnaire response indicated that the network could be established in 2011.

71. **MoU of Abidjan:** The aim of the MoU of Abidjan is to "improve the conservation status of the marine turtles and the habitats on which they depend" (UNEP/CMS, 1999). It acknowledges that "pollution of various marine habitats, destruction of coastal wetlands, industrial fishing activities, international trade and other man-induced threats, if not properly mitigated and managed, could lead to a further decline in marine turtle populations." It requires signatory States toi) put in place measures for the conservation (and where necessary, strict protection) of marine turtles at all stages of their life cycle, ii) review/revise national legislation and ratify or accede to those international instruments most relevant to the conservation of marine turtles, iii) implement provisions of the Conservation Plan and iv) facilitate the expeditious exchange of scientific, technical and legal information needed to coordinate conservation measures (UNEP/CMS, 1999). The Nairobi Declaration, adopted in 2002, recognises the social, cultural and economic values of turtles to local people, and lists habitat destruction, pollution, unsustainable taking and fisheries bycatch as the main threats. Particular attention is given to the poor documentation of the impacts of industrial fishing (CMS, 2002).

72. The first version of the Conservation Plan consisted of five broad objectives, each with associated programmes and activities (UNEP/CMS, 2002b). The revised Conservation and Management Plan (CMP) followed the format of the IOSEA CMP with six broad objectives: i) reduction of mortality from direct and indirect causes; ii) protection, conservation and restoration of habitats; iii) research and monitoring of ecology and populations; iv) increasing public awareness on threats and public participation in conservation; v) enhancing national, regional and international cooperation; and vi) promoting the implementation of the MoU, including the CMP (UNEP/CMS, 2008f).Each activity is also prioritised as low, medium or high. Programmes specified to reduce mortality from direct and indirect causes include activitiesto minimise the effects of artisanal and commercial fisheries on marine turtles, minimise the effects of extractive industries on marine turtles and prohibit direct harvest and domestic trade in marine turtles, their eggs, parts or products (with certain exceptions for traditional harvest),as well as developing management programs for nesting beaches and foraging and developmental habitats (UNEP/CMS, 2008f).

73. At the 1stMeeting of the Signatories, the implementation progress of the CMP was reviewed, however a thorough analysis (such as that used by IOSEA), was not undertaken. Inventories of species occurrence and nesting sites had taken place in many of the range States, and several countries had specific regulations in place to control the direct exploitation of marine turtles and their eggs (UNEP/CMS, 2002d). Some integration of local communities in conservation efforts had taken place, mainly in the form of hiring local villagers for nesting beach surveys, organising discussions and establishing conservation clubs in schools. Eco-tourism projects were being developed to offer alternative incomes (particularly to fishing communities) in some countries. Many countries had undertaken efforts to increase public awareness mainly through the production of educational materials (UNEP/CMS, 2002d).

74. The basic Secretariat services of the MoU of Abidjanwere originallyprovided by CMS. After the 1st Meeting of the Signatories, 'Program Kudu', situated in Gabon, was created to support the Secretariat, coordinate projects and compile the results (UNEP/CMS, 2008c). This was superseded by the Regional Coordination Unit for the Marine Turtles of the Atlantic Coast of Africa (URTOMA) in 2005, based on an MoU between UNEP/CMS and the Ministry of the Environment and the Protection of Nature of Senegal. URTOMA continued the work of Program Kudu under the auspices of SINEPAD (the Environmental Division of NEPAD) with its headquarters in Dakar. The aims of URTOMA are to i) assist the signatory States with implementing the MoU of Abidjan; ii) promote the implementation of the Conservation Management Plan; and iii) secure funding from donors and partner institutions (URTOMA, 2007). The URTOMA Work Programme consists of activities related

to the seeking of funding, facilitating MoU signature, harmonising the conservation plans of the Abidjan MoU and IOSEA MoU, establishing partnerships with regional Conventions and evaluating and establishing on-the-ground projects and workshops (UNEP/CMS, 2008h). One of the main duties of the coordinating body was the creation of a database on marine turtles of the Atlantic Coast of Africa, with the help of an external consultancy (UNEP/CMS, 2008f). Plans were presented in the 2nd Meeting of the Signatories to create a scientific agency under URTOMA, using the structures of the Institut Fondamental d'Afrique Noire. This scientific agency would set guidelines for marine turtle conservation, manage the regional West African databases, and implement awareness raising activities (UNEP/CMS, 2008f).

75. URTOMA also has an Advisory Committee (AC) composed of up to 10 members representing diverse areas of expertise (UNEP/CMS, 2008i). The role of the AC is to provide technical and scientific advice to the signatory States and the CMS Secretariat, to assist in the identification of priority issues and actions, and to create task forces to improve the effectiveness of addressing specific areas of importance. The AC's tasks include the preparation and distribution of the three-year Work Plan, reviewing of the Annual Reports, and providing improvements for future reporting(UNEP/CMS, 2008i).

3.3 Cooperation of CMS existing instruments with international/regional organisations and other interested partners

76. Liaison with relevant international organisations is one of the key functions of the CMS Secretariat and two of the Operational Principles the CMS Strategic Plan 2006-2011 specify close cooperation with MEAs, key partners and institutions (UNEP/CMS, 2005). A 'Report on CMS Activities with Partners' produced for CMS COP9 listed 25 formal partners (including the Bern Convention, Cartagena Convention, CBD, CITES, the National Oceanic and Atmospheric Administration, Ramsar, SPREP and the Western Hemisphere Migratory Species Initiative), many of which have MoUs and joint programmes of work with CMS (UNEP/CMS, 2008e). CMS is also a member of the Liaison Group of Biodiversity-Related Conventions, which brings together six MEAs to enhance coherence, cooperation and synergies between conventions and reduce inefficiencies (UNEP/CMS, 2008d; CBD, 2011a).

77. At CBD COP10, the Secretary General of CITES delivered a joint statement on behalf of the Secretariats of the Ramsar Convention, World Heritage Convention, CMS and CITES, stressing the complementary mandates of these MEAs towards achieving the same objectives as the CBD and reiterating the agreement that the Strategic Plan for Biodiversity 2011-2020 be inclusive, and that the National Biodiversity Strategy and Action Plans (NBSAPs) should cover the full range of activities needed to implement all biodiversity-related conventions, including CMS (UNEP/CMS Secretariat, 2011c).

78. CMS and its instruments have had particularly strong collaborations with CITES, CBD and the Bern Convention. Joint activities of CMS and CITES 2008-2010 had the principal themes of i) harmonisation of taxonomy and nomenclature, ii) joint actions for the conservation and sustainable use of shared species and iii) administrative and fundraising cooperation (UNEP/CMS, 2008a). Two CITES dialogue meetings to discuss the utilisation of *E. imbricata* were held in 2001 and 2002, facilitated by the CITES Secretariat and IUCN (CITES, 2011).CMS also has a joint programme of work with the CBD, and the CBD recognises CMS as the lead partner for migratory species (UNEP/CMS Secretariat, 2002; UNEP/CMS Secretariat, 2004). The CBD/CMS joint work programme 2002-2005 identified links between CMS species and the CBD work programmes, such as the relevance of marine turtles in the work of CBD on coral reefs and fisheries bycatch

(UNEP/CMS Secretariat, 2002). There was a call for the CBD/CMS joint work programme to be updated at CBD COP10 (CBD X/20 Paragraph 11, UNEP/CMS/Conf.10.26). The Mediterranean Conference on Marine Turtles, which will be organised for the fourth time in November 2011, is supported by CMS, the Barcelona Convention and the Bern Convention.

79. Collaboration between CMS and FAO was considered to have become closer over recent years (UNEP/CMS Secretariat, 2008b), with particular relevance to addressing bycatch issues. CMS has signed aMemorandum of Cooperation with the Cartagena Convention in 2005, increasing collaboration in the Caribbean region, as well as a Letter of Cooperation with the National Oceanic and Atmospheric Administration (NOAA) with a particular focus on marine species and a Memorandum of Cooperation with Western Hemisphere Migratory Species Initiative (WHMSI) to strengthen collaboration in the Americas in 2008 (UNEP/CMS Secretariat, 2008b). CMS and SPREP have collaborated in the development of the Pacific Cetaceans MoU, and also established contact in the development of marine turtle instruments in the region (UNEP/CMS Secretariat, 2008b).

80. Both CMS marine turtle MoUs contain wording that recognises the contribution of other MEAs and emphasise the need to collaborate with other relevant instruments and organisations. Enhancing cooperation at national, regional and international levels is also one of the six main objectives of the IOSEA CMP (UNEP/CMS, 2009). Information on the work of organisations and projects relevant to the CMP is collected through national reporting, and information on NGO activities and other programmes working in the range area is also collected on the website. Many international organisations and bodies have participated in the IOSEA meetings to share information about relevant projects or discuss areas of potential collaboration (Hykle, 2011). The connections between the IOSEA MoU and SPREP were reported to have become closer during preparations of the 2006 Year of the Turtle campaign (IOSEA, 2006c).

81. Cooperation with fisheries organisations has been discussed atvarious IOSEA Meetings of the Signatory States(e.g. IOSEA, 2004b; IOSEA, 2006b). IOSEA has collaborated with the Indian Ocean Tuna Commission (IOTC) mainly through its dedicated Working Party on Ecosystems and Bycatch (Hykle, 2011), and with the Southeast Asian Fisheries Development Center (SEAFDEC), primarily through a SEAFDEC-administered project on marine turtle management. Furthermore, IOTC Resolution 06/09 states that the Contracting Parties are "encouraged to collaborate with the IOSEA and take into account the IOSEA MoU including the provisions of the Conservation and Management Plan in the implementation of bycatch mitigation measures for marine turtles", and that "The IOTC and IOSEA secretariats are encouraged to intensify their collaboration and exchange of information on marine turtle issues in accordance with the protocols agreed by the commission" (IOTC, 2009).

82. Collaboration in terms of a shared reporting framework for the FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations has been proposed for IOSEA (IOSEA, 2005). A section of the IOSEA national reporting template was revised so that signatory State responses to section 1.4 (concerning fisheries-turtle interactions) would also meet the reporting requirements of the FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations, and similar reporting requirements are in place for the MoU of Abidjan(UNEP/CMS, 2008f).

83. IOSEA has also participated in several collaborative workshops. For example, the integration of efforts of the United States Western Pacific Regional Fishery Management Council, the SPREP Regional Marine Turtle Conservation Programme and IOSEA were discussed at the Western Pacific Sea Turtle Cooperative Research and Management Workshop in 2002 (Hykle, 2002). The IOSEA Secretariat was part of the organising committee of the Technical Workshop on Minimizing Sea Turtle Interactions in Fisheries, together with the Western Pacific Regional Fisheries Management Council,

IUCN, NOAA and SEAFDEC (IOSEA, 2008c), and participated in the Western Indian Ocean marine turtle workshop that was organised in 2004 with the support of the Western Indian Ocean Marine Science Association (WIOMSA), IUCN, WWF, CMS and the Wildlife Conservation Society (WCS) and hosted by Kenya Wildlife Service and Kenya Sea Turtle Conservation Committee (Okemwa *et al*., 2005). The Annual International Symposium on Sea Turtle Biology and Conservation has provided a regular venue for presentation of IOSEA developments and organisation of regional meetings.

84. The collaboration between CMS and SINEPAD has been crucial for the creation of URTOMA, and URTOMA itself is one of the development partners of the West African Marine and Coastal Biodiversity Network (BIOMAC) that coordinates conservation efforts in marine and coastal ecosystems in West Africa (UNEP, 2008). Other development partners include Wetlands International, WWF,Programme Régional de Conservation de la Zone Côtiere et Marine en Afrique de l'ouest (West African Regional Marine and Coastal Conservation Programme) PRCM, IUCN, RAMPAO/Fondation Internationale du Banc d'Arguin and the Subregional Fisheries Commission (UNEP, 2008).

85. Due to the Atlantic- and Pacific-wide migrations of certain marine turtle species, the collaboration between the MoU of Abidjan, IAC, SPAW, IOSEA, SPREP and the Permanent Commission of the South Pacific (CPPS) has been considered particularly important; still, it was noted that there had been "little formal interaction/collaboration" among the turtle instruments (CMS Scientific Council, 2010). For example, the intended "solid partnership" between the MoU of Abidjan and the Abidjan Convention has not materialised (UNEP/CMS, 2008g), and the need for better coordination of activities with other African programmes and Conventions has been emphasised (UNEP/CMS, 2008f).

3.4 Strengths, weaknesses and gaps of CMS existing instruments and overlaps with non-CMS multilateral instruments/frameworks

86. Responses from range States and other stakeholders to the questionnaires on the IOSEA MoU and the MoU of Abidjan revealed many differences in the strengths and weaknesses of these two CMS instruments (Annex V).

87. **Strengths**: Questionnaire responses indicated that IOSEA is generally considered to be a well-functioning and efficient instrument, relative to its resources and staffing levels. Indeed, parts of IOSEA have been used as model for other instruments, for example the PERSGA Marine Turtle Action Plan (PERSGA/GEF, 2004), the turtle Regional Action Plan of the Sulu-Sulawesi Seascape Programme (Pilcher, 2009) and the MoU of Abidjan Conservation Management Plan. Active participation of member countries was emphasised by questionnaire respondents as a key strength of IOSEA, and IOSEA is recognised as having successfully attracted participation from countries that are not a Party to CMS (which make up 12 of the 32 signatories) (Lee *et al*., 2010). One respondent noted that IOSEA had acted as a catalyst in encouraging some signatory States to join CMS.

88. Two respondents described regular voluntary contributions, raised primarily from signatory States, as a main enabling factor for the success of IOSEA. IOSEA is the only CMS MoU with its own trust fund (Lee *et al*., 2010), the total cumulative budget of which exceeded USD2.0 million between 2002 and 2010. Contributions to the IOSEA Trust Fund have been received consistentlyfrom Australia, the United Kingdom, the United States and South Africa; more recently, several other countries have also begun to contribute funding. The total amount raised from signatories represents almost 90 per cent of remittances since the IOSEA was established. Smaller contributions from CMS and the UNEP/Division of Environmental Conventions were provided as seed money in the formative years

of the MoU. Funds have also been raised for specific projects and activities (IOSEA, 2006d). Signatory States have received funds from or sought partnership with organisations such as the UNDP, World Bank, the Global EnvironmentFacility (GEF), the South East Asia Fisheries Development Centre (SEAFDEC), the Southwest Indian Ocean Fisheries Project, WWF, WCS and Conservation International (IOSEA, 2008b). The functioning of the IOSEA Secretariat, with one full-time coordinator (a portion of whose time is allocated to CMS advisory services), has been secured through the budget.In 2007, a full-time assistant was engaged in part from overheads charged by UNEP (IOSEA, 2008c).Host organisations or governments have also participated in covering the travel costs of some AC members, who work on a voluntary basis.

89. Due to its co-location with the UNEP Regional office for Asia Pacific (UNEP/ROAP), IOSEA has benefitted from its linkages with UNEP and other UN bodies.UNEP/ROAP has provided office space and administrative support to IOSEA, and the UNEP Regional Resource Centre for Asia and the Pacific (RRCAP) has contributed by hosting the website. One respondent noted that the link to UNEP Bangkok offices may facilitatethe Secretariat's liaison with several projects of FAO and GEF. Close links to the UN have also been considered to have facilitated access to financial support from inter-governmental organisations (IAC Scientific Committee, 2004).

90. The IOSEA Strategic Planning meeting (IOSEA, 2009), expert opinion andseveral questionnaire responses identified communication as a main strength of the instrument. The IOSEA MoU's information management system, including the website (www.ioseaturtles.org), was said to be among the best of any MEA, and the Online Reporting Facility was considered as the "most advantageous" of the reporting tools of CMS instruments (Lee *et al.*, 2011). The website collects together meeting documents, publications, news items, national reports, and implementation tools, such as best practice and guidelines documents, satellite tracking tools and a bibliographic references database (IOSEA Secretariat, 2011). Respondents emphasised the importance of the regular newsletter and up-to-date information provided on the website. The Online Reporting Facility for annual reports allows the collection of site-specific information on important habitats, such as nesting beaches, feeding grounds and developmental habitats, with threat rating, mitigation measures, and research activities. The projects database, aimed at providing information on all relevant conservation projects in the region, was reported to be frequently used by many signatory States, however it was noted that the Indian Ocean region countries were less well represented amongst the users (IOSEA, 2006a). A new satellite tracking metadatabase was developed in 2009, along with a Technical Support and Capacity Building Programme (IOSEA Secretariat, 2009). According to an independent evaluation, IOSEA 2006 Year of the Turtle activities had been successful in generating educational activities in conservation and capacity building, supported by a multitude of materials produced by the IOSEA Secretariat. The focus of the campaign was on local conservation activities, and participation from signatory States and governments was considered particularly good, even though lack of resources limited the implementation of activities in many range States (UNEP/CMS, 2010c).

91. According to questionnaire responses, the IOSEA MoU had benefitted from collaboration with various organisations, including SEAFDEC, the Bay of Bengal Large Marine Ecosystem Project (BOBLME), WWF, the International Sea Turtle Society, the Nairobi Convention and UNEP-WCMC, and the involvement of NGOs was considered as one of the main factors contributing to its success.. The IOSEA Strategic Planning meeting also discussed the importance of collaboration with the Western Indian Ocean – Marine Turtle Task Force, SEAFDEC and the Indian Ocean Tuna Commission (IOSEA, 2009). The joint establishment of the WIO-IOSEA Marine Turtle MoU Task Force in 2004 was seen as a significant collaborative effort of IOSEA and the Nairobi Convention

(Okemwa *et al*., 2005). Interactions with fisheries organisations were considered particularly important in terms of bycatch mitigation by several respondents.

92. The implementation of the IOSEA CMP was considered to have benefited from i) regular and transparent reviews, ii) progress towards identifying site-specific threats, iii) production of assessment and reviews and iv) identification of conservation priorities within the signatory States (IOSEA, 2009). More specific analyses have also been produced, based on an assessment matrix where the level of implementation of each CMP component can be analysed, making it possible to observe regional trends and progress along countries or regions and identify priority areas. Two respondents emphasised the importance of resources towards capacity building, training and the implementation of small projects in the Developing Member States.

93. Input provided by the IOSEA Secretariat and the AC were also considered important to the success of IOSEA at the Strategic Planning meeting (IOSEA, 2009), as well as by questionnaire respondents. The AC was seen to benefit from being composed of specialists in various fields (IAC Scientific Committee, 2004).

94. For the MoU of Abidjan, far fewer strengths were identified. The questionnaire responses indicated that the main strength of the MoU of Abidjan was the inclusion of all main range States as signatories. Important positive outputs were also considered to include the acknowledgement of the role of local communities in the Conservation Management Plan, and the socioeconomic studies conducted in communities.

95. The establishment of the coordinating unit URTOMA as a collaborative effort between CMS and SINEPAD can be seen crucial for the MoU of Abidjan. URTOMA receives its premises and staff from the Senegalese government and has also received support from CMS and UNEP 2006-2009 (UNEP/CMS, 2008f), with both parties contributing USD 75,000 (Lee *et al*., 2010). This funding agreement was renewed for 2009-2012 (Lee *et al*., 2010).

96. **Weaknesses:**One questionnaire respondent indicated that the main weakness of IOSEA was the lack of a formal funding mechanism. Although it has covered the running costs of the instrument, voluntary-based funding has provided limited opportunities for hiring support staff and undertaking consultancies and projects (IOSEA, 2003). The financial arrangement based on voluntary donations has been considered "not sustainable over the longer term" (IOSEA, 2008c).However due to urging a larger proportion of the signatory States to give at least modest voluntary contributions towards the MoU, according to the standard UN scale (IOSEA, 2008c), contributions have recently been acquired from countries such as India, Myanmar, Oman and Thailand (IOSEA Secretariat, 2009). Financial constraints were indicated by questionnaire respondents to be a major factor limiting the possibilities to implement on-the-ground conservation efforts and IOSEA National Reports indicate that the majority of Member States have difficulties in finding resources to train experts and officials, enforce laws and regulations, and conduct basic surveys (IOSEA, 2008b).

97. One IOSEA questionnaire respondent noted that the lack of participation from signatory States during the intersessional period limited the implementation of the CMP, and the lack of support from IOSEA towards signatory States was regarded as a limitation by one respondent.It was also noted by one respondent that few IOSEA signatory States have the capacity to address marine turtle conservation in a wider national context due to the lack of inter-agency committees on marine turtles.

98. For the MoU of Abidjan, questionnaire responses indicated that the lack of resources was a particularly pressing problem. The MoU of Abidjan, unlike IOSEA, does not have wealthy participating States such as the United Kingdom, United States and Australia. Lack of funding from

CMS has been raised as an issue limiting the success of the instrument (UNEP/CMS, 2008f).One signatory State reported in their questionnaire response that no projects related to the CMP had been executed in the country due to lack of resources. The lack of regular meetings was also mentioned as a main weakness of the instrument by one questionnaire respondent. The MoU of Abidjan signatory States considered the six year interval between the 1st and 2ndMeetings of the Signatories insufficient for "communication and making decisions aimed at the improvement of the conservation of marine turtles in Africa" (UNEP/CMS, 2008f).

99. Questionnaire responses also indicated a lack of effective communication between URTOMA, national focal points and conservation practitioners, and one respondent noted that URTOMA provided limited information to signatory States through its website and databases. Directing finances towards projects implemented by foreign experts and the lack of efficient knowledge transfer mechanisms were considered to prevent the flow of information and resources towards the MoU of Abidjan.There also seems to be a problem with the reporting activity and lack of regular reviews of the national reports of MoU of Abidjan; in the 2ndMeeting of the Signatories, it was noted that only three out of 23 national reports had been submitted to URTOMA on time, and hence it had not been possible to compile a composite report (UNEP/CMS, 2008f).A further shortcoming in the implementation of the MoU of Abidjan CMP is the insufficient attention paid to the impact of conservation actions on local communities (UNEP/CMS, 2008f).

100. **Gaps:**The two CMS existing MoUs on marine turtles cover all species within their geographic boundaries; however, only *Natator depressus* has its entire range (Australia, Indonesia, Papua New Guinea) covered within the existing CMS agreements (Annex VIII). Of the marine turtle populations that were identified to be in most need of urgent conservation action by the IUCN MTSG (Mast *et al.*, 2006), the IOSEA range covers the populations of *L. olivacea* in Orissa (India) and *E. imbricata* in the Indian Ocean, and turtle populations throughout Southeast Asia. The range of the MoU of Abidjan covers a part of the Eastern Atlantic range of *C. mydas,D. coriacea* and *C. caretta*, and a part of the range of *L. kempii*.

101. Due to the relatively narrow range of *L. kempii* in northern Atlantic Ocean between the Gulf of Mexico in the west and western Europe and North Africa in the east, and its main nesting sites located along the Gulf of Mexico (Bonin *et al*., 2006), it's range it not sufficiently covered by aCMS existing instrument and *L. kempii* was considered to be requiring attention within a new agreement or initiative at CMS COP9 (UNEP/CMS, 2008e).The conservation of *L. kempii* was also considered an urgent priority by the IUCN MTSG (Mast *et al.*, 2006).

102. The Pacific region lacks a strong marine turtle conservation instrument. Although IOSEA covers areas in the Western Pacific (Southeast Asia) and IAC covers the major part of the Eastern Pacific American coastline, significant turtle nesting and foraging areas that are found in the Pacific region are insufficiently covered by multilateral instruments (IOSEA, 2005; Steering Committee of the Bellagio Sea Turtle Conservation Initiative, 2004). At CMS COP7, the Appointed Councillor for Marine Turtles noted the lack of institutionalised regional cooperation on marine turtle conservation in the broader Pacific region and considered the situation of marine turtles in the region to be 'critical', with particularly strong declines in populations of *D. coriacea* and *C. caretta* (UNEP/CMS, 2002c); both populations were also included in the IUCN MTSG 'Top ten' populations most in need of urgent conservation effort (Mast *et al.*, 2006). The main limitations to efficient marine turtle conservation in the Pacific region include i) lack of development and funding of the current agreements, ii) lack of participation by the range States, iii) lack of political will and iv) lack of financial and human resources (SPREP, 2009). The importance of small-scale and artisanal fisheries as threats to marine

turtles in the Pacific was considered to make the creation of effective conservation instruments particularly challenging (Dutton and Squires, 2008).

103. Populations of *D. coriacea* in the Indian and Pacific Ocean regions have been considered close to global extinction (Spotila *et al.*, 1996; 2000; UNEP-WCMC, 2003), and the species was the first to be thoroughly assessed by the IOSEA AC that provided recommendations on improving the status of the species in the Indian Ocean and Southeast Asia region.The exceptionally long migrations make the coordinated management of *D. coriacea* difficult, and mean that a covering set of well-functioning regional instruments would be needed for the conservation of this species (Steering Committee of the Bellagio Sea Turtle Conservation Initiative, 2008). UNEP/CMS Recommendation 7.6 on improving the conservation status of *D. coriacea* was motivated by the over 90 per cent decline of the species in the Pacific Ocean over the last two decades;it urged range States to take actions to enhance the conservation of this species and the IOSEA and MoU of Abidjan signatory States to give a high priority to the species in their Conservation Plans. It also urged NGOs and international organisations to assist in terms of technical, logistical and financial assistance in the conservation and management of the species (UNEP/CMS, 2002c). The Western Pacific region is of particular importance to the nesting of *D. coriacea*, and the requirement of rapid action to save the remaining populations from collapse was reflected in the 2007 workshop on Western Pacific *D. coriacea*(Steering Committee of the Bellagio Sea Turtle Conservation Initiative, 2008). The successful long-term conservation of *D. coriacea* in the Western Pacific was considered to require a conservation fund (Steering Committee of the Bellagio Sea Turtle Conservation Initiative, 2008). The status of *D. coriacea* in the eastern Pacific was also considered to be alarming (Dutton and Squires, 2008). One expert noted thatconsiderable progress in the conservation of *D. coriacea*in the Pacific had been made by the Western Pacific Regional Fishery Management Council (WPRFMC), National Oceanic and Atmospheric Administration (NOAA), WWF and the Marine Turtle Conservation Act (MTCA), amongst others; however,as these programmes have mainly relied on funding by the US,their future may be insecure in the current economic climate.

104. Through analysis of the CMPs of the turtle MoUs and questionnaires sent to range States, the main threats to marine turtles (Table 1) not specifically addressed in the existing CMS marine turtle MoUs include climate change and disease. The lack of sufficient consideration of climate change came up in the questionnaire response of both IOSEA and the MoU of Abidjan, and was also noted in the IOSEA Strategic Planning meeting (IOSEA, 2009). The CMS Marine Turtle Working Group has also drawn attention to the impacts of climate change (UNEP/CMS Resolution 9.7) (CMS Scientific Council, 2010). With regard to turtle diseases, only a third of the IOSEA signatory States had conducted research, according to the national reports.

105. The need to improve national legislation in signatory States to reduce fisheries bycatch and raise the issue in the political agenda was emphasised in the expert consultations, particularly in those countries that host important Regional Management Units of marine turtles, including IOSEA signatory States India, Sri Lanka, Philippines, Indonesia and Oman.Although IOSEA had passed specific Resolutions concerning bycatch, the lack of a comprehensive evaluation on their implementation was noted in an expert consultation.One respondent stated that the threats caused by artisanal and industrial fishing had been insufficiently addressed by the MoU of Abidjan, and one IOSEA respondent considered bycatch issues insufficiently covered.Further threats that were not addressed to a sufficient degree mentioned by respondents included loss of vegetation in coastal areas, coastal pollution from oil drilling (MoU of Abidjan), light pollution and the destruction of nesting beaches (IOSEA). At CMS COP7, it was noted that for the West African Coast, more attention needed to be paid to coastal development, erosion and pollution, and it was stated that "if

development along the beaches continued, there would soon be no more nesting sites" (UNEP/CMS, 2002c). Pressure on coastal areas development and the uses by local populations for food and income continue to be major issues threatening marine turtles in the IOSEA region as well (IOSEA, 2008b).

106. As noted in Section 3.1, 13 range States of the IOSEA MoU (Brunei Darussalam, People's Republic of China, Djibouti, Egypt, Japan, Kuwait, Malaysia, Qatar, Republic of Korea, Singapore, Somalia, Sudan and Timor Leste are not signatories) and three range States of the MoU of Abidjan have yet to become signatories.

107. Parties that are range States for Appendix I species should prohibit the taking of animals (CMS, 1979).Overall, 37 CMS Partiesthat are range States for one or more marine turtle species (including 12 IOSEA signatory States and 11 MoU of Abidjan signatory States) responded to some or all of the questions on Appendix I marine turtles in their national reports submitted to CMS COP10. Of these, six Parties (including four MoU of Abidjan signatory States Angola, Congo, Mauritania and Morocco) reported that taking of Appendix I marine turtles was not prohibited by their national legislation, with a further six indicating that exceptions to legal protection existed. These were mainly for limited circumstances, such as for scientific purposes; however Costa Rica reported permitting the taking of *L. olivacea* eggs.All IOSEA signatory States reported that taking of Appendix I marine turtles was prohibited.

108. The insufficient coverage of areas beyond national jurisdiction (ABNJ) can be seen as a gap due to important distribution areas of some species in the High Seas (Annex VIII); a recent review on turtle migration routes showed that in addition to the highly pelagic *D. coriacea*, also *L. olivacea*, *C. caretta* and *C. mydas* may undertake transoceanic movements (Godley *et al.*, 2007). The ABNJs cover 64 per cent of the world's oceans (Gjerde *et al*., 2008), but besides the United Nations Convention on Law of the Sea (UNCLOS), there are hardly any instruments that regulate the conservation and sustainable use of marine resources in ABNJ. The issue has been discussed with slow progress only in the UN Open-ended Informal Consultative Process on Oceans and the Law of the Seas as well as by the Convention on Biological Diversity. At the 11thmeeting of the Scientific Council, the UNEP/CMS Appointed Councillor for marine turtles emphasised the threat of bycatch in High-Seas areas, which are difficult to regulate (UNEP/CMS Scientific Council, 2002). Gaps in the governance of ABNJs were identified by Gjerde *et al*. (2008) to include the absence of mechanisms to improve and oversee the coordination of efforts and to assess the uses of the oceans, and the lack of effective compliance and enforcement of the existing instruments. In the High Seas areas of the Indian Ocean, Atlantic Ocean and Pacific Ocean, there are a lack of legally-binding instruments for biodiversity conservation, and although some legally-binding regional fisheries management instruments cover High Seas regions (see Appendix III), these mostly concentrate on a few species of economic importance (Gjerde *et al*., 2008). The CMS instruments, including its MoUs, are under the existing legal regime unable to fill this gap. Even though both marine turtle MoUs recognise the need to adopt conservation measures and monitor bycatch in the High Seas, the IOSEA national reports show that few countries reported having taken specific measures to 'encourage Regional Fishery Bodies (RFBs) to adopt marine turtle conservation measures within Exclusive Economic Zones (EEZs) and on the high seas', and when taken, these mainly included voluntary reporting on bycatch or placing on-board observers on fishing boats.

109. **Overlaps:** As indicated in Appendix V and Section 3.1, there are a number of non-CMS instruments and frameworks whose work overlaps with CMS with regards to marine turtles; these include i) overlaps in the threats/issues addressed, ii) the species or habitats targeted, and iii) overlaps in reporting requirements of Parties or Signatories.

110. Specific turtle instruments include IAC in North and South America (IAC Secretariat, 2011), and non-legally binding instruments that overlap with the geographic region of the IOSEA MoU, including the ASEAN MoU on Marine Turtle Conservation (ASEAN, 2011), the MoU of a Tri-National Partnership on the Conservation and Management of Western Pacific Leatherback Turtles and the Memorandum of Agreement on the Establishment of the Turtle Island Heritage Protected Area (TIHPA-MoA). Several international organisations have developed Action Plans or Programmes concentrating on marine turtles, and some of these have geographic overlap with the CMS MoUs, such as the Regional Action Plan for PERSGA (PERSGA/GEF, 2004) and the Sulu-Sulawesi Regional Action Plan for the Conservation of Marine Turtles and their Habitats (Pilcher, 2009). There are also relevant instruments with a larger scope, for example the CBD has a thematic programme on Marine and Coastal Biodiversity (CBD, 2011b) and the SPAW Protocol of the Cartagena Convention sets a ban on the harvesting and trade of marine turtles in member countries.

111. In terms of bycatch mitigation, there are overlaps in the work of the CMS MoUs and several fisheries organisations. For example IOTC, SEAFO, ICCAT, NAFO and WCPFC have adopted Resolutions regarding marine turtle bycatch, and FAO has established Guidelines to Reduce Sea Turtle Mortality in Fishing Operations (FAO, 2010a), which have been adopted in the reporting requirements of both CMS marine turtle MoUs. Furthermore, several other CMS instruments, including ACAP, ACCOBAMS, and ASCOBANS, address bycatch as well (UNEP/CMS, 2011b), which indicates that there may be significant overlaps in conservation and research efforts of marine turtles, marine mammals and seabirds.

112. However, despite the multitude of instruments and projects addressing particular species, habitats, threats or issues, there is a lack of a single over-arching global mechanism to coordinate actions throughout the entire geographic range of the seven marine turtle species (including key habitats such as coastal nesting environments, as well as pelagic and High Seas areas). For example, at the national level, fisheries departments may be responsible for the conservation and management of marine turtles, even though they lack competence and/or jurisdiction over the management of nesting areas, which are under national planning and tourism offices (Adams, 2003). Similarly, at the international level, the management of nesting beach conservation, bycatch mitigation, regulation on direct take etc. may be under a variety of differing instruments, organisations or programmes.

4. Options for more effective implementation of existing CMS instruments and priorities for development

4.1. Strengthening or revision of CMS existing instruments

113. Whilst IOSEA is regarded as a successful instrument and clearly has a number of strengths (Section 3.4), both IOSEA and the MoU of Abidjan would benefit from strengthening the implementation of their Conservation and Management Plans (CMPs) and improving the certainty and regularity of funding. For the MoU of Abidjan, improved communication and collaboration amongst member States environment and fishery departments, the coordinating unit URTOMA, and relevant conservation organisations and fishery organisations in the field is a priority.

114. **Strengthen Conservation and Management Plans and develop indicators to monitor performance:**CMPs are the main implementation platform of both CMS marine turtle MoUs, which signatory States are required to implement "subject to availability of necessary resources" (UNEP/CMS, 1999; 2009). In both CMPs, the key objectives are broken down into specific programmes and activities, with an additional column to indicate the priority level of each programme. However, they do not specify who are the responsible agents or collaborators in each activity (e.g. conservation organisations, fisheries departments, tourism bodies etc.).

115. CMPs could be further strengthened by including specific targets and timescales and developing a series of SMART Indicators (i.e. Specific, Measurable, Achievable, Relevant and Time-bound) to monitor and evaluate progress. The development of indicators across CMS instruments would also be timely with regard to placing indicators under the framework of the emerging indicators for CBD National Biodiversity Strategy Action Plans (NBSAPs) and achievements towards the Aichi Biodiversity Targets. The need to develop standardised monitoring protocols was emphasised in an expert consultation. Furthermore, the MoU of Abidjan in particular would benefit from strengthening its collaboration with organisations conducting practical turtle conservation in the field andencouraging their responsibility forachieving specific activities in the CMP.

116. The implementation progress for IOSEA has been regularly reviewed at Meetings of the Signatory States, based on a detailed analysis of national reports, whereas for the MoU of Abidjan, the review process has been less regular and there has been less opportunity for support to Parties given the limited Secretariat assistance. At the 1stMeeting of the Signatoriesfor the MoU of Abidjan in 2002, an overview of relevant activities was presented with the help of specialists and relevant organisations. However, at the 2ndMeeting of the Signatories in 2008 it was reported that only three countries had submitted their national reports to URTOMA in time (UNEP/CMS, 2008f). Furthermore, the intended regular updating of the document on biogeography and conservation of marine turtles of the region by Fretey (2001) (UNEP/CMS, 2002a) has not been accomplished; as IUCN has flagged the need for status updates for a number of marine turtle species that occur in the region, a joint approach could be developed, with funding secured in conjunction with the conservation community.

117. Questionnaire respondents also suggested the creation of a Strategic Team that could define ways to improve conservation particularly in poorer range States, and the establishment of baseline data for determining targets and trends. One respondent emphasised the important role of 'index beaches', which can be used as a baseline for the monitoring of future population changes. It was also suggested that more detailed strategies could be developed within IOSEA for dealing with significant threats, such as climate change, light pollution and fisheries bycatch. The IOSEA Strategic Planning meeting came up with several suggestions to strengthen the implementation of the CMP, including i) the establishment of National Action Plans and National Committees in signatory States, ii) the completion and regular review of regional species assessments, iii) building capacity to provide knowledge, training and resources to signatory States, iv) a stronger role of the AC in advising signatory States on research and management priorities to guarantee efficient use of resources, v) building the capacity of the AC to address the needs of signatory States and vi) updating and reviewing of the CMP in regard to current and potential threats (IOSEA, 2009). Furthermore, as noted in the expert consultation, there is room to further develop practical tools, such as guidelines, funding proposal formats etc. to help the signatory States better meet their requirements, and to use the 'CMS leverage' to increase the status of marine turtles in the political agenda.

118. For the MoU of Abidjan, the efficient functioning of the coordinating unit URTOMA is key to the effective implementation of the CMP. Even though URTOMA reported progress on the establishment of a database on marine turtles of the Atlantic Coast of Africa region, including hiring a consultant for the tasks and an Officer-in-Charge for the management of the database (UNEP/CMS, 2008f), the development of the database seems to have stalled. Questionnaire respondents also suggested that it would be useful if URTOMA provided more information to signatory States on their website, such as a national reports database, relevant publications (e.g. on bycatch mitigation) and information on current projects and activities.To strengthen the capacity of URTOMA, solutions presented at the 2nd Meeting of the Signatories of the MoU of Abidjan included organising a meeting between relevant

actors in the field and establishing a 'common initiative' with FAO and relevant NGOs (UNEP/CMS, 2008f).

119. **Securing financial resources:** Both CMS marine turtle MoUs are essentially dependent on voluntary contributions, and limited resources were seen as one of the main weaknesses for both instruments. Devillers (2008) noted that unless the requirement that all Parties to CMS agreements should be prepared to contribute to some extent (UNEP/CMS Resolution 2.7) is fulfilled, "the agreements will become an impossible burden for the Convention". One option for reducing costs and facilitating regular Meetings of the Signatories would be to make agreement meetings a subset of the CMS COP. This could have the additional benefit of better integration of the agreements into the parent Convention, and inviting those Signatories that are not party to CMS might encourage their accession to the Convention (Devillers, 2008). However, it must be noted that previous attempts have not always been positive, for example for AEWA, this practice was tried and abandoned.Particularly for IOSEA, which has managed to secure good participation in its regularMeetings of the Signatory States, the practice could be considered counter-productive.

120. Due to the difficulties in securing enough funding to guarantee long-term sustainability, making the MoUs legally binding is one option that has been considered for the CMS marine turtle MoUs, as legally-binding CMS agreements receive core funding (Devillers, 2008; Lee *et al*., 2011). The IOSEA MoU text states that "when appropriate, the signatory States will consider amending this Memorandum of Understanding to make it legally binding" (UNEP/CMS, 2009), and the possibility to amend the legal character has been on the Agenda of several Meetings of the Signatory States (IOSEA, 2008c). There are, however, several disadvantages related to legally binding instruments. The non-legally binding nature of the instruments can make their implementation more flexible in range States with differing resources (IOSEA, 2009) and one questionnaire respondent considered the non-binding nature of IOSEA as one of the main contributors to its success. Obligatory payments and stringent provisions could dissuade some countries from becoming Parties to legally-binding instruments, and their establishment and entering into force may be time-consuming (Hykle, 2002). Another benefit of the voluntary funding system is that it allows for earmarked funding, which may give Parties more ownership over activities (Lee *et al*., 2010). The latest IOSEA national reports indicate that the legally binding option was not supported by a majority of signatory States, with equal numbers in favour (9) and opposed (9). One of the main providers of voluntary contributions, the United Kingdom, considered the step premature, recommending that resources should rather be directed towards securing the membership of key range States and practical conservation efforts.

121. Additional options to help provide a secure financial base for CMS instruments might include i) provision of a CMS core budget for MoUs of particular species groups, ii) coordinated fundraising activities by the CMS Secretariator iii) developing a fundraising policy, as suggested under the Future Shape process (Lee *et al*., 2010; 2011). In addition, URTOMA might gain access to additional funds by collaborating with relevant international organisations and projects such as WCS, WWF, the Marine Conservation Society, Marine Conservation Action Fund and the US Fish & Wildlife Service.One turtle expert also noted that innovative finance structures and the Secretariat's strong emphasis on raising funds on behalf of the signatory States are particularly important to the marine turtle MoUs, whose impacts are strongly limited by lack of capacity in manyDeveloping signatory States.

122. Following adoption of the CBD Strategic Plan for Biodiversity 2011-2020 at CBD COP10, the CMS Secretariat has issued a call to CMS Parties to get involved with the NBSAPs process in their countries, in order "to ensure their objectives and obligations are equally incorporated into the new and/or revised and updated NBSAPs" (letter by the CMS Executive Secretary to National Focal Points, 20 January 2011; UNEP/CMS Secretariat, 2011b). Such collaboration might open new

opportunities to strengthen the implementation of CMS instruments, not least as substantial funding is expected to be made available for the national implementation of NBSAPs. Liaising with the NBSAP process and national or regional implementation of the Strategic Plan for Biodiversity might also ease access to GEF funding (UNEP/CMS Secretariat, 2011b).

4.2. Merging or extending CMS existing instruments or the development of new CMS instruments

123. As the extensive distribution ranges of most marine turtle species are only partially covered by the two CMS existing MoUs on marine turtles (Annex VIII), options for extending the existing instruments or creating new instruments have been suggested (Figure 2). Possible advantages of merging or extending existing instruments based on similar species/geography/ecology (as opposed to creating new ones) include i) utilisation of existing infrastructure, ii) development of common conservation programmes, iii) benefitting from the best practices of existing agreements,iv) consolidation of funds and resources, v) minimising institutional overlap and duplication of effort and vi) facilitating the development of synergies to maximise conservation outcomes for target species (Lee *et al.*, 2011). However, it would also involve complex renegotiation and formal endorsement of those instruments, could be time-consuming and costly in the short term, and could delay work of the existing agreements during the renegotiation period (UNEP/CMS, 2010a; Lee *et al.*, 2011). Furthermore, one turtle expert noted that barriers created by different languages and customs could create a significant limitation for instruments covering wider areas, whereas the ability of regional MoUs to address relevant regional priorities is much higher.

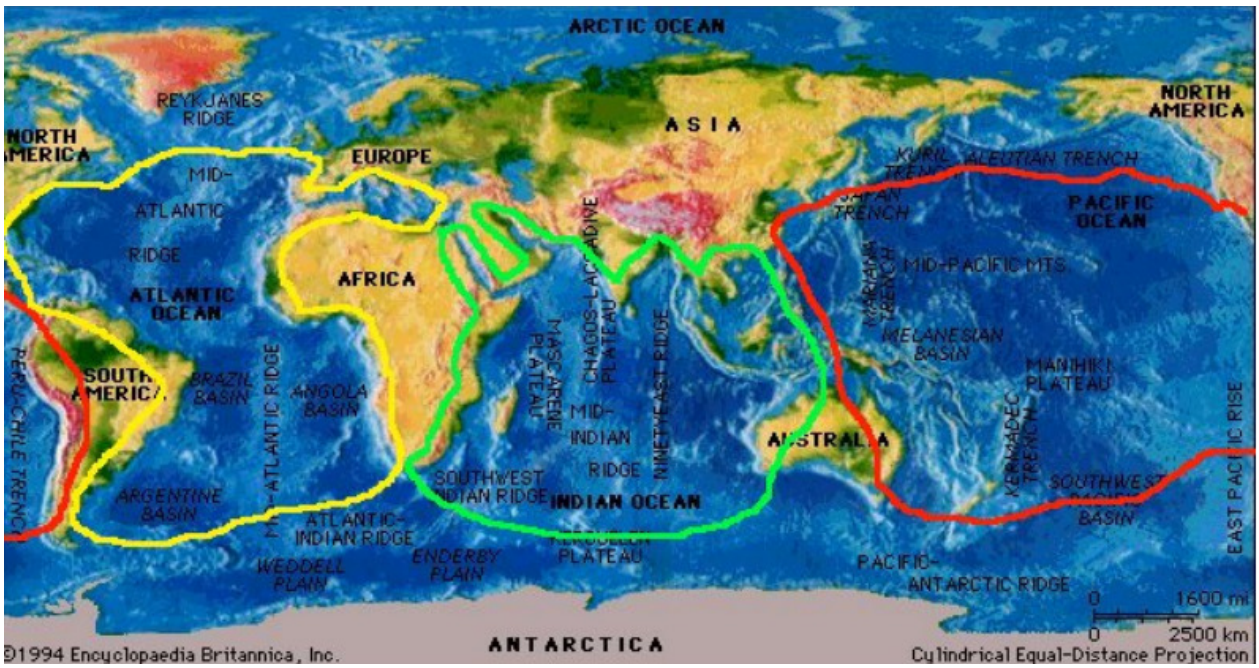

Figure 2. Options for extending existing CMS marine turtle instruments or creating new instruments. (Source: Devillers, 2008).

124. Respondents to the questionnaires noted that merging of instruments on marine migratory species may be desirable in the case of overlapping conservation issues, such as in the case of marine turtles and marine mammals or migratory sharks. However, one respondent noted that in most cases, there may be little potential for synergies due to lack of similarities in conservation issues. There are some fundamental differences in the conservation strategies regarding marine turtles and marine mammals: for marine turtles, the protection of land areas as nesting grounds is a crucial component of

conservation efforts, along with the reduction of bycatch mortality in pelagic and High Seas areas (Dutton and Squires, 2008), whereas for Cetaceans and sharks, the land areas may be of less concern.

125. One respondent considered the merging of the CMS MoU concerning the Conservation of the Manatee and Small Cetaceans of Western Africa and Macaronesia with the MoU of Abidjan as a viable option, noting that raising the capacity of URTOMA could make it possible to coordinate the technical implementation of the instruments. One respondent considered the possibility of extending the scope of IOSEA to include Cetacean species in the area. However, another respondent stated that any changes to the current structure of IOSEA would be somewhat disastrous, and one respondent mentioned that any suggestions on reorganising the marine turtle instruments would be premature until the conclusion of the Future Shape Process. At the 2nd meeting of the Inter-sessional Working Group on the Future Shape, it was noted that existing instruments should not be forced into mergers and that attention should focus on closer working relationships between instruments dealing with similar species or on issues of common concern (UNEP/CMS, 2010a).

126. Some respondents expressed interest in the adoption of new multispecies instruments, seeing this as an opportunity to allow inclusion and broader discussion on common conservation issues, as well as to reduce duplication of effort (as the same experts may already be working on the same topics with different instruments). However, it was emphasised that the creation of multispecies instruments should be well-planned to avoid compromising existing conservation efforts. It was also noted in a questionnaire response that member States currently contributing towards one instrument may be reluctant to join new instruments, and that the priority should be in guaranteeing the effective functioning of the existing instruments.

127. **A Pacific turtle instrument:** The need to cover the existing gap of international marine turtle instruments in the Pacific Ocean was discussed at CMS COP7 (UNEP/CMS, 2002c); the development of a Pacific turtle instrument has been further endorsed in UNEP/CMS Resolutions 7.7, 8.5 and 9.2 (UNEP/CMS Resolution 8.5); the need for a Pacific turtle instrument was stressed in the Bellagio Blueprint report, created by a conference of experts in 2003 (Steering Committee of the Bellagio Sea Turtle Conservation Initiative, 2004); and at the 16th SPREP meeting, the Pacific Island States expressed their interest in the development of a new marine turtle instrument under the auspices of the CMS (SPREP, 2005). The collaboration between CMS and SPREP has been essential in planning of the new instrument, and an Annex to the Memorandum of Cooperation between SPREP and CMS about the Joint Programme of Work on CMS Related Activities in the Pacific Islands Region has been developed (UNEP/CMS Secretariat, 2008b). In 2009, an options paper was presented for the SPREP member countries by Australia and the United States, consisting of five main options: i) development of a new CMS Regional Agreement built on IOSEA, the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC) and the SPREP Marine Turtle Action Plan; ii) expansion of IOSEA to cover the entire Pacific Region; iii) development of a CMS/SPREP MoU; iv) establishment of Working Groups on individual species; and v) continuing the status quo with existing agreements (SPREP, 2009).

128. The advantages of creating a new CMS Pacific Regional Agreement include the harmonisation of conservation actions across the Pacific region and the development of a Pacific-based Secretariat with linkages to IOSEA and IAC (SPREP, 2009). One turtle expert supported this option, seeing that the benefits of this instrument would include the opportunities of building on the lessons learnt from the older instruments. The development of a Pacific Conservation and Management Plan (using the format of the IOSEA CMP) could help to increase the acceptability of the instrument among the Pacific countries (IOSEA, 2005). However, due to the potentially high number of up to 47 participating countries (including the 25 SPREP member States and countries of Eastern, Northern,

Western and Southern Pacific), disadvantages could include difficult, costly and slow negotiations(particularly in the case of creating a legally binding agreement), and securing the participation of countriesthat do not currently participate in any of the existing instruments (SPREP, 2009). The estimated costs of a new Pacific agreement varied between USD 300,000 and USD 500,000 annually (SPREP, 2009). The long-term financial capacity of SPREP to assist the negotiations of the new instrument was regarded as insufficient (IOSEA, 2005), and one respondent expressed concern that the current main providers of voluntary contributions to IOSEA may have little interest in extending their funding towards another regional instrument.

129. By expanding the IOSEA MoU to the Pacific region, IOSEA's CMP could be modified to meet the specific needs of the Pacific Region, and SPREP could act as a sub-regional coordinator. In an options paper developed for the 3rdIOSEA Meeting of the Signatory States, this option was seen to be potentially "less complicated than developing an entirely new agreement", offering a more cost-effective solution compared to the establishment of a new instrument (IOSEA, 2005). One respondent supported the expansion due to the ability of a single instrument to cover important turtle migration routes between the Pacific Islands and Southeast Asia. However, one turtle expert noted that these migration routes have not been considered important enough in the past to extend the scope of IOSEA beyond the Torres Strait.Furthermore, the integration of the SPREP Marine Turtle Conservation Programme to the IOSEA MoU could be difficult to manage, and the current IOSEA MoU Secretariat might not be able to coordinate actions over the entire range area without additional funding (IOSEA, 2005). One respondent considered the geographic scope too broad for a single instrument, and one respondent cautioned that the expansion could "reduce focus on the Indian Ocean and SE Asia area which is big enough to be serviced by the existing Secretariat and small enough for the participants to get to know one another and thus improve communication and cooperation between Member States."

130. The development of a new CMS/SPREP MoU, including (at least initially) the current SPREP countries, was supported by one respondent. This option could provide a more formal commitment, compared to the current SPREP Marine Turtle Action Plan (SPREP, 2009), whilst avoiding the problems associated with the wide scope of the Pacific Regional Agreement. The advantages of a CMS/SPREP MoU could include guaranteed continuity of the agreement within the CMS system and the specific Action Plan created by SPREP (Lee *et al*., 2010). The structure of this instrument could follow the example of the CMS Pacific Islands Cetaceans MoU, where CMS provides part of the institutional support, whilst part of it comes from external assistance by SPREP and the Whale and Dolphin Conservation Society (Lee *et al*., 2010), or following a recommendation by a respondent, it could be realised as more of a "true partnership" between CMS and SPREP. As a disadvantage, it was noted that creating an MoU in addition to the existing SPREP Action Plan could lead to some duplication of effort (SPREP, 2009).

131. The establishment of species- or threat-specific Working Groups in the Pacific region was seen as an option that would allow for immediate collaboration amongst the Pacific countries (SPREP, 2009). Species-specific Working Groups have the potential of ensuring a high level of local ownership in the implementation of conservation measures, and there are examples of successful bi- or multilateral discussions leading to improved conservation of a species (SPREP, 2009). Threat-specific Working Groups could for example address the specific threats of bycatch, whereas species-specific Working Groups could concentrate on the most threatened populations, such as *D. coriacea*. Disadvantages of Working Groups were considered to include overlap or duplication of effort by member States, and potentially high costs (SPREP, 2009); furthermore one respondent indicated that a Working Group might not be a suitable option for the Pacific region.

132. The advantage of the 'no change' option was considered to be that it could give more time to the SPREP members to consider the alternatives, and to review existing CMS arrangements (SPREP, 2009). One questionnaire respondent considered this option as the most viable one, as it makes it possible to allocate more time to the existing CMS arrangements and thoroughly consider the options and alternatives for the new instrument.

133. A recent update on progress (UNEP/CMS Secretariat, 2010) as well as questionnaire respondents indicated that due to limited participation, consultations and questionnaires undertaken by the SPREP Secretariat had produced no conclusion on the preferred outcome and hence, little progress had been made since the 2009 Options paper. It was suggested by one respondent that the lack of progress could be partially due to "a lack of resources and government will to change the status quo", and another respondent suggested that the issue may be low in CMS priorities. It was proposed that the recruitment of a CMS officer within SPREP to monitor issues of shared interest could facilitate the process (UNEP/CMS Secretariat, 2010). Considering the importance of the Pacific region to the conservation of marine turtles, continued support from CMS towards the process is highly recommended.

134. **An Atlantic turtle instrument:** The establishment of a CMS Atlantic Basin marine turtle instrument(possibly as an extension of the MoU of Abidjan), was a further possible option presented by Devillers (2008) to improve the global coverage of CMS marine turtle instruments (Figure 2). If such an instrument were to be established, its geographic scope would include countries of the Mediterranean Basin and the United States, which could bring much-needed financial, scientific and technical resources, strengthening the capacity of MoU of Abidjan. Importantly, it would also cover the core range of *L. kempii*, not covered by the current CMS instruments (UNEP/CMS, 2008e; CMS Scientific Council, 2008), the pan-Atlantic migration routes of *D. coriacea*, for which the Atlantic Basin has been named the "last stronghold" (Hays et al., 2004), the highly threatened populations of *C. mydas* in the Mediterranean and Eastern Atlantic and *C. caretta* throughout the Atlantic (Mast *et al*., 2006). Furthermore, it would cover most of the region-gear combinations warranting particular attention from a conservation perspective: all fishing gear in the Mediterranean, gillnets and longlines in southwestern Atlantic, and longlines and trawls in northwestern Atlantic (Wallace *et al*., 2010). It would also help to create a formal link between CMS and other conservation initiatives within the Mediterranean, as recommended by the Working Group on marine turtles (CMS Scientific Council, 2008). Most range States in Europe and North Africa are already Party to CMS; however, the new instrument would also include several range States along the eastern coast of the Americaswhich are not Party to CMS (although they may be Party/signatory to some of its instruments, such as the United States and Brazil), or are not Party to CMS nor any of its instruments (such as Mexico, Nicaragua, Haiti, Dominican Republic, Venezuela, Colombia, Guyana and Suriname). This could hinder the formation of a new instrument, although it could also be seen as an opportunity for CMS to increase its engagement with parts of the world where it has previously been less active. However, the Atlantic Basin area already has relatively good coverage by other multilateral marine turtle instruments, such as IAC, the SPAW Protocol, WIDECAST, the Barcelona Convention Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD) and the Bern Convention (see Section 3.1). Furthermore, due to the limited success of the MoU of Abidjan so far, it can be questioned whether the instrument with its coordinating unit URTOMA in Senegal would have the capacity to expand.

135. **A single global instrument:**An alternative and highly ambitious option that could generate significant benefits to marine turtle conservation could be a single global instrument covering the entire geographic range of all species of marine turtle (or possibly all CMS migratory marine

turtles, mammals and sharks), coordinated by CMS and seeking to engage all relevant stakeholders (including range States, other multilateral instruments/frameworks, international conservation organisations, RFMOs, national agencies concerned with fisheries, tourism and coastal planning etc)and produce a single global Action Plan. This could facilitate the coordination of conservation and management activities across all coastal, pelagic and High Seas areas, enabling issues such as fisheries bycatch, pollution and adaptation to climate change to be tackled in a coordinated manner. Specific CMS instruments for populations, species or groups of species most in need of conservation action could then sit under this global instrument. One questionnaire respondent emphasised the potential benefits from increased interactionwith a variety of instruments with differing approaches to regional-level collaboration, and considered CMS as the most appropriate forum for such collaboration. This option would be a massive undertaking, requiring a great deal of time, resources, finance and collaboration between many stakeholders; drawing-up an agreement and obtaining a sufficient number of signatories may also be unachievable. However, it could i) greatly increase the contribution of CMS towards migratory marine species, ii) make a significant contribution towards CBD objective and NBSAPS and iii) reduce duplication of effort and improve sharing of data, information and experience between the different stakeholders.

4.3 Additional options for effective implementation

136. **Strengthening the membership base:** Although IOSEA has most of the important range States amongits32 signatories,it would benefit from increased participation by some of the remaining 12 range States (IOSEA, 2009), particularly key countries such as Malaysia (with its important nesting/foraging areas), and countries with a strong interest in fisheries, such as Japan and the People's Republic of China. Japan also has one of the main nesting sites of *C. caretta* in the Pacific, which have declined by over 90 per centover the past 25 years (Mast *et al*., 2006).

137. The MoU of Abidjan has a higher proportion of range States as signatories, with only Portugal, Spain and the United Kingdom (all with overseas territories) yet to become signatories. One of the weaknesses identified for the MoU of Abidjan was the lack of participating wealthier States, and the CMS Secretariat has approached the United Kingdom, Spain, France and Portugal several times in regard to the matter, although with little success so far (UNEP/CMS, 2008g). It may be the case that wealthier range States are reluctant to sign an instrument, knowing that they will be the main contributors (such as in the case of IOSEA, where the bulk of voluntary contributions have come from just a few signatories) and hence, improvements to the funding base could improve the situation.Furthermore, where a member country of one agreement is reluctant to join new agreements due to increased costs, a system of incentives for countries joining more than one instrument was suggested by Devillers (2008).

138. **Increased collaboration between CMS instruments:** As the number and coverage of CMS instruments on marine migratory species has increased, stronger linkages between the various instruments could provide benefits such as sharing information, resources and expertise and reducing duplication of effort. Potential synergies could be developed between the CMS Dugong MoU and the IOSEA MoU, which overlap in region and share the new UNEP/CMS Abu Dhabi project office, which has responsibilities in servicing the Dugong MoU and promoting the implementation of IOSEA (UNEP/CMS, 2010b), and could take up a valuable role as a mediator of information exchange (UNEP/CMS, 2010d). The importance of exploring potential synergies between the two instruments was emphasised in a workshop organised in 2010 (UNEP/CMS, 2010d), and at the IOSEA Strategic Planning meeting (IOSEA, 2009). Questionnaire respondents considered joint meetings, sharing of Secretariat responsibilities and collecting information about species and habitats as potential benefits from collaboration between IOSEA and the Dugong MoU, and further options could include

organising combined training workshops (UNEP/CMS, 2010d), as well as joint public awareness campaigns, initiatives involving local communities and interactions with fisheries organisations.In the first meeting of the signatory States of the Dugong MoU, shared national focal points were suggested as a means to enhance the synergies between the two instruments (UNEP/CMS, 2011c).Combining the objectives of marine turtle and dugong conservation was seen as a potential means to increase political support at the national level towards, for example, local fisheries closures in areas of high occurrence of turtles and dugong (UNEP/CMS, 2011c). The Australian national report to IOSEA shows that activities combining turtle and *D. dugon* conservation and sustainable harvesting by indigenous communities have already been undertaken.

139. The Action Plan for the Conservation of Small Cetaceans of Western Africa and Macaronesia notes that coordinating efforts and activities between the instrument and the MoU of Abidjan "may improve the efficiency with which resources are used for research, education, policy-making or other conservation activities, to the benefit of taxa in the combined scope of the two MoUs" (UNEP/CMS and WATCH, 2008).Further synergies should also be investigated with the turtle MoUs and the CMS MoU on the Conservation of Migratory Sharks, with overlapping regions and bycatch as a major threat.

140. One questionnaire response emphasised the potential of beneficial information exchange between the CMS marine turtle MoUs and other CMS instruments. Significant benefits could arise from the use of innovative approaches and initiatives as examples of good practice within the CMS Family. For example, a respondent noted that the planning of the IOSEA site network had benefited from a similar initiative developed for the CMS Siberian Crane MoU, and the successful IOSEA Year of the Turtle campaign in 2006 had, as the first of the "Year of the..." campaigns, benefited other similar campaigns implemented by CMS instruments. Experiences from other successful IOSEA projects and the Strategic Planning process could also benefit other instruments.Consultation with turtle experts suggested that both IOSEA and the MoU of Abidjan could learn from successes of the Dugong MoU. For example,the Dugong MoU (which entered into force in 2007), has succeeded in creating five functioning regional programmes with a range of partners and collaborative institutions, within a relatively short time period.

141. The CMS Marine Turtle Working Group suggested that the Secretariat should investigate options for the sharing of resources between the two turtle MoUs, which share similar target species and institutional structure (CMS Scientific Council, 2010). The sharing of resources between IOSEA and the MoU of Abidjan could include sharing the IOSEA website and national reporting platform (or at least exploring the possibility of linking to some of IOSEAs online resources through the URTOMA website), sharing office space, joint meetings, intersessional Working Groups and research projects and updating and extending the scope of the IMapS database developed for IOSEA in collaboration with UNEP-WCMC (CMS Scientific Council, 2010). It was, however, noted by one questionnaire response that the less developed MoU of Abidjan would be less likely to benefit IOSEA, and careful analysis would be needed to guarantee the feasibility of increased collaboration from the viewpoint of both instruments.

142. One important area of collaboration between the CMS marine turtle instruments or marine migratory species instruments in general could be the establishment of a shared site network, similar to that of the Ramsar Convention, as suggested at the IOSEA Strategic Planning Meeting (IOSEA, 2009). Marine corridors and critical site networks, including nesting areas, foraging habitats and migratory corridors were suggestions also promoted by the CMS Marine Turtle Working Group (UNEP/CMS Resolution 9.9; CMS Scientific Council, 2010). A shared site network, developed on the basis of the IOSEA site network plans, could promote the sharing of experiences and lessons learned

between site managers and could be supported by online facilities. Such a network could address the problems identified in destruction of nesting beaches and lack of attention to marine turtles in coastal planning. The project could benefit from successes and lessons learnt from the Wings over Wetlands (WOW) African-Eurasian Flyways Project. Furthermore, it could be a major step towards addressing the gap identified in the management of ABNJ (UNEP/CMS Secretariat, 2008a). The process towards High Seas habitat protection networks would require working on the development of an appropriate legal framework, but it could significantly increase the role of CMS in the global management of the High Seas (UNEP/CMS Secretariat, 2008a).

143. Clearly, finding consensus among instruments of a shared network or other shared resources would be a challenging task. Increased linkages between the CMS Scientific Council and scientific bodies of agreements could help in developing synergies within CMS regarding marine migratory species (UNEP/CMS Secretariat, 2008a). One IOSEA questionnaire respondent suggested that increased cooperation/collaboration with the MoU and CMS Secretariat could involve closer consultation/involvement in the distribution of proceeds of voluntary contributions directed to CMS and better organisation of the work to maximise synergies.

144. **Developing work on cross-cutting initiatives to address threats:** A series of programmes/initiatives across CMS instruments based on common threats/issues has been identified as an opportunity to provide greater integration across the CMS family, as well as reducing duplication of effort and improving economies of scale (Lee *et al*., 2010; 2011). In regard to marine migratory species(such as turtles, dugongs, Cetaceans and sharks), bycatch is an important shared threat, and according to comments from questionnaire respondents, bycatch is currently insufficiently addressed in both CMS marine turtle MoUs. One of the suggestions for increased collaboration between IOSEA and the Dugong MoU was the monitoring and control of bycatch (UNEP/CMS, 2010d).The Dugong MoU focuses on small-scale fisheries (which are also an important cause of turtle mortality and are currently insufficiently addressed by other international instruments), and it has already undertaken regional data-collection programmes combining data on dugong and marine turtles (UNEP/CMS, 2011c).The bycatch issue is also relevant to other instruments within the CMS Family, including ASCOBANS, ACCOBAMS, Mediterranean Monk Seals MoU, Pacific Cetaceans MoU, Western African Aquatic Mammal MoU, Migratory Sharks MoU, as well as ACAP (UNEP/CMS Secretariat, 2008a). Programmes based on bycatch or other relevant issues where gaps were identified, such as climate change, might include i) organisation of joint workshops and meetings across multiple CMS instruments; ii) compilation of successful case studies; iii) organisation of joint research projects across CMS instruments; and iv) development of practical guidelines on how to tackle specific issues at regional/national/local levels, or dissemination of existing guidelines developed by FAO and other fisheries-related organisations. At a more general level, it was suggested that CMS could produce a "global assessment of the impact of by-catch and targeted and non-targeted catch on the conservation status of all migratory marine species covered by the Convention", and help in identifying the key fisheries, regions and species in need of cooperative action (UNEP/CMS Secretariat, 2008a). An assessment conductedwithin the CMS range States to review marine turtle bycatch in all fisherieswas also identified as a priority during consultation with turtle experts.With regards to climate change, the establishment of an inter-sessional CMS Working Group on Climate Change has received support from the CMS Marine Turtle Working Group, and the CMS Councillor for marine turtles is prepared to serve on this Working Group (CMS Scientific Council, 2010).

145. **Harmonised national reporting:** National reports are essential for assessing the implementation and performance of CMS instruments, yet the Future Shape process has highlighted the issue of reporting problems, such as missing deadlines and a high percentage of non-compliance (Lee *et al*., 2010; 2011)

and progress towards the harmonisation of reporting systems within the CMS Family and with other international biodiversity agreements is highly desirable (UNEP/CMS Resolution 9.4; Lee *et al*., 2010; 2011; UNEP/CMS Secretariat, 2011c). IOSEA already leads the way in its online reporting facility, which can serve as a model of what is possible and desirable for other instruments. The sharing of reporting tools between the two turtle MoUs would bring obvious benefits to the MoU of Abidjan (UNEP/CMS, 2008f), although the underlying technology of IOSEA's online reporting facility may not be readily transferable and the issue of poor internet access in certain countries would also need to be resolved. An Online Reporting Tool engine being developed by UNEP-WCMC (in collaboration with CMS and AEWA) is designed to address specific reporting requirements of MEAs, such as the ability to i) create national reports online easily; ii) delegate different modules to different national focal points or experts, iii) carry forward answers from previous reporting cycles iv) selectively offer questions to different Parties, and v) make changes to the online report quickly and without the need for technical know-how. Future developments may include an analytical module, which would make it even easier to analyse responses from Parties, all integrated in one tool. The move towards a joint reporting system across the CMS Family would clearly be of benefit in terms of i) reducing the reporting burden on range States, ii) collating and analysing information of relevance to multiple instruments and iii) monitoring and evaluating the progress of instruments.

146. **Increased collaboration with other institutions/frameworks:** Working more closely with partner organisations and developing further collaboration and synergies with MEAs, NGOs and relevant international organisations has been a key objective of the Future Shape process, to enhance the influence of CMS and increase its regional presence (UNEP/CMS/Res.9.13/Rev.2; Lee *et al*., 2010; 2011; UNEP/CMS Secretariat, 2011a). The analysis of threats to marine turtles (Section 2) and responses to the questionnaires indicate that there is room to strengthen collaboration with a wider range of institutions. Specific challenges related to the conservation of marine species, for example i) the poorly understood and extensive migration routes, ii) increasing impact of fisheries activities and iii) the importance of ABNJs, highlight the importance of collaboration between CMS and other MEAs, FAO and Regional Fisheries Management Organisations (RFMOs) (UNEP/CMS Secretariat, 2008a).

147. Collaboration with RFMOs and other fisheries organisationsis of key importance in addressing fisheries bycatch.One turtle expert suggested thatoptions for improved collaboration could include i) engaging RFMOs to regularly and effectively monitor sea turtle bycatch, ii) engaging RFMOs to test and implement effective bycatch mitigation strategies, and iii) joint development of time-area closures in areas of high importance for marine turtles.Although many RFMOs have been mainly concentrating on single-species management, there is a global trend to move towards the Precautionary Approach and Ecosystem-Based Management, and most RFMOs acknowledge the importance of bycatch mitigation (Mooney-Seus and Rosenberg, 2007). However, many RFMOs were found to fail to implement and enforce management measures according to scientific advice, and it was estimated that relatively few RFMOs implemented effective measures for bycatch mitigation (Mooney-Seus and Rosenberg, 2007). Data on key habitats and 'turtle hotspots', required for effective bycatch mitigation (Griffin, 2010), could be provided through the site-specific information of the turtle MoUs. IOSEA has already established collaboration with IOTC, and increased formal arrangements between RFMOs were considered a future priority at the IOSEA Strategic Planning meeting (IOSEA, 2009).

148. Increased engagement of NGOs and other stakeholders and increased linkages with regional organisations and other initiatives were also considered to have importance for future development at the IOSEA Strategic Planning meeting (IOSEA, 2009).The example of the Dugong MoU could be

used for the development of such linkages (UNEP/CMS, 2011c). The exploration of potential linkages with the South Asian Association for Regional Cooperation, PERSGA and ROPME was seen particularly important (IOSEA, 2009). The collaboration with PERSGA and ROPME was considered to gain further importance with the establishment of the UNEP/CMS Abu Dhabi Office (UNEP/CMS, 2010b). Questionnaire respondents also named several organisations that IOSEA might benefit from collaborating with (including ROPME, Mangroves for the Future, Conservation International, INOC (Inter Islamic Sciences & Technology Network on Oceanography), WIOMSA, IUCN and the South Asia Co-operative Environment Programme), or strengthening existing collaboration with (including IOTC,SEAFDEC, BOBLME, WWF, International Sea Turtle Society, UNEP-WCMC and FAO).Questionnaire respondents indicated that improved collaboration with relevant initiatives and alliances with fisheries, tourism and development-related industries could benefit the MoUs, and it was noted that improved collaboration with industry could potentially improve the financial security of the instrument as well (IOSEA, 2009). It was also noted that better linkages to countries with strong fishing interest in the region should be developed. A particular challenge to turtle conservation in both MoU regions is the inclusion of poor, underdeveloped coastal fishing communities in marine turtle conservation. One respondent pointed out the lack of alternative livelihoods being developed for communities that are dependent on turtle exploitation; these kinds of gaps could probably be best addressed with the help and knowledge of local NGOs, and synergies could be sought with the Dugong MoU that addresses similar questions.

149. For the MoU of Abidjan, collaboration could be sought with organisations such as WCS, the WWF West Africa Marine Ecoregion project (WAMER) and the Marine Conservation Action Fund, through common meetings and initiatives (New England Aquarium, 2011), as well as the Regional Coastal and Marine Conservation Programme for West Africa and the European Union for the Agreement of Fishing Rights (UNEP/CMS, 2008f). Improved collaboration with organisations and bodies that have participated in previous Meetings of Signatories, including the Marine Conservation Society, Programme Régional de Conservation de la Zone Côtiere et Marine en Afrique de L'Ouest, IUCN MTSG, IUCN West Africa, Nature Tropicale, Natura 2000, Reseau pour la protection des tortues marines d'Afrique Centrale (PROTOMAC) and Fondation International du Banc d'Arguin (FIBA) and several national organisations (UNEP/CMS, 2008f), should be explored further.

150. **Strengthened external collaborations on cross-cutting issues:** CMS programmes/initiatives on cross-cutting issues could also facilitate a coordinated approach in enabling the CMS family to participate in relevant events organised by other MEAs and international organisations (such as those identified in Section 3.4, Overlaps), as well as enabling CMS to take a more active role on certain issues that are not currently widely addressed by other MEAs and international organisations, such as the effect of climate change on marine migratory species, species protection in ABNJs and pollution. This would help enhance the role of CMS in cross-cutting issues as well as creating further synergies and reducing duplication of effort between the various treaties, as per the CMS Strategic Plan 2006-2011 (UNEP/CMS, 2005). The high profile and wider relevance of these cross-cutting issues may also help to attract additional funding, as well as raising the commitment of CMS Parties to addressing these issues.

4.4 Priorities for development

151. The two CMS marine turtle MoUs differ in regard to their overall success, with IOSEA being frequently regarded as a 'model instrument', whilst the MoU of Abidjan has had limited success in terms of implementation of the Conservation and Management Plan and organising regular meetings. Hence, it is important to ensure that the lessons learnt with IOSEA are used efficiently to benefit the MoU of Abidjan, in terms of e.g. a shared website platform, including the IMAPS Interactive Mapping

System, Projects Database and National Reporting Facility. The strengthening of the Conservation and Management Plans through the development of measurable targets and indicators is a priority for both MoUs, as it the need to strengthen their funding bases. IOSEA should aim to strengthen its membership base in the key range States, and the MoU of Abidjan would benefit from enlisting some Developed countries as signatories.

152. Criteria to identify priorities for establishing new CMS instruments include i) the degree to which the species/populations are threatened by issues that require international cooperation, ii) the likelihood of success (such as significant interest from range States and NGOs and the ability to raise funds) and iii) whether the new instrument has other benefits to the CMS Family (such as increasing the presence of CMS in regions of the world with few Parties to CMS, addressing threats/issues that affect multiple CMS species or opportunities for CMS to increase synergies with other MEAs and organisations). In this regard, the creation of a new CMS/SPREP Pacific marine turtle instrument to address the gap in the conservation of marine turtles is clearly a priority. SPREP is in a good position to address the turtle conservation issues in the Pacific island states, where marine turtles have very high cultural significance, and where there are traditional turtle fisheries targeting particularly *C. mydas* and *E. imbricata* (Adams, 2003). The development of a CMS/SPREP MoU, with good links to IOSEA and using elements of IOSEA's CMP and information management system, may be the best option for such an instrument, considering the interest expressed by SPREP member countries and the lack of interest towards expansion by IOSEA signatory States. The new instrument could successfully increase CMS's presence in the Pacific region and improve collaboration with SPREP, including the development of synergies with the CMS Pacific Cetaceans MoU.The expansion of the instrument to cover the whole of the Pacific region would be an option to consider in the future, but initially the inclusion of the SPREP member States would facilitate establishment and coordination of a new instrument whilst keeping costs to a minimum.

153. Development of an instrument to cover the entire Atlantic Ocean is highly desirable, as it may help bring scientific and technical capacity and increased funding opportunities to the MoU of Abidjan, as well as protecting important marine turtle habitats and migration routes and helping to establish a coordinated approach to tackling the increasing pressure from fisheries activities. However, it would be an ambitious option given that Europe and the Americas already have various instruments and projects in place relating to marine turtles, CMS has so far been less successful in developing instruments in the Americas (of which many range States are not a Party to CMS), and there has so far been little interest in developing an Atlantic Ocean turtle instrument within the CMS community. A more realisticoption at present may be to explore expansion of the instrument to the European Atlantic coast and Mediterranean coast (or at least increase collaboration with key stakeholder in these regions), as well as improving collaboration with IAC.

154. Whilst development of a single global instrument on marine turtles (or all CMS migratory marine turtles, mammals and sharks) would provide significant conservation benefits, it is clearly a highly ambitious and expensive option. The level of interest and support amongst range States and potential stakeholders and its feasibility could be further investigated to gaugeits likelihood of success as an option to consider in the longterm. However, it is probably not a feasible option at present.

155. The development of stronger linkages between CMS instruments on marine migratory species could bring considerable benefits to the conservation of marine turtles. In this respect, it would be important to continue the exploration of potential synergies such as the shared site network, and the development of cross-cutting initiatives, particularly in regard to the threats of bycatch and climate change. Developing synergies and collaboration with MEAs, NGOs and relevant international

organisations should also be a priority, especially FAO and Regional Fisheries Management Organisations.

5. Conclusions and recommendations

156. The two existing CMS instruments on marine turtles cover significant range areas in the Indian Ocean and Southeast Asia (the IOSEA MoU) and along the Atlantic Coast of Africa (the MoU of Abidjan) and include all marine turtle species within their geographic scope. However, most of the Pacific Ocean and the central and eastern Atlantic Ocean are not covered by a CMS instrument(despite holding important populations of six turtle species), with only *Natator depressus* having its entire geographic range covered by a CMS instrument. There are a host of other multilateral instruments/frameworks that cover marine turtles, their habitats or significant threats in certain parts of their range, however, there is a lack of an overall mechanism to bring these disparate activities together in a common framework or coordinated response.

157. The two CMS existing instruments on marine turtles have had very different levels of success, with IOSEA widely recognised as a successful, well-established instrument whereas the MoU of Abidjan has made slow progress towards gathering the commitment and active participation of range States, collaborating with conservation organisations and fisheries bodies and implementing (and reporting on) itsConservation and Management Plan (CMP).

158. The main priorities for the MoU of Abidjan are strengthening the capacity of its coordination unit URTOMA and increased communication and collaboration between URTOMA, range States, other MEAs(such as the Abidjan Convention), FAO, RFMOs and fisheries organisations, NGOs and conservation organisations. The MoU of Abidjan would also benefit from i) encouraging the remaining range States to put national legislation in place to prohibit the taking of these Appendix I species, ii)undertaking activities in the CMP to protect/restore habitats and minimise threats such as coastal development and fisheries bycatchiii) providing more information and resources to range States on the URTOMA website, iv) holding more frequent Meetings of the Signatories, v) seeking to include wealthier range States as signatories (to attract much needed technical, scientific and financial resources), vi) increased collaboration with IOSEA (e.g. through sharing of website resources, the national reporting platform, joint meetings, intersessional Working Groups and research projects), and vii) completing its database on marine turtles of the Atlantic Coast of Africa.

159. IOSEA would benefit from i) encouraging the few remaining key range States (particularly those with fishing interests in the Indian Ocean or countries with key nesting/foraging areas), to become signatories, and ii) increased collaboration with the CMS Dugong MoU (through, for example, the sharing of information, resources and expertise and joint meetings, workshops and public awareness campaigns).

160. Both CMS existing instruments on marine turtles would benefit from i) strengthening of the CMPs through specifying responsible agents and collaborators and development of measurable targets and indicators ii) strengthening their funding bases (e.g. through coordinated fundraising activities through the CMS Secretariat, developing a fundraising policy, increased collaboration with international organisations and projects and exploring additional funding opportunities through the national implementation of NBSAPs), iii) completion and regular review of regional species assessments and iv) new and strengthened collaborations with MEAs, NGOs, conservation organisations, RFMOs and other fisheries organisations, and tourism and development-related industries. CMS could also provide greater integration across the CMS Family and enhance its global role in protecting migratory marine species by i) developing programmes/initiatives on cross-cutting themes such as bycatch mitigation and climate change, ii) establishment of a shared network of

critical sites and marine corridors, and iii) working towards harmonised national reporting and sharing of online databases and resources (across the CMS Family and between Conventions).

161. To address important range areas not covered by CMS existing instruments, several options have been explored for establishing a CMS instrument in the Pacific and Atlantic Oceans. The most feasible solution for the Pacific Ocean at presentmay be the development of a CMS/SPREP Pacific marine turtle instrument. The strengthened presence of CMS in the Atlantic Basin area is highly desirable, and although the expansion of the MoU of Abidjan towards an ocean-wide instrument seems unrealistic at present, options to expand the instrument to the European Atlantic coast and Mediterranean coast (or at least increase collaboration with key stakeholder in these regions), as well as improving collaboration with the IAC should be explored. An ambitious option for the longer term could be the creation of a single global instrument for marine turtles (and possibly other migratory marine species), that would seek to engage other MEAs and relevant stakeholders to address threats such as fisheries bycatch in a coordinated manor. In the meantime, increased communication between IOSEA, the MoU of Abidjan and CMS instruments concerning Cetaceans, dugongs and sharks would be highly desirable, to identify synergies and areas for future collaboration.

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Annex I – List of Abbreviations

ABNJ	Area Beyond National Jurisdiction
AC	Advisory Committee
ACAP	Agreement on the Conservation of Albatrosses and Petrels
ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area
ASCOBANS	Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas
ASEAN	Association of Southeast Asian Nations
BOBLME	Bay of Bengal Large Marine Ecosystem Project
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMP	Conservation and Management Plan
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COP	Conference of Parties
Defra	UK Department for Environment, Food and Rural Affairs
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
GEF	Global Environment Facility
IAC	Inter-American Convention for the Protection and Conservation of Sea Turtles
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOSEA	Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia
IOTC	Indian Ocean Tuna Commission
ISWGoFS	Inter-sessional Working Group on the Future Shape of CMS
IUCN	International Union for Conservation of Nature
IUCN MTSG	IUCN Marine Turtle Specialist Group
MEA	Multilateral Environmental Agreement
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
MoU of Abidjan	The Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa
MTCA	US Marine Turtle Conservation Act
NAFO	Northwest Atlantic Fisheries Organization
NBSAP	National Biodiversity Strategy and Action Plan
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental Organisation
NOAA	National Oceanic and Atmospheric Administration
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
PERSGA	Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden
PRCM	Programme Regional de Conservation de la Zone Côtiere et Marine en Afrique de l'ouest /West African Regional Marine and Coastal Conservation Programme
RAMPAO	Réseau des Aires Marines Protégées de l'Afrique de l'Ouest (West AfricanMarine Protected Areas Network)
RFMO	Regional Fisheries Management Organisation
ROPME	Regional Organisation for the Protection of the Marine Environment
SEAFDEC	Southeast Asian Fisheries Development Center
SEAFO	South East Atlantic Fisheries Organisation
SINEPAD	Secrétariat intérimaire du volet environnement du NEPAD (Environmental Division of Nepad)

SPA/BD	Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean
SPAW	Protocol concerning Specially Protected Areas and Wildlife
SPC	South Pacific Commission
SPREP	Secretariat of the Pacific Regional Environment Programme
TIHPA-MoA	Memorandum of Agreement on the Establishment of the Turtle Island Heritage Protected Area
UN	United Nations
UNCLOS	United Nations Convention on Law of the Sea
UNEP	United Nations Environment Programme
UNEP/DEC	UNEP Division of Environmental Conventions
UNEP/ROAP	UNEP Regional Office for Asia and the Pacific
UNEP RRC.AP	UNEP Regional Resource Centre for Asia and the Pacific
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
URTOMA	Regional Coordination Unit for the Marine Turtles of the Atlantic Coast of Africa
WCPFC	Western and Central Pacific Fisheries Commission
WCS	Wildlife Conservation Society
WPRFMC	Western Pacific Regional Fishery Management Council
WWF	formerly World Wildlife Fund
WIDECAST	Wider Caribbean Sea Turtle Conservation Network
WIO-MTTF	Western Indian Ocean Marine Turtle Task Force
WIOMSA	Western Indian Ocean Marine Science Association

Annex II – Terms of Reference

The contractor is to undertake an evaluation of the operation of instruments and projects on species of marine turtle developed under the aegis of the Convention on the Conservation of Migratory Species of Wild Animals (CMS). The array of CMS initiatives consists of Agreements, Memoranda of Understanding (MoUs) and concerted and cooperative actions.

Aims and Objectives

The main objectives of this exercise are to

1. Briefly review the main threats and conservation issues affecting taxa of marine turtles included in CMS appendices;

2. Summarize coverage of existing CMS and non-CMS multilateral instruments/frameworks relevant to the taxa referred to in 1. above;

3. Review the extent to which existing CMS and non-CMS multilateral instruments/frameworks are addressing or not addressing threats/issues identified under 1;

4. Undertake an analysis of strengths, gaps and overlaps between CMS instruments and non-CMS instruments/frameworks, (highlighting strengths of CMS instruments and relationships with non-CMS instruments);

5. Propose options for the better and effective implementation and further development of existing CMS instruments, (including their revision where appropriate and opportunities for collaboration and synergies with other instruments/frameworks);

6. Propose priorities for development, if any, of new CMS instruments or other relevant arrangements or mechanisms to cover major identified gaps.

In the context of this review, the following CMS instruments are to be considered:

– Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia;

– Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa.

The results are expected to identify advantages and drawbacks of the design and functioning of these initiatives, lessons to be learnt and options, as appropriate, for improvement in achieving their conservation objectives, including possibilities to apply different approaches such as the "Multispecies Initiatives" by grouping the existing initiatives and/or developing new ones under main migratory species groups, or addressing the conservation need via alternative mechanisms and instruments.

Annex III – Template of the questionnaire sent to Range States and key stakeholders of CMS existing instruments

Questionnaire on the *Instrument Name* for the 'Review of CMS existing instruments and projects on marine turtles' undertaken by UNEP-WCMC on behalf of the CMS Secretariat.

We would be grateful if completed questionnaires could be returned to species@unep-wcmc.org by Friday 17th June 2011.

Name.....**Organisation**.....

Instrument Name
1) What do you consider the major contributions of the *Instrument Name* to the conservation of its target species and their habitats?
2) What factors do you consider most important in contributing to the overall successes of *Instrument Name*?
3) Please describe any areas of weakness or any major conservation issues that *Instrument Name* is not currently addressing, and what would be needed to resolve them.
4) In what ways does *Instrument Name* benefit from cooperation/collaboration with other international/regional organisations or other interested partners?
5) Are there any additional international/regional organisations which *Instrument Name* would benefit from collaborating with in the future?

6) In what ways does *Instrument Name*benefit from cooperation/collaboration with other instruments within the CMS family?
7) Do you think *Instrument Name*would benefit from a greater level of cooperation/collaboration with other instruments within the CMS family (or with the CMS Secretariat), and how might this best be achieved?
8) In order to effectively conserve all CMS-listed marine turtles throughout their entire range (given that funding and resources are limited), how do you consider this might best be achieved?* ____ [please give a number from the options below]
1. extend the geographic scope of existing CMS instruments 2. extend the number/type of species covered by existing instruments 3. merge existing CMS instruments 4. create new single-species CMS instruments 5. create new multi-species CMS instruments 6. other (such as strengthening or collaboration with non-CMS instruments or projects)
9) Please explain the reasons for your chosen option and what you consider to be the main advantages and difficulties of achieving this option?

***** This question and the possible options were adjusted depending on the each CMS instrument.

Annex IV – Acknowledgements

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Annex V –Overview of key features of CMS instruments on marine turtles.

CMS Instrument	Year entered into effect	No. of range States covered (no. of Signatories)	Institutional structure	Main implementation instruments	Financing	Resources/publications
IOSEA MoU	2001	44 (32)	IOSEA Secretariat (Bangkok). Meeting of Signatory States (MoS1-5). Advisory Committee (AC 1-5)	Conservation and Management Plan. Proposed network of important sites (proposed for launch in 2011).	Voluntary contributions from signatory States (amounting to approx. 90% of total support received), plus start-up and meeting support from CMS, UNEP/DEC (8%). Office space and administrative support from UNEP/ROAP. Cumulative financial support raised is in excess of USD2.0 million 2002-2010.	Dedicated website (www.ioseaturtles.org) hosts current news, meeting documents, online national reporting and query tools, satellite tracking and genetics directory databases, bibliographic resources, projects database and information on flipper tags series. Species assessments. Publications on traditional and cultural uses of marine turtles and the impacts of 2004 tsunami. Awareness posters, brochures IOSEA 2006 Year of the Turtle campaign.
Atlantic Coast of Africa MoU (MoU of Abidjan)	1999	26 (23)	CMS Secretariat provides basic secretariat services. Meeting of the Signatories (MoS 1-2) Regional Coordination Unit for the Marine Turtles of the Atlantic Coast of Africa (URTOMA) in Senegal	Conservation and Management Plan.	CMS support for publications and projects. URTOMA supported by Senegal, CMS and UNEP.	URTOMA website (www.urtoma.org.sn) CMS Technical Series 5 & 6.

Annex VI–Non-CMS instruments covering species of marine turtle listed in the CMS Appendices and relevant international organisations/projects.

Name	Geographic area	Relevance to marine turtle conservation
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Global	Control of international trade
Ramsar Convention	Global	Habitat conservation
Convention on Biological Diversity (CBD)	Global	Conservation and sustainable use of species; thematic programme on Marine and Coastal Biodiversity
United Nations Convention on Law of the Sea (UNCLOS)	Global	General fisheries regulation
UNESCO World Heritage Convention	Global	Habitat conservation
FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations	Global	Fisheries Bycatch
International Convention for the Prevention of Pollution from Ships (MARPOL)	Global	Marine pollution
IUCN Marine Turtle Specialist Group (IUCN MTSG)	Global	Advice and support in all conservation issues
Indian Ocean Tuna Commission (IOTC)	Indian Ocean	Control of bycatch; Recommendation 05/08 on sea turtles and Resolution 09/06 on marine turtles
Southwest Indian Ocean Fisheries Project (SWIOFP)	Southwest Indian Ocean	Sustainable use of marine resources; sea turtle training course etc.
South East Asia Fisheries Development Centre (SEAFDEC)	Southeast Asia	Marine Fishery Resources Development and Management Department deals with marine turtles
Sulu-Sulawesi Marine Ecoregion (SSME)	Sulu-Sulawesi region Indonesia, Malaysia and the Philippines	Programme plan for sea turtle conservation
MoU of a Tri-National Partnership between the Government of the Republic of Indonesia, the Independent State of Papua New Guinea and the Government of Solomon Islands on the Conservation and Management of Western Pacific Leatherback Turtles at Nesting Sites, Feeding Areas and Migratory Routes in Indonesia, Papua New Guinea and Solomon Islands	(Bismarck ecoregion) Western Pacific	Collaboration on all *Dermochelys coriacea* conservation efforts
Turtle Island Heritage Protected Area MoA between Philippines and Malaysia (TIHPA – MoA)	Nine islands area on Philippines/Malaysia waters	Establishment of a protected area with conservation and research programmes
MoU on ASEAN Sea Turtle Conservation and Protection	Southeast Asia	Co-ordinated action on sea turtle conservation
Commission for Conservation of Southern Bluefin Tuna (CCSBT)	Waters of Australia, Taiwan, Indonesia, Japan, Republic of Korea and New Zealand	Binding and non-binding bycatch measures
Bay of Bengal Large Marine Ecosystem Project (BOBLME)	Bay of Bengal	Improving the regional management of the environment and fisheries

Name	Geographic area	Relevance to marine turtle conservation
Southwest Indian Ocean Fisheries Project (SWIOFP)	Western Indian Ocean	Has an initiative called 'Interactions of sea turtles with open sea fisheries', which will collect data that will be used together with data from IOTC and IOCEA.
Western Indian Ocean Marine Science Association (WIOMSA)	Western Indian Ocean	Grant program Marine Science for Management (MASMA), which aims at conducting applied research on long-term sustainability of the utilization of coastal and marine resources.
Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean	Western Indian Ocean	Protocols concerning protected areas and wild fauna, protection of marine and coastal environment and marine pollution
The Consortium for Conservation of Coastal and Marine Ecosystems in the Western Indian Ocean (WIO-C) (in partnership with the Nairobi Convention)	Western Indian Ocean	Brings together the major NGOs that have developed marine programmes in the Western Indian Ocean area
PERSGA (the Regional Intergovernmental Organization for the Conservation of the Environment of the Red Sea & Gulf of Aden) and Jeddah Convention (Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment)	Red Sea and Gulf of Aden	Protocols on biodiversity and protected area network, and on protection of marine environment, PERSGA Regional Action Plan for the Conservation of Marine Turtles
ROPME (Regional Organisation for the Protection of the Marine Environment)	Persian Gulf	Plans of a regional turtle project and a proposal on a monitoring and tagging program by Kuwait
Eastern African Marine Ecoregion (EAME)	Sub-saharan East African Coast	Biodiversity Conservation Strategic Framework 2005-2025 identifies several areas and threats critical to marine turtles
Western and Central Pacific Fisheries Commission (WCPFC) established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean	Western and Central Pacific, including High Seas	Bycatch reduction, requirements for safe handling and release of marine turtles
The Regional Coastal and Marine Conservation Programme for West Africa (PRCM)	West Africa	Improve coordination of actions in sustainable coastal and marine development
African Convention on the Conservation of Nature and Natural Resources (Algiers Convention)	African countries	Conservation and sustainable use
Regional Convention on Fisheries Cooperation among African States Bordering the Atlantic Ocean	Atlantic coast of Africa	Conservation and management of fishery resources with article on protection of marine environment

Name	Geographic area	Relevance to marine turtle conservation
Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention)	Atlantic coast of Africa	Concentrates on pollution, also establishment of protected areas
New Partnership for African Development – Coastal and Marine Secretariat NEPAD-COSMAR	African coast	
West African Regional Marine and Coastal Conservation Programme (Programme Regional de Conservation de la Zone Côtiere et Marine en Afrique de l'ouest, PRCM)	West African waters	
WWF West African Marine Ecoregion project	West African waters	A component on 'Conservation and sustainable use of marine turtles'
Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora	African coast	
Southeast Atlantic Fisheries Organization (SEAFO) of the Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean	High Seas of the South East Atlantic Ocean	Resolution for bycatch mitigation
Guinea Current Large Marine Ecosystem Project (GCLME)	Gulf of Guinea	Sustainable use of marine resources, biodiversity conservation and habitat restoration
International Commission for the Conservation of Atlantic Tunas (ICCAT)	Atlantic Ocean	Resolution on turtle bycatch
Specially Protected Areas and Wildlife Protocol (SPAW) of the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (Cartagena Convention)	Wider Caribbean region (Caribbean and adjacent areas of Atlantic)	Species and habitat conservation
Wider Caribbean Sea Turtle Conservation Network (WIDECAST)	Wider Caribbean region	Conservation and sustainable management of marine turtles
Convention for the Conservation of the Biodiversity and the Protection of Wilderness Areas in Central America	Central America	Conservation and sustainable use of biodiversity
Northwest Atlantic Fisheries Organization (NAFO)	Northwest Atlantic	Resolution to reduce marine turtle mortality in fishing
Latin American Organization for Fisheries Development (OLDEPESCA)	Central America and northern South America	MoU with IAC; works with the implementation of CITES
Organization of the Fisheries and Aquaculture Sector (OSPESCA)	Central America	MoU with IAC
Caribbean Large Marine Ecosystem Project	Caribbean and adjacent areas of the Atlantic	Sustainable management of marine biodiversity
Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD) of the Barcelona Convention	Mediterranean Sea	Protected areas, species conservation
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	Mediterranean & NE Atlantic	Conservation of biodiversity and habitats
EU Habitats Directive	EU	Conservation of biodiversity and habitats

Name	Geographic area	Relevance to marine turtle conservation
Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)	NE Atlantic	Pollution control
North East Atlantic Fisheries Commission (NEAFC)	NE Atlantic High Seas	Bycatch
FAO General Fisheries Council/Commission for the Mediterranean (GFCM)	Mediterranean & Black Sea	Bycatch
Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC)	North and South America (Eastern Pacific & Western Atlantic)	Conservation & habitat protection Bans domestic uses of sea turtles Resolutions for adverse impacts of fisheries & climate change and sea turtle habitat adaptation
Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (Lima Convention)	South-East Pacific	Emphasis on marine pollution ; Has a Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the Southeast Pacific
Convention on Conservation of Nature in the South Pacific (Apia Convention)	South Pacific	Emphasis on conservation areas (not specifically marine)
Western Hemisphere Migratory Species Initiative (WHMSI)	The Americas	Supports and funds the implementation of migratory species Conventions
Corredor Marino del Pacifico Este Tropical/Marine Corridor of the East Pacific (CMAR)	Eastern Tropical Pacific	Conservation
Comisión Permanente del Pacifico Sur/Permanent Commission of the South Pacific (CPPS)	South-East Pacific	Marine turtle action plan aided by a Scientific Committee
Eastern Pacific Hawskbill Turtle Initiative (ICAPO)	Eastern Pacific	Hawksbill conservation projects
Inter-American Tropical Tuna Commission (IATTC)/Antigua Convention	Eastern Pacific, including coastal waters &High Seas	Resolutions on the mitigation of tuna fishing on sea turtles
Secretariat of the Pacific Regional Environment Programme (SPREP)	Pacific Islands	Marine Turtle Action Plan 2008-2012: harvesting, nest predation, bycatch, habitat degradation, pollution, pathogens, boat collisions, climate change
Secretariat of the Pacific Community (SPC)	Pacific islands	Bycatch mitigation
Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (Noumea Convention)	South Pacific	Pollution and dumping
Pacific Islands Forum Fisheries Agency (FFA)	Pacific Islands	Action plan for sea turtle by-catch mitigation
The Western and Central Pacific Fisheries Commission (WCPFC) established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks (WCPF)	Western and Central Pacific	Publications: Conservation and management measures of sea turtles and WCPFC Guidelines for the Handling of Sea Turtles

Annex VII. Strengths and weaknesses of the CMS marine turtle MoUs, based on questionnaire responses.

CMS instrument	Major contributions of the existing instrument	Factors most important for success of the instrument	Weaknesses or conservation issues not currently being addressed
IOSEA MoU	-Large number of committed signatory States, covering most of the coastline of the Indian Ocean -Brings together and facilitates cooperation between Developed and Developing Member States -Comprehensive CMP with measurable objectives -Good reporting system including regular reviews of implementation progress -Information exchange & discussions between Member States -Efficient awareness raising has increased profile of turtle conservation (e.g. Year of the Turtle) -Stimulated allocation of resources towards conservation -Support to small-scale projects in countries that require assistance -Dynamic, up-to date website with good content (newsletter, mapping system, database, online reporting) -Good sharing of information across range area -Good collaboration with other regional bodies -Catalyst for some Member States to join CMS -Provided stimulus for new/enhanced bilateral and multilateral initiatives driven domestically -Stimulus for new and improved legislation -Progress towards identification of site-specific	-Non-legally binding character may be helpful in securing wider participation -Secretariat as active initiator and catalyst, operating within the stable organisational framework of UNEP/CMS -Relatively consistent voluntary contributions -Contributions and coordination by individuals and partner organisations -Newsletter and follow-up on important matters -Well-experienced and helpful Advisory Committee -NGO involvement in activities -Encourages participation and cooperation among range States and other relevant organisations -Improvements in policies and laws in Member Countries -Online reporting tool -Obligation, although not legally binding, to implement CMP in all Member States -Encouragement of the establishment of 'index beaches' important for future monitoring -Placing of Secretariat in UNEP offices in Bangkok allows for liaison with GEF and FAO projects and other relevant UNEP and UN units/offices	-Impacts of climate change, light pollution, destruction of nesting areas and fisheries bycatch not sufficiently addressed -Absence of formal funding mechanism for broader implementation measures– - Resource limitations at national level -Too few operational national committees to ensure better integration of turtle conservation measures -Lack of development of alternative livelihoods for turtle-dependent communities -Lack of public awareness activities -Lack of support and advice in conservation efforts -Limited participation from signatory States during intersessional period

CMS instrument	Major contributions of the existing instrument	Factors most important for success of the instrument	Weaknesses or conservation issues not currently being addressed
	threats -Increased awareness about marine turtles in Member States and their Governments -Relevant publications		
Atlantic Coast of Africa MoU (the MoU of Abidjan)	-High membership of range States -Local communities role in conservation and management plans -Socioeconomic studies in local coastal communities -Shared aim between range States	-Inclusion of all West African countries -Inclusion of important nesting zones in and between countries -Information distribution -Training and awareness -Funding and development -Monitoring and improving quality of work	-Not legally-binding -Geographical scope should be extended to improve operation of the instrument -Lack of knowledge and scientific information (particularly in respect to climate change & diseases) -Some specific threats insufficiently addressed -Lack of cooperation between States -Lack of interest and commitment of some focal points -Lack of funding for projects -Limited cooperation between signatory States and coordination unit (URTOMA) -Limited communication from organisations and individuals involved in conservation towards URTOMA -No existing mechanisms for knowledge transfer -Irregularity and infrequency of meetings

Annex VIII. Marine turtles listed in the CMS Appendices whose ranges are only partially covered by a specific CMS instrument

Species, CMS Appendix and common name	Global Status[ii] and population trend[iii]	Distribution[i]
Chelonia mydas **I/II** Green Turtle	EN ↓	ALBANIA: ALGERIA; ANGOLA; ANTIGUA AND BARBUDA; ARGENTINA; AUSTRALIA; Bahamas; Bahrain; BANGLADESH; Barbados; Belize; BENIN (?); Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; CAPE VERDE (?); CHILE (including Easter Island); China (including Taiwan); Colombia; Comoros; CONGO (BRAZZAVILLE) (?);COOK ISLANDS; COSTA RICA; CROATIA; CUBA*; CYPRUS; DEMOCRATIC REPUBLIC OF THE CONGO(?); DJIBOUTI; Dominica; Dominican Republic; ECUADOR (including Galapagos Islands); EGYPT; El Salvador; EQUATORIAL GUINEA; ERITREA; EUROPEAN UNION; Federated States of Micronesia; Fiji; FRANCE* (including French Guiana, French Polynesia, Guadeloupe, Martinique, New Caledonia, Réunion, Society Islands, Tuamotu Islands, Wallis and Futuna Islands (?)); GABON (?); GAMBIA (?); GHANA; GREECE; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; HONDURAS; INDIA (including Andaman Islands, Lakshadweep Islands, Nicobar Islands); Indonesia;Iraq; ISLAMIC REPUBLIC OF IRAN; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kiribati; Kuwait; Lebanon; LIBERIA; LIBYAN ARAB JAMAHIRIYA; MADAGASCAR; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; MAURITIUS (including Rodrigues); Mexico; MOROCCO (?); MOZAMBIQUE; Myanmar; Namibia; Nauru (?); NETHERLANDS (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten); New Zealand (Tokelau); Nicaragua; NIGERIA (?); Niue (?); Oman; PAKISTAN; PALAU; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL (?); Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAMOA; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; SEYCHELLES; Sierra Leone; Singapore; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; Thailand; TOGO (?); Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Sovereign Bases Cyprus, Montserrat, Pitcairn (?), Turks and Caicos Islands); UNITED REPUBLIC OF TANZANIA; United States (including American Samoa, Caroline Islands, Guam, Northern Mariana Islands, Puerto Rico, United States Virgin Islands); URUGUAY; Vanuatu; Venezuela; Viet Nam (?); YEMEN; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)
Caretta caretta **I/II** Loggerhead	EN (a.n.)	ALBANIA; ALGERIA; ANGOLA; ANTIGUA AND BARBUDA; ARGENTINA; AUSTRALIA; Bahamas; Bahrain; BANGLADESH; Barbados; Belize; BENIN; Brazil; Brunei Darussalam; Canada; Cambodia; CAMEROON; CAPE VERDE; CHILE; China; Colombia; CONGO (BRAZZAVILLE); COSTA RICA; Comoros; COTE D'IVOIRE; CROATIA; CUBA*; CYPRUS; Democratic People's Republic of Korea; DEMOCRATIC REPUBLIC OF THE KONGO; DJIBOUTI; Dominica; Dominican Republic; ECUADOR; EGYPT; El Salvador; EQUATORIAL GUINEA; ERITREA; EUROPEAN UNION; Fiji; FRANCE (including French Guiana, New Caledonia, Réunion); GAMBIA; GABON; GHANA; GREECE; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; HONDURAS; INDIA; Indonesia; Iraq; ISLAMIC REPUBLIC OF IRAN; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kuwait; Lebanon; LIBERIA; LIBYAN ARAB JAMAHIRIYA; MADAGASCAR; Malaysia; Maldives; MALTA; MAURITANIA; MAURITIUS; Mexico; MONACO; MONTENEGRO; MOROCCO; MOZAMBIQUE; Myanmar; Namibia; NETHERLANDS (Aruba, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND; Nicaragua; NIGERIA; Oman; PAKISTAN; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL; Qatar; Republic of Korea; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAMOA; SAUDI ARABIA; SENEGAL; SEYCHELLES; Sierra Leone; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; Thailand; TOGO; Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (Sovereign Bases Cyprus); UNITED REPUBLIC OF TANZANIA; United States (including Puerto Rico); URUGUAY; Vanuatu; Venezuela; Viet Nam; YEMEN; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

Species, CMS Appendix and common name	Global Status[ii] and population trend[iii]	Distribution[i]
Eretmochelys imbricata **I/II** Hawksbill Turtle	CR ↓	ALGERIA; ANGOLA; ANTIGUA AND BARBUDA; AUSTRALIA; Bahamas; Bahrain (?); BANGLADESH; Barbados; Belize; BENIN (?); Brazil; Brunei Darussalam; Cambodia; CAMEROON; CAPE VERDE; CHILE (Easter Island); China (including Taiwan); Colombia; Comoros; CONGO (BRAZZAVILLE) (?);COOK ISLANDS; COSTA RICA; COTE D'IVOIRE; CUBA*; Democratic People's Republic of Korea; DEMOCRATIC REPUBLIC OF THE CONGO; DJIBOUTI; Dominica; Dominican Republic; ECUADOR (including Galapagos Islands); EGYPT; El Salvador; EQUATORIAL GUINEA; ERITREA; EUROPEAN UNION; Federated States of Micronesia; Fiji; FRANCE (including French Guiana, French Polynesia, Guadeloupe, Martinique, New Caledonia, Réunion, Society Islands, Tuamotu Islands, Wallis and Futuna Islands (?)); GAMBIA; GABON (?); GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; HONDURAS; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia;Iraq; Islamic Republic of Iran; ISRAEL; Jamaica; Japan; KENYA; Kiribati; Kuwait; LIBERIA; MADAGASCAR; Malaysia; Maldives; Marshall Islands (?); MAURITANIA; MAURITIUS (?); Mexico; MOROCCO; MOZAMBIQUE; Myanmar; Namibia (?); Nauru; NETHERLANDS (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND (Tokelau); Nicaragua; NIGERIA; Oman; PAKISTAN; PALAU; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL; Qatar; Republic of Korea; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAMOA; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; SEYCHELLES; Sierra Leone; Singapore; Solomon Islands; SOMALIA (?); SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; Thailand; TOGO (?); Tonga; Trinidad and Tobago; Tuvalu (?); United Arab Emirates (?); United Kingdom (Anguilla); UNITED KINGDOM (Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Montserrat, Pitcairn (?), Turks and Caicos Islands); UNITED REPUBLIC OF TANZANIA; United States (including American Samoa, Guam, Northern Mariana Islands, Puerto Rico, United States Virgin Islands); Vanuatu; Venezuela; Viet Nam; YEMEN; international waters (Atlantic Ocean, Indian Ocean, Pacific Ocean)
Lepidochelys kempii **I/II** Kemp's Ridley	CR (a.n.)	ALGERIA; Canada; CUBA; EUROPEAN UNION; FRANCE; ITALY; Mexico; MOROCCO; PORTUGAL; SPAIN; United Kingdom (Anguilla); UNITED KINGDOM (including Bermuda, British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands); United States; international waters (Gulf of Mexico, Atlantic Ocean)
Lepidochelys olivacea **I/II** Olive Ridley	VU ↓	ANGOLA; ANTIGUA AND BARBUDA; AUSTRALIA; Bahrain; BANGLADESH; Barbados; BENIN; Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; CAPE VERDE; CHILE; China; Colombia; Comoros; CONGO (BRAZZAVILLE); COSTA RICA; COTE D'IVOIRE; CUBA; Democratic People's Republic of Korea; DEMOCRATIC REPUBLIC OF THE CONGO; DJIBOUTI; Dominica; Dominican Republic; ECUADOR; EGYPT; El Salvador; ERITREA; EQUATORIAL GUINEA; FRANCE (French Guiana, New Caledonia); GABON; GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; HONDURAS; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia;Iraq; ISLAMIC REPUBLIC OF IRAN; ISRAEL; Jamaica; Japan; KENYA; Kuwait; LIBERIA; MADAGASCAR; Malaysia; Maldives; MAURITANIA; Mexico; MOZAMBIQUE; Myanmar; NEW ZEALAND; Nicaragua; NIGERIA; Oman; PAKISTAN; PANAMA; Papua New Guinea; PERU; PHILIPPINES; Qatar; Republic of Korea; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; SEYCHELLES; Singapore; Sierra Leone; Solomon Islands; SOMALIA; SOUTH AFRICA; SRI LANKA; Sudan; Suriname; Thailand; TOGO; Trinidad and Tobago; United Arab Emirates; UNITED REPUBLIC OF TANZANIA; United States (Puerto Rico, United States Virgin Islands); Venezuela; Viet Nam; YEMEN; international waters (Atlantic Ocean, Indian Ocean, Pacific Ocean)

Species, CMS Appendix and common name	Global Status[ii] and population trend[iii]	Distribution[i]
Dermochelys coriacea **I/II** Leatherback	CR ↓	ALBANIA; ALGERIA; ANGOLA; ANTIGUA AND BARBUDA; ARGENTINA; AUSTRALIA; Bahamas; Bahrain; BANGLADESH; Barbados; Belize; BENIN; Brazil; Brunei Darussalam; Cambodia; Canada; CAMEROON; CHILE; China; Colombia; Comoros; CONGO (BRAZZAVILLE); DEMOCRATIC REPUBLIC OF THE CONGO; COSTA RICA; COTE D'IVOIRE; CROATIA; CUBA; CYPRUS Democratic People's Republic of Korea;; DJIBOUTI; Dominica; Dominican Republic; ECUADOR; EGYPT; El Salvador; ERITREA; EQUATORIAL GUINEA; EUROPEAN UNION; Federated States of Micronesia; Fiji; FRANCE (including French Guiana, Guadeloupe); GABON; GAMBIA; GHANA; GREECE; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; HONDURAS; Iceland; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia;Iraq; IRELAND; ISLAMIC REPUBLIC OF IRAN; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kiribati; Kuwait; Lebanon; LIBERIA; LIBYAN ARAB JAMAHIRIYA; MADAGASCAR; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; MAURITIUS; Mexico; MONACO; MONTENEGRO; MOROCCO (?); MOZAMBIQUE; Myanmar; Namibia; Nauru; NETHERLANDS (Aruba); NEW ZEALAND; Nicaragua; NIGERIA; NORWAY; Oman; PAKISTAN; PALAU; PANAMA; Papua New Guinea; PERU (?); PHILIPPINES; PORTUGAL; Qatar; Russian Federation; Republic of Korea; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAMOA; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; SEYCHELLES; Sierra Leone; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; Thailand; TOGO; Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; UNITED KINGDOM (including British Virgin Islands); UNITED REPUBLIC OF TANZANIA; United States (including Puerto Rico, United States (Virgin Islands); URUGUAY; Vanuatu; Venezuela; Viet Nam; YEMEN; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

[i] Range States in capital letters are CMS Parties and Range States in grey are covered by an existing CMS instrument. Range States were taken from UNEP/CMS (2011d)

[ii] **Global threat status according to the IUCN Red List:** DD = Data Deficient, VU = Vulnerable, EN = Endangered, CR = Critically Endangered.

[iii] **Global population trend according to the IUCN Red List:** ↓= decreasing population trend, a.n. = assessment needed.